Meeting Virginia SOLs with Pixie®

Grades K–5

Meeting Virginia SOLs with Pixie®

Kindergarten

Tech4Learning
10+ YEARS
SERVING EDUCATION

What is Pixie?

Pixie is a cloud-based tool Kindergarten students can use to write, paint pictures, and tell stories. Pixie provides a fun way for students to explore and respond to curriculum topics related to the Virginia Standards of Learning.

Students can add text to a Pixie page to practice their writing, draw ideas from their imagination using the paint tools, record narration for stories, and more. Student work can be exported as videos, ePub format for iBooks, HTML 5 for use on the Web, or as printed as booklets, comics, and more.

Using Pixie with Kindergarten Students

Kindergarten students are building foundations for a life of learning. They need lots of direction and assistance, and learning is mainly accomplished through exploration and play. Pixie provides a fun way to build early learning foundations.

As you explore some of the ideas in this guide, think of the students in your class. Which ones will respond if allowed to explore content in this way? Pixie allows you to assign different activities to different students, so you can more easily adjust the content and work to meet individual student learning needs.

Don't forget time to explore and play in Pixie so students can explore wherever their interests lead. Passion for learning is one of the most important things to teach at this age!

Kindergarten Contents
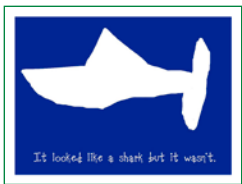
Language Arts

Mathematics

Kindergarten Language Arts

Oral Language

K.I. The student will demonstrate growth in the use of oral language.

b) Participate in a variety of oral language activities including choral and echo speaking and recitation of short poems, rhymes, songs, and stories with repeated word order patterns.

Our Version

It looked like a shark but it wasn't.

Read a story that follows a repetitive pattern, such as "In the Tall, Tall Grass" by Denise Fleming. Talk to students about the repetition and let them know your class will be making their own version of this book. Then, tell students they will create their own version of the story by changing the noun and verb of the sentence. For example, "In the blue, blue water, a fish swam."

Students can start from a blank page and create from scratch. If you want to create a basic template that includes a text box and even a sentence starter, create the template, go to the File menu and choose Save As Activity. Put this file on the Desktop or a common network drive and have students double-click to start. This format will prompt a Save As, so they won't overwrite your template.

Have each student create a page in Pixie that includes their completed sentence and an illustration to match. If your computers or tablets have cameras or web cams, have students capture their faces as well.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. When all of the pages are complete, print out the class version of the book or project it for the class to see and read aloud.

K.I. The student will demonstrate growth in the use of oral language.

c) Participate in oral generation of language experience narratives.

Beginning, Middle, and End

After visiting the library, computer lab, or special class like art, talk with your students about what happened. How did it begin? What did they do? How did it end? Brainstorm a list of things that occurred and then work as a class to put them in order. Have students use the text and paint tool on the activity to describe what happened at the beginning, middle, and end.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension Folder, and select the Begin and End activity.

As students get more sophisticated, have them retell an important or recent event that happened at home using the Begin and End book activity. In this activity, they will write, illustrate, and narrate an event by dividing it into actions that occurred in the beginning, middle, and end.

As an extension, talk with students about the steps in a process, such as getting ready to go to school. Assign the Flowchart activity (Activities>Templates>Graphic Organizers>Flowchart) and have students type out each step in the process.

Oral Language

K.2. The student will expand understanding and use of word meanings.
   c) Use words to describe/name people, places, and things.
   e) Use words to describe/name actions.

My Favorite Relative

"I wanted to find a meaningful project to highlight my first graders' accomplishments in writing, and since we were studying a Language Arts unit on families, I suggested that the students write about a very familiar topic, relatives. The response and excitement was immediate and overwhelming. My students made an instant connection with the topic. It was a familiar topic, and their interest was evident.

My students were excited to get started and immediately chose a favorite relative. As the students prepared to write first drafts, one asked, "Why can't we do this with computers?" The chorus of approval from his peers had us all heading for the computer lab.

As the project progressed, students' excitement grew! The students began to converse and share ideas with one another instead of coming to me. They were complimenting and encouraging one another. I simply sat back and watched in amazement. I noted that the students were passionate about what they were writing and drawing. Their passion for the project led to even more suggestions and requests, which in turn led to a deeper learning.

We shared the digital stories online and at a classroom event. The expressions and pride on the students' faces were priceless. One father began to cry when he learned that he was his son's hero. My students were connected, excited, motivated, inquisitive, and left first grade with memories that will last a lifetime."

—Barbara Fairchild
Tuscarora School District, Mercersberg, PA

K.2. The student will expand understanding and use of word meanings
   f) Ask about words not understood.

Vocabulary Supports

As you read to the class or when students are reading independently, have students raise their hand to let you know they are not familiar with a word they encounter. Write the word down on a card for each student. When it is appropriate, encourage students to ask the rest of the class if anyone can help share the meaning of the word.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Vocabulary folder> and select the Vocabulary (green) activity.

Have students build a trading card for a new vocabulary word they have encountered. Students can type the word at the top of the page and add text to define the new word. Ask students to draw a picture of the word to help others remember the meaning. You may also want to ask a parent, or buddy, to copy the sentence they are reading that includes the word or help them use it in a new sentence.
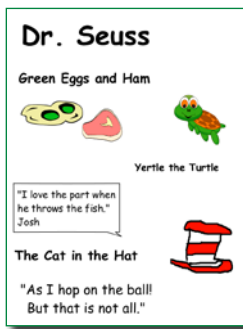
Have each student print the activity in Postcard style (4 to a page) and distribute cards to the class as vocabulary postcards or trading cards.

Oral Language

K.3. The student will build oral communication skills.

e) Participate in group and partner discussions about various texts and topics.

Our Favorite Author

After reading many books to your students, ask them to talk about their favorite author. You may want to remind them of names like Laura Numeroff, Dr. Seuss, or Shel Silverstein. Divide students into groups based on their favorite authors, or divide them into teams and have them choose after grouping. Have each team find, list, and explore other titles by this author. What makes this author good? Are they funny? Do they use rhyming words really well?

Once teams have discussed things that make this author great, have each student use Pixie to create an advertisement for this author. Students can create an illustration of the author with the paint tools, and use the text tools or record feature to introduce other students to this author. Students can create additional pages to talk about books by this author, illustrating an important scene and narrating why they liked it.

Create a favorite authors page on your classroom web site with links to individual student projects. Share this resource with parents and the librarian as a resource to help kids find more books they want to read.
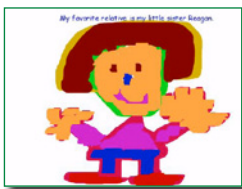
Reading

K.6. The student will demonstrate an understanding that print conveys meaning.

c) Read and explain own writing and drawings.

e) Use words to describe/name actions.

My Favorite Relative

"I wanted to find a meaningful project to highlight my first graders' accomplishments in writing, and since we were studying a Language Arts unit on families, I suggested that the students write about a very familiar topic, relatives. The response and excitement was immediate and overwhelming. My students made an instant connection with the topic. It was a familiar topic, and their interest was evident.

My students were excited to get started and immediately chose a favorite relative. As the students prepared to write first drafts, one asked, "Why can't we do this with computers?" The chorus of approval from his peers had us all heading for the computer lab.

As the project progressed, students' excitement grew! The students began to converse and share ideas with one another instead of coming to me. They were complimenting and encouraging one another. I simply sat back and watched in amazement. I noted that the students were passionate about what they were writing and drawing. Their passion for the project led to even more suggestions and requests, which in turn led to a deeper learning.

We shared the digital stories online and at a classroom event. The expressions and pride on the students' faces were priceless. One father began to cry when he learned that he was his son's hero. My students were connected, excited, motivated, inquisitive, and left first grade with memories that will last a lifetime."
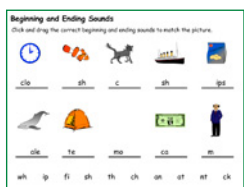
—Barbara Fairchild
Tuscarora School District, Mercersberg, PA

Reading

K.7. The student will develop an understanding of basic phonetic principles.
  b) Match consonant, short vowel, and initial consonant digraph sounds to appropriate letters.

Pixie contains a wealth of activities on alphabetic principle. You can assign different activities to different students depending on what you want to evaluate and want students to practice. For example, the Blends activity uses clip art to support students as they drag beginning and ending sounds to complete words.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Alphabetic Principle folder, and select the activities you want students to use.

As student gain proficiency, create a class ABC book on a topic. For example, students creating an ABC book for school might choose A for author, B for backpack, etc.

K.8. The student will expand vocabulary.
  a) Discuss meanings of words.

New Vocabulary

When you are reading to the class and encounter a word students may not know, ask them to guess at its meaning. Collect new vocabulary on the board or somewhere all students can see. Encourage students to share or copy words they are reading that they do not know.

At the end of the week, look at all of the new words you have found. Have students choose a word from the list and write a definition. Then have them type (with a buddy or assistant) this definition on a Pixie page and draw a picture that supports or explains their definition.
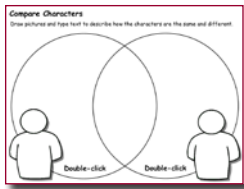
Create a literature dictionary on your site with a link from each word and its Pixie definition.

Reading

K.9. The student will demonstrate comprehension of fictional texts.
  d) Begin to ask and answer questions about what is read.

Main Character Comparison

After students have read two stories, discuss the main character in each of the stories. How are they alike and how are they different? Explain to your students how they can use a Venn diagram to help them compare two things.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Literature folder, and select the Compare Characters K-2 activity.

If you want to customize, add the name of one main character in the circle on the left and the other main character in the circle on the right. You may also want to add pictures of each character. Then, go to the File menu and choose Save As Activity and place on the Desktop or a common network drive for students to open. The file format will prompt a save as.

Have students write or draw 4 things that are different about each character (2 in each box) and at least one way they are similar in the middle.

You could also have your students compare themselves to the main character in a story using the Main Character Comparison activity in the Language Arts>Reading>Literature folder in the Activities. This helps students build reading for meaning and descriptive writing skills as well as self-awareness.

K.9. The student will demonstrate comprehension of fictional texts.
  d) Begin to ask and answer questions about what is read.
  e) Use story language in discussions and retellings.

I Remember...

Read a simple story, like the Three Little Pigs, to your students. Talk as a whole group about the story. What do they remember? Ask questions about who, what, and when to prompt their thinking.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Writing folder, and select the Book activity.

Have each student use the text and paint tools in Pixie to design a page about what they remember from the story. Have them print their page to post on a corkboard to help students remember the story.

Reading

K.9. The student will demonstrate comprehension of fictional texts.

f) Retell familiar stories, using beginning, middle, and end.

Create an eBook Library

Read a story to your students. Talk about the characters plot and setting. Review key details like character, setting and events. In a whole group setting, ask the students to share what happens in the beginning, middle, and end of the story. Assign each student a story at their reading level.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Begin and End activity.

Let students know that they will be creating an electronic version of their assigned book to share with the rest of the class. To help them prepare for the project, have each student complete the Begin and End activity so you can evaluate their comprehension and work on misconceptions.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Writing folder, and select the Booklet activity.

When the beginning middle and end are complete, have students use the Booklet activity to create a 4-page story. The first page should be the cover and the other pages the content from their beginning, middle, and end activity. You may want to have a parent, aide, or older school buddy to type a sentence that describes each page. Students can use the paint tools to illustrate each page.

Create links to each eBook from your classroom web site. You can also print their work as foldable booklets they can take home and share with their families. You could also print the booklets as postcards (4 to a page), cut the pages into individual pieces, and have the students practice sequencing using each others' stories.

K.9. The student will demonstrate comprehension of fictional texts.

g) Discuss characters, setting, and events.

Key Ideas

As you read aloud to students or share a favorite class book, you naturally ask students, "What will happen next?" or "What will this character do now?" After reading as a class, have students individually relate what they learned from listening to or reading a story on their own by completing the Key Ideas activity.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Key Ideas activity.

You can also use Pixie to create your own activities and you may want to create a template, or customize this activity to include images for characters, setting, and event information specific to the story. For example, if add clip art of characters, setting, and graphics to represent events in the story, save the activity and assign it to students so they simply have to click and drag to sort the graphics into the correct boxes.

Reading

K.10. The student will demonstrate comprehension of nonfiction texts.
    b) Identify text features specific to the topic, such as titles, headings, and pictures.

Elements of Nonfiction
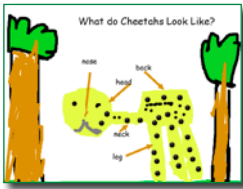
Many young students lack appreciation for nonfiction and do not find it exciting. But once they understand how to read nonfiction, they are less tentative and can quickly become independent researchers. Find and share a nonfiction book about an animal you are studying in class. Show students how they can use pictures, captions, picture labels, and bold text to find information.

Have students create a page in Pixie that shares their favorite fact about this animal. Student pages should utilize one of the features of non-fiction (text features like bold, size, and color or images, labels and captions) to make it easier for someone to find information on their page.

When student pages are finished, have them click the Share button on the toolbar. Open Pixie on your computer, and click the Import button on the toolbar to import the shared pages into one class project. When all of the pages are complete, print out the class version of the book or project it for the class to see and discuss. You may also want to print the project for each student so they can take home and share a nonfiction book that they helped to author.

Writing

K.12. The student will write to communicate ideas for a variety of purposes.
    b) Draw pictures and/or use letters and phonetically spelled words to write about experiences.

Paint and Tell
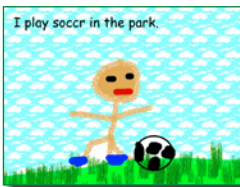
Show and tell is an opportunity for students to speak to their peers with the prompting of something they have chosen as important. The object they choose to share helps them focus their descriptions and stories and will often prompt additional questions from the audience.

To encourage more detail and more questions, have students in your class use Pixie to paint pictures of their favorite topic or important events from home. Print out the student pictures and have the students talk about them during show and tell. Use the content of the picture as prompts for more descriptions and sharing. Encourage your students to also use the pictures to formulate questions.

Writing

K.12. The student will write to communicate ideas for a variety of purposes.
  a) Differentiate pictures from writing.

Read a story that follows a repetitive pattern, such as "In the Tall, Tall Grass" by Denise Fleming. Talk to students about the repetition and let them know your class will be making their own version of this book. Then, tell students they will create their own version of the story by changing the noun and verb of the sentence. For example, "In the blue, blue water, a fish swam."

Students can start from a blank page and create from scratch. If you want to create a basic template that includes a text box and even a sentence starter, create the template, go to the File menu and choose Save As Activity. Put this file on the Desktop or a common network drive and have students double-click to start. This format will prompt a Save As, so they won't overwrite your template.

Have each student create a page in Pixie that includes their completed sentence and an illustration to match. If your computers or tablets have cameras or web cams, have students capture their faces as well.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. When all of the pages are complete, print out the class version of the book or project it for the class to see and read aloud.

K.12. The student will write to communicate ideas for a variety of purposes.
  c) Use letters and beginning consonant sounds to spell phonetically words to describe pictures or write about experiences.

After students have been in class a couple of weeks, have students help you create a tour of your classroom that shows important features and how they are used. As a class, brainstorm the different parts of your room, such as the reading corner, desk groups, pencil sharpener, etc. Walk around the room and take pictures of each place students have identified, or if students are using tablets, have them take pictures so they can easily add them from the camera roll.

Take the pictures together. Open Pixie and click the Import button. Navigate to the images on your computer and choose Open. Each image will open on a different page. Go to the File menu and choose Save As Activity. Put this file at a station so they can work on the page you assign. You can also have students create their pages separately and use the Import feature to collect all of them into one file.

Have students type and/or record a simple sentence about each area. You may want to start with a repetition ("At the reading corner, we …"). Have aides or older students help your students complete their sentences and record their voices.

You can follow the same process to create electronic or print handbooks for classroom procedures. You could have students create multi-page Pixie projects to show the procedures for checking out a library book, paying for lunch, signing in to a computer, arriving at school in the morning, what to do before leaving in the afternoon, and fire drill procedures.

Writing

K.13. The student will use available technology for reading and writing.

Book Review

Have your students think about the main idea as an umbrella that covers all of the content but is all held together at one crucial point. Share a couple of different nonfiction books for early readers with your students. Look at the cover picture and title. What is the main idea? Now explore the titles, pictures, and text inside the book. How are they organized?

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading Folder, open the Comprehension folder, and select the Book Review activity.

Assign a non-fiction book you have read or give students a few choices appropriate to their reading level. Have students add text, use the paint tools, and add stickers to describe the main idea as well as key details that support it.

You could also assign the Main Idea Umbrella to help them collect information on a nonfiction topic they will be exploring in a writing workshop. You can also have students create a page that illustrates the main idea using clip art, the text tool, and the paint tools.

Our Class Field Trip

Field trips are one of the most enjoyable and memorable events of the school year. They offer a great opportunity for students to recall what they saw or experienced. After returning from a field trip, have students recall the experience using Pixie. Be sure to capture images from the field trip students can use to describe their experience.

Launch Pixie and click the Import button. Navigate to the images from the field trip on your computer and choose Open. Each image will open on a different page. Go to the File menu and choose Save As Activity. Put this file on the Desktop or a common network drive and have students type on each page to describe events as they experienced them.

Have students open the file and add captions to the photos using the text tools or share a description using the recording feature. Ask students to arrange the photos, either for meaningful storytelling or to sequence events. Show students how to delete pages from the storyboard that they don't want to use.

You could also have each student create a page from scratch in Pixie that includes a sentence and illustration that answers a question like, "What was your favorite part of the field trip?" or "What will you always remember about this field trip?"

Language Arts Lesson

While individual activities can be used to address specific language standards, you can also create engaging lessons that address multiple standards in one project.

Students will explore initial sounds through the creation of an online class book. Students each choose a letter of the alphabet and use Pixie to create class book that includes original artwork, clip art, and photographs that represent words that begin with this letter, and narration that names each picture. Combine their pages together, or create links to individual letter projects, to publish an online class ABC book and showcase their knowledge and reading ability.

Engage

Share books about the alphabet like *Chicka, Chicka, Boom, Boom; Dr. Seuss's ABC's,* and *The Z was Zapped* with your students to help make learning and using the alphabet fun. These books also help students begin thinking about how letters associate with sounds and words.

Once students have developed some expertise with the alphabet, let them know that they will be creating a book to teach other students about the sounds the letters in the alphabet make. Assign each student a letter based on what you know about their skill with letter-sound correspondence.

Create

Have each student begin by thinking of words that start with their letter. Begin the project at school, but give students several more days to think of more words, at school or at home.

Have students add pictures from the Stickers panel of objects that begin with this letter. You may want to have them partner with an older

buddy to search for images or click through the clip art folders. Encourage students to draw objects using the Paint tools. Have each student record narration that names each object on their page that begins with that letter.

Share

When student pages are finished, have them click the Share button on the toolbar. Launch Pixie on your computer and click the Import button to import the shared pages into one class project and link to it from your classroom web site. You may also want to print the project for each student so they can take home to practice reading and celebrate their learning.

Share the ABC book in its interactive form on a classroom web site or present it from a local computer. Have students discuss the page they created and share how they chose each sticker to match their letter.

Virginia Standards of Learning

4. The student will identify, say, segment, and blend various units of speech sounds.
   e) Identify words according to shared beginning and/or ending sounds.

Reading

6. The student will demonstrate an understanding that print conveys meaning.
   c) Read and explain own writing and drawings.

7. The student will develop an understanding of basic phonetic principles.
   b) Match consonant, short vowel, and initial consonant digraph sounds to appropriate letters.

Writing

13. The student will use available technology for reading and writing.
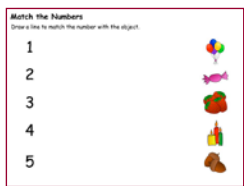
Kindergarten Mathematics
Number and Number Sense
Focus: Whole Number Concepts

K. 2. The student, given a set containing 15 or fewer concrete objects, will
- a) tell how many are in the set by counting the number of objects orally;
- b) write the numeral to tell how many are in the set; and
- c) select the corresponding numeral from a given set of numerals.

Match Numbers

Create situations where students are asked to assign a number to each item in a group and provide you with the total number of items. Practice the relationship between numbers and quantities by drawing a line to match the number with the group of objects that have the same value.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and Operations folder, and select the Match Numbers activity.

After students complete the Match Numbers activity on their own, have them create pages in a new project for the numbers 6-10. Add groups of objects for the numbers 6-10 by typing the numbers and dragging stickers from the Library to represent the number.

Read The Very Hungry Caterpillar by Eric Carle to your students. Talk about how the caterpillar ate one food item the first day, two the next, and so on in increasing order. Have the students create a "Very Hungry" book about another animal and write day by day what it would eat with the number getting larger every day. Have the students type the correct number in the sentence and use the stickers or paint tools to add the correct number of each object.

K.2. The student, given a set containing 15 or fewer concrete objects, will
- a) tell how many are in the set by counting the number of objects orally;
- b) write the numeral to tell how many are in the set; and
- c) select the corresponding numeral from a given set of numerals.
- e) Use words to describe/name actions.

Counting Book

"I like to use the counting activity templates as a first project with Kindergarten students in the computer lab, since some students are very good with a mouse, and other have no computer experience at all.

After opening a counting book activity, each student chose a sticker from the library and then drags the correct number of that sticker to their page. Each student completes this process for the numbers one through ten.

Once the students finish their ten pages, I help them record each page by saying "One dog", "Two horses"… and choose background music and transitions for their "video". When the process is complete, we use the share options to export their project and I upload each student's work to my wiki page for the parents to view. Parents love seeing and hearing their students work online, and many send relatives to the site to view the project as well."

You can find a complete lesson plan at the end of this guide for a similar counting book, titled The 13 Days of Halloween.
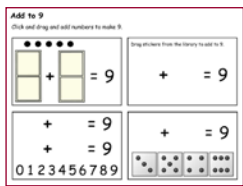
*—**David Floyd,** Washington, DC*

Computation and Estimation
Focus: Whole Number Operations subtraction as taking apart and taking from.

K.6. The student will model adding and subtracting whole numbers, using up to 10 concrete objects.

Decomposing Numbers

Decomposing numbers refers to the ability of students to break numbers apart and form equivalent representations. When determining place value, one decomposes numbers into tens and ones. In Kindergarten, decomposing numbers below ten involves understanding that 9 can be 4+5, 6+3, 7+2, and even 6+2+1.

To help students think about the numbers that can be added to create a number, assign the Add to 9 activity. Have students choose how they might want to represent this using dominoes, numbers, dice, or other images. Continue to explore ways to decompose and compose the number nine.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and Operations folder, open the Numbers folder, and select the Add to 9 activity.

Ask students confident about number facts for values to ten to create a "Facts about the Number X" book, creating different pages that show the ways to add to get to this number. Encourage them to use facts, but also objects, symbols, and drawing. Also encourage them into record narration. Link to their projects from your classroom web site so that all students in the class can use it as a resource.

Measurement
Focus: Instruments and Attributes

K.10. The student will compare two objects or events, using direct comparisons or nonstandard units of measure, according to one or more of the following units of measure, according to one or more of the following attributes: length (shorter, longer), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder). Examples of nonstandard units include foot length, hand span, new pencil, paper clip, and block.

Measure to Compare
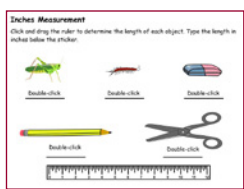
Distribute rulers to your students. Ask them how they can use this to measure objects in the room. Have students measure three objects they find on and in their desks. They might find pencils, books, stickers, flashcards, and so on. Have them put the objects on their desk in order from top to bottom from smallest to biggest.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Measurement folder, and select the Measure - Inches activity.

Have students use the virtual ruler to measure the objects in the Measure – Inches activity (or Measure-Centimeters if you are outside the US). Ask students to tell you which object is the smallest and which is the biggest. Find a pencil, eraser, and scissors in your classroom and compare them to the ones in the activity. Which is larger, which is smaller? How can students be sure? Measure!
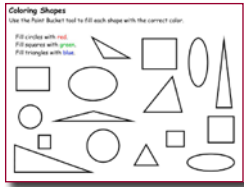
Geometry
Focus: Plane Figures

K.II. The student will
a) identify, describe, and trace plane geometric figures (circle, triangle, square, and rectangle).

My Life as a Triangle

As an assessment of student understanding, have each student color and print the Color Shape activity. In this activity, students identify circles, squares and triangles by filling them in with the correct color.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Geometry folder, and select the Color Shapes activity.
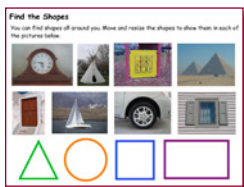
As a more open-ended and individual assessment, challenge students to draw a picture (of anything they want) using only one shape. For example, ask them to create a self portrait drawn entire with triangles.

K.II. The student will
a) identify, describe, and trace plane geometric figures (circle, triangle, square, and rectangle).
b) compare the size (larger, smaller) and shape of plane geometric figures (circle, triangle, square, and rectangle).

Shapes Around Us

Ask students to name shapes in their environment. For example, the flag in the front of the school is a rectangle; the yield sign is a triangle… Ask students to look around your classroom to find objects in your classroom that are, or contain, a particular shape like a circle or square. Assign the Find Shapes activity and ask students to drag the shapes onto the images and use the handles to resize.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Geometry folder, and select the Find Shapes activity.

Take a class walk around the room or school looking for additional shapes in the environment. If students have iPads or tablets, have them capture images using the camera and add to Pixie from the camera roll. If you are using a digital camera, capture images of the shapes the class finds.
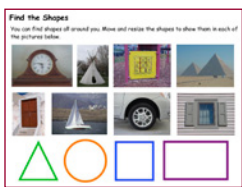
Launch Pixie and click the Import button. Navigate to the images on your computer and choose Open. Each image will open on a different page. Go to the File menu and choose Save As Activity. Put this file on the Desktop or a common network drive and have students identify the shapes.

Have your students identify the shape in each picture. Ask them to add text or record narration to describe where it is using position words like on top of, next to, and so on. Then, let the students use the paintbrush or line tool to paint the shape on each page.

Focus: Plane Figures

K.12. The student will describe the location of one object relative to another (above, below, next to) and identify representations of plane geometric figures (circle, triangle, square, and rectangle) regardless of their positions and orientations in space.

Shapes Around Us

Ask students to name shapes in their environment. For example, the flag in the front of the school is a rectangle; the yield sign is a triangle… Ask students to look around your classroom to find objects in your classroom that are, or contain, a particular shape like a circle or square. Assign the Find Shapes activity and ask students to drag the shapes onto the images and use the handles to resize.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Geometry folder, and select the Find Shapes activity.

Take a class walk around the room or school looking for additional shapes in the environment. If students have iPads or tablets, have them capture images using the camera and add to Pixie from the camera roll. If you are using a digital camera, capture images of the shapes the class finds.

Launch Pixie and click the Import button. Navigate to the images from the field trip on your computer and choose Open. Each image will open on a different page. Go to the File menu and choose Save As Activity. Put this file on the Desktop or a common network drive and have students identify the shapes on each page.
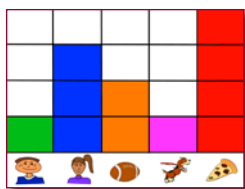
Have your students identify the shape in each picture. Ask them to add text or record narration to describe where it is using position words like on top of, next to, and so on. Then, let the students use the paintbrush or line tool to paint the shape on each page.

Probability and Statistics
Focus: Data Collection and Display

K.13. The student will gather data by counting and tallying.

K.14. The student will display gathered data in object graphs, picture graphs, and tables, and will answer questions related to the data.

Our First Graphs

"One of our biggest challenges with mathematics learning in the early grades is representing data in graphs. Since our students love working with pictures, we created a Pixie activity our Kindergarten and 1st grade classes could use to learn how to make bar graphs.

Working with other students at their table, students count how many of them are boys, how many are girls, which students like football, and which students have a dog. Then they add their own category in the 5th column and do the counting. Students tally their findings and fill each square in the graph to represent on student's answer.

Because we can change the stickers and table groups, each time is a unique experience. Kids fill in the squares with the Paint bucket tool to create their graphs, or use the stickers to create a pictograph. We also have students customize the graph to include their own objects, print it out, survey family and friends, and complete the graph as homework."
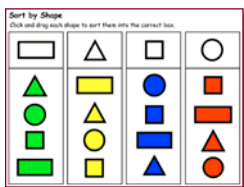
—Laura Spencer
Prospect Avenue Elementary, Santee, CA

Patterns, Functions, and Algebra
Focus: Attributes and Patterning

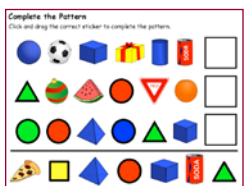**K.15.** The student will sort and classify objects according to attributes.

You can help your students to recognize common characteristics so they can begin to organize and understand data. Assign the Sort by Shape (or Sort by Color) activity to assess for understanding.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Data Analysis folder, open the Sorting folder, and select the Sort by Shape activity.

Give each student in your class an attribute like "blue" or "round." Have them collect objects with this attribute from around your classroom or bring in objects from home. Collect the objects on their table or desks and capture a photo of them in Pixie. If you are using tablets, have them capture the image on the built in camera. Have students type a sentence or use the record feature to explain the common attribute the objects share.

K.16. The student will identify, describe, and extend repeating patterns.

Playing with Patterns

Pixie includes a range of activities and stickers students can use to generate patterns. You can use the activities to assess for students understanding.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Algebra folder, open the Patterns folder and choose the patterning activity you want to use.

Give students creative control by asking them to create their own patterns using the images in the Stickers library. You can also give them physical objects they can use to create patterns on tables and desks. Then, capture a photo of the pattern in Pixie. If you are using tablets, have them capture the image on the built in camera. Have students type a sentence or use the record feature to describe the repeating pattern.

Math Lesson

While individual activities can be used to address specific language standards, you can also create engaging lessons that address multiple standards in one project.

Students will practice counting through the creation of a Halloween (or any holiday!) counting book.

Engage

Read the story the Two Little Witches by Harriet Ziefert and Simms Taback to help students practice their counting skills, experience a repetitive story form, and get them thinking about the characters associated with Halloween.

After reading this story, tell the students that their class is going to create a "13 Days of Halloween" project. Ask them if anyone knows the 12 Days of Christmas carol. Play it so they can all remember or experience it for the first time. If you don't have a copy, you can find many free versions of this old English carol online.

Explain to students that they will each create a page that includes a specific number of Halloween based on the song you create as a group. For example, "On the fifth day of Halloween, my goblin gave to me 5 witches."

Assign each student a number.

Create

Demonstrate how to launch Pixie, use the Paint tools, add stickers, and type text. You can also create a template each student can use so they only have to type in the name of the object.

Have each student choose the Halloween object they wish to count on their page. Have a parent, aide, or school buddy work with each student at a center in your classroom to develop their page, or have the entire class work on their pages at the same time in the computer lab. Make sure everyone is aware of the Halloween folder of images in the Holidays folder in the Stickers library.

Share

When student pages are finished, have them click the Share button on the toolbar. Launch Pixie on your computer and click the Import button to import the shared pages into one class project and link to it from your classroom web site. You may also want to print the project for each student so they can take home to practice reading and celebrate their learning.

You could also print copies of each student's page as trading cards or comics. Have students cut them out, trade them, and then work to put them in the correct sequence to make their own set of Halloween cards to take home with them.

Virginia Standards of Learning

Focus: Whole Number Concepts

2. The student, given a set containing 15 or fewer concrete objects, will

a) tell how many are in the set by counting the number of objects orally.

b) write the numeral to tell how many are in the set.

3. The student, given an ordered set of ten objects and/or pictures, will indicate the ordinal position of each object, first through tenth, and the ordered position of each object.
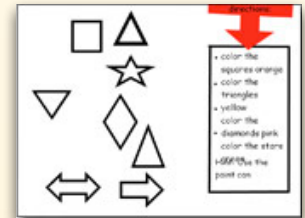
Kindergarten

Peer collaborative learning in Pixie

"Our kindergarten students at Meiklejohn Elementary School didn't know how to use Pixie, so I had the fourth-graders design shape activities in Pixie for them with directions like, 'Fill in the triangle shapes with red,' 'Drag the shape word inside the shape,' or 'Find how many squares are in the drawing.'

The fourth-graders then helped their kindergarten buddies learn how to open Pixie, find a file, and complete the shape activities they designed.

One student decided that he would teach his buddy about proper nouns and shapes, so he had his buddy drag the proper nouns in a circle and the nouns in a square. When I shared my concerns that it might be too hard, he said, 'But Mrs. Swenson, I have a really smart buddy!' He was right, and the buddy did just fine learning the proper nouns and the shapes!"

—Melissa Swenson

Meeting Virginia SOLs with Pixie®

Grade I

Tech4Learning
10+ YEARS
SERVING EDUCATION

What is Pixie?

Pixie is a cloud-based tool first-grade students can use to write, paint pictures, and tell stories. Pixie provides a fun way for students to explore and respond to curriculum topics related to the Virginia Standards of Learning.

Students can add text to a Pixie page to practice their writing, draw ideas from their imagination using the paint tools, record narration for stories, and more. Student work can be exported as videos, ePub format for iBooks, HTML 5 for use on the Web, or as printed as booklets, comics, and more.

Using Pixie with First-Grade Students

First-grade students are learning to read, strengthening existing literacy skills, and learning to do basic mathematical calculations. They are learning to use words, pictures, and math concepts as they explore their world. At this foundational stage of learning, Pixie provides an opportunity for students to create products that reflect what they are learning in the classroom and are unique to their abilities and passions.

Pixie is also the perfect canvas for free play on the computer. Play is a powerful way for students to learn about the world. Rather than passively consuming computer games, Pixie encourages students to actively create artwork, stories, diagrams, designs, and more.

Grade I Contents

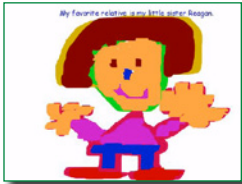## Language Arts

Mathematics

Grade I Language Arts

Oral Langauge

I.I. The student will continue to demonstrate growth in the use of oral language.

b) Tell and retell stories and events in logical order.

e) Express ideas orally in complete sentences.

My Favorite Relative

"I wanted to find a meaningful project to highlight my first graders' accomplishments in writing, and since we were studying a Language Arts unit on families, I suggested that the students write about a very familiar topic, relatives. The response and excitement was immediate and overwhelming and continued to grow when we added a create with technology component.

My students were excited to get started and immediately chose a favorite relative. It was a familiar topic, and their interest was evident. As the project progressed, students' excitement grew! The students began to converse and share ideas with one another instead of coming to me. They were complimenting and encouraging one another. I simply sat back and watched in amazement. I noted that the students were passionate about what they were writing and drawing. Their passion for the project led to even more suggestions and requests, which in turn led to deeper learning.

We shared their stories online and at a classroom event. The expressions and pride on the students' faces were priceless. One father began to cry when he learned that he was his son's hero. My students were connected, excited, motivated, inquisitive, and left first grade with memories that will last a lifetime."
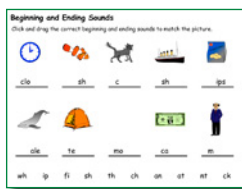
—Barbara Fairchild
Tuscarora School District, Mercersberg, PA

Reading

I.6. The student will apply phonetic principles to read and spell.

Alphabetic Principle

Pixie contains a wealth of activities on alphabetic principle. You can assign different activities to different students depending on what you want to evaluate and want students to practice. For example, the Blends activity uses clip art to support students as they drag beginning and ending sounds to complete words.
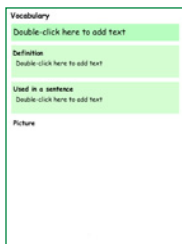
Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Alphabetic Principle folder, and select the activities you want to assign.

As student gain proficiency, create a class ABC book on a topic. For example, students creating an ABC book for school might choose A for author, B for backpack, etc.

Reading

18. The student will expand vocabulary.
   a) Discuss meanings of words in context.

As you read to the class or as students are reading independently, have them raise their hands to let you know they encounter an unfamiliar word. Have them ask the rest of the class if anyone can help share the meaning of the word. Work together to define the word. You may want to copy the sentence they are reading that includes the word or ask advanced students if they can help you use it in a new sentence. Collect the new words on a wall or bulletin board in your classroom.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Vocabulary folder, and select the Vocabulary (green) activity.

At the end of the week or unit, give each student one of the words on the wall. Have student complete the Vocabulary activity, including a definition and original sentence that uses the word and provides a context clue to its meaning. Ask students to draw a picture of the word to help others remember the meaning. Print the pages in Postcard style (4 to a page) and distribute them to the class as vocabulary postcards or trading cards.

I.8. The student will expand vocabulary.
Curriculum Framework - To be successful with this standard, students are expected to ask for the meaning of unknown words and make connections to familiar words by defining words by category and by one or more attributes (e.g., a swan is a bird that swims, a cardinal is a red bird)

Choosing Words for Nuance

First grade students have a fairly large mental library of words they understand but a much smaller library of words they use in everyday speech. At this age, students are starting to understand that run and jog might not mean exactly the same kind of movement, but they might only use the word run as they are writing. Open the Cluster activity and project it for the class to see. Type, "Getting to School" In the large box in the center. It should be fairly easy for students to come up with different nouns and verbs like bus, car, ride, and walk.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizer folder, and select the Cluster activity.

Assign each student a noun or verb that is appropriate to their reading level, such as "car" or "move." Challenge students to fill the outside six boxes with words they could use that mean the same thing or are more specific, like Corvette, van, SUV, hike, skip, jog, march, and run.

Reading

I.9. The student will read and demonstrate comprehension of a variety of fictional texts.
   e) Ask and answer who, what, when, where, why, and how questions about what is read.

Five W's
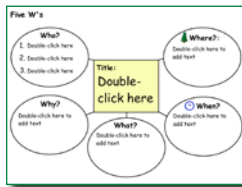
Read a favorite, or familiar, story to your class. Then, open the 5 W's activity and project it where students can see it. Write the title of the story in the middle and ask the students to help identify who, when, where, what, and how.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizers folder, and select the 5W's activity you worked on with the class.

Ask students to choose their favorite scene from the story. Have students click the Add Page button on the toolbar to add a blank page to the file and recreate the scene. What could they draw in the background to indicate where and when? What can they add as clip art or draw with the paint tools to show who and what?

I.9. The student will read and demonstrate comprehension of a variety of fictional texts.
   f) Identify characters, setting, and important events.

Key Ideas

As you read aloud to students or share a favorite class book, you naturally ask students "What will happen next?" or "What will this character do?" After reading as a class, have students individually relate what they learned from listening to or reading a story on their own using the Key Ideas activity.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Key Ideas activity.

At the beginning of the year, you may want to create a template, or customize this activity to include images for characters, setting, and event information specific to the story. For example, if add clip art of characters, setting, and graphics to represent events in the story, save the activity and assign it to students so they simply have to click and drag to sort the graphics into the correct boxes.

Reading

I.9. The student will read and demonstrate comprehension of a variety of fictional texts.
   g) Retell stories and events, using beginning, middle, and end.
   h) Identify the main idea or theme.

Retell a Story

Read a story to your students. Have each student create three pages in Pixie and use the paint tools and stickers to illustrate characters and events in the story. Have them partner with a parent, aide, or older school buddy to type a sentence that describes each page. If you add a title page and the student's name, you can print these stories as foldable booklets to share with the class.

To add a level of excitement to this project, students can create electronic versions of their stories. Have students use the Record feature to narrate each page in their story, then link to the final project online as a resource to support struggling readers, engage students in the content you are learning, or as a review for a missed class.

As their comprehension abilities grow, you can ask students to organize by beginning, middle, and end. If you print each story as a comic, you can cut the page into individual pieces and have the students practice sequencing the story.

I.9. The student will read and demonstrate comprehension of a variety of fictional texts.
   Curriculum Framework - To be successful with this standard, students are expected to identify words and phrases in stories or poems that suggest feelings or appeal to the senses.

Sensory Writing
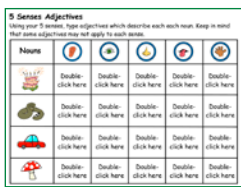
Ask your students to name the five senses and give examples of things they can see, touch, hear, smell, and taste. Talk about how writers use the five senses to bring a story alive. Read a book that utilizes strong descriptions from the five senses like "Come on Rain" by Karen Hesse or "Night in the Country" by Cynthia Rylant.

Have students complete the 5 Senses activity, using sense-related adjectives to describe the objects.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Parts of Speech folder, and select the 5 Senses activity.

Explore other books that include language that calls on the five senses. Have students find a phrase they like and type it onto a page in a blank Pixie project. Have them draw a picture to support the phrase and record their voice to describe how they felt when they read this part of the book.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. When all of the pages are complete, print out a class senses book or project it for the class to see and discuss.

Reading

I.9. The student will read and demonstrate comprehension of a variety of fictional texts.

Curriculum Framework - To be successful with this standard, students are expected to use illustrations and details to describe characters, settings, and important events in a story.

Pictures Tell a Story

Students enjoy reading when they have success. Even before they can decode the words in a story, they can comprehend the meaning using pictures. To support their desire to read independently and boost comprehension, share a new picture book with your class and do a "picture walk." Assign the Key Ideas activity and have students write about what they know about characters, setting, and events using only the pictures in the book.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, Open the Comprehension folder, and open the Key Ideas activity. Click the Assign button to assign the activity to students.
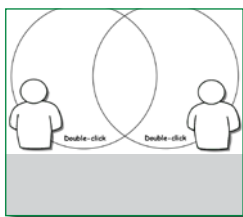
Print each student's activity. Then, read the story as a group. Ask students to share how the actual story compared to what they interpreted based on the illustrations. How close were the students' guesses to the actual characters, setting, and events in the story?

Find a part that students didn't interpret correctly based on the pictures. Ask students what the illustrator could have done to better help them understand. As an extension, ask students to go back to Pixie to develop their own illustrations for this passage and record their voice describing how their picture supports and reflects the text.

I.10. The student will read and demonstrate comprehension of a variety of fictional texts.
c) Relate previous experiences to what is read.
e) Ask and answer who, what, when, where, why, and how questions about what is read.

Main Character Comparison

After students have read two stories, discuss the main character in each of the stories. How are they alike and how are they different? Explain to your students how they can use a Venn diagram to help them compare two things.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Literature folder, and select the Compare Characters K-2 activity.

If you want to customize, add the names of the characters in each circle. You may also want to add pictures of each character. Then, go to the File menu and choose Save As Activity and place on the Desktop or a common network drive for students to open. The file format will prompt a save as.

Have students write or draw 4 things that are different about each character (2 in each box) and at least one way they are similar in the middle.

You could also have your students compare themselves to the main character in a story using the Main Character Comparison activity in the Language Arts>Reading>Literature folder to help students build reading for meaning and descriptive writing skills as well as self-awareness.

Reading

1.10. The student will read and demonstrate comprehension of a variety of nonfiction texts.

   d) Identify text features such as pictures, headings, charts, and captions.

Elements of Nonfiction
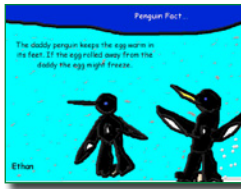
Many young students are not interested in or excited by nonfiction writing. Once they understand how to read nonfiction, however, they are less afraid and can quickly become independent researchers. Find and share a nonfiction book about an animal you are studying in class. Show students how they can use pictures, captions, picture labels, and bold text to find information.

Have students create a page in Pixie that shares information about a favorite animal. Have them utilize one of the elements you discussed (bold text, labels, captions) to make it easier for someone to find the information on their page.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project.

As each page displays, have each student share what is the most important information on their page and the strategy they used to find it. Print a copy of the project for each student so they can take home and share a nonfiction book that they helped author.

Compare Fiction and Nonfiction
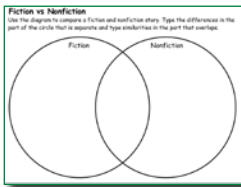
Ask your students if they can help you decide how to determine if something is fiction or nonfiction. Remind them fiction is a make-believe story that is not real, while nonfiction is true information that gives you facts to explain something.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Literature folder, and select the Fiction and Nonfiction activity.

Give groups of students 8-10 books to sort into piles that are fiction and nonfiction. After teams have sorted the books, ask each team member to complete the Fiction and Nonfiction activity to write and draw about ways they told the difference between the two kinds of books.

Reading

I.IO. The student will read and demonstrate comprehension of a variety of nonfiction texts.
   f) Ask and answer who, what, where, when, why, and how questions about what is read.

Facts and Key Ideas

Choose a topic you want to explore with your students. This could be based on the animal or place you are studying this month, such as Pandas or China. Explore books, web sites, and other resources about the topic as a class. Assign the Take Notes activity to help students list information and facts they have found in their reading.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Research folder, and select the Take Notes activity. Click the Assign button to assign the activity to students.

As an extension, ask each student to create an illustrated fact page for this topic after reading their own "just right" nonfiction books. Have each student choose one important fact on the topic and use the Text tool to type the fact and the Paint tools to create a supporting illustration.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. When all of the pages are complete, create a link for parents and community to read the class book online, or print a copy of the fact book to share in class or in the school library.

I.IO. The student will read and demonstrate comprehension of a variety of nonfiction texts.
   g) Identify the main idea.

Explore Main Idea

Have your students think about the main idea as an umbrella that covers all of the content and holds it together. Share a couple of different nonfiction books for early readers with your students. Look at the cover picture and title. What is the main idea? Now explore the titles, pictures, and text inside the book. How are they organized? Assign the Main Idea Umbrella activity and ask students to work individually to add text and use the paint tools and stickers to describe the main idea as well as key details for one of the books you have shared.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading Folder, open the Comprehension folder, and select the Main Idea Umbrella activity. Click the Assign button to assign the activity to students.

You might also assign students the Main Idea Umbrella activity for a nonfiction topic they will be exploring in their writing. This will help them collect information for their writing. You can also have students create a page that illustrates the main idea using clip art, the text tool, and the paint tools.

Reading

1.10. The student will read and demonstrate comprehension of a variety of nonfiction texts.
Curriculum Framework - To be successful with this standard, students are expected to preview reading material by looking at the book's cover and illustrations or other graphics and by reading titles and headings.

Presenting! Three Things About
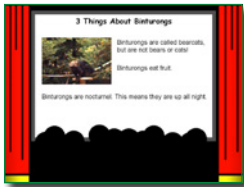
Select a nonfiction book about an unfamiliar animal, place, or historic event. Show the cover of the book to your students. What can they tell about the topic from the picture picture(s) on the cover? Page through the book or pass it around so that students can look at the individual pages. Ask the students which pages in the book look the most interesting. Have a few of the stronger readers read the text on these pages.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Research folder, and select a note taking page like Background - Theater.

Have students use Pixie to write about three things about the animal, place, or event based on the pictures they see and the text students read. Ask students to print their pages to create a class collection of facts about the animal, place, or event.

Writing

1.13. The student will write to communicate ideas for a variety of purposes.
Curriculum Framework - To be successful with this standard, students are expected to write informative/explanatory texts that introduce a topic, state an opinion or some facts, and provide a concluding sentence.

Book Review

Have students choose one the books they have read and enjoyed to review for other students. Have each student open the Book Review template. Have them type a sentence about the book as well as their opinion about it and use the paint tools to illustrate their favorite part.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Book Review activity for Grades K-2.

Link to student reviews from your classroom or media center web page to help students find more books they want to read. You can also ask students to print or share their final pages to combine into a class book review resource. Print out the pages in postcard (four to a page) or comic (six to a page) style, laminate them, and share them with other students at your school to help them choose books when they visit the school library.

Writing

1.13. The student will write to communicate ideas for a variety of purposes.
   Curriculum Framework - To be successful with this standard, students are expected to write narrative pieces that include at least two sequenced events, with some details, and conclusion.

Beginning, Middle, and End

After visiting the library, computer lab, or special class like art, talk with your students about what happened. How did it begin? What did they do? How did it end? Brainstorm a list of things that occurred and then work as a class to put them in order. Have students use the text and paint tool on the activity to describe what happened at the beginning, middle, and end.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension Folder, and select the Begin and End activity.

As students get more sophisticated, have them retell an important or recent event that happened at home using the Begin and End book activity. In this activity, they will write, illustrate, and narrate an event by dividing it into actions that occurred in the beginning, middle, and end.

As an extension, talk with students about the steps in a process, such as getting ready to go to school. Assign the Flowchart activity (Activities>Templates>Graphic Organizers>Flowchart) and have students type out each step in the process.

1.13. The student will write to communicate ideas for a variety of purposes.
   Curriculum Framework - To be successful with this standard, students are expected to revise their written pieces by adding descriptive words (adjectives) when writing about people, places, things, and events; focusing on the topic; and responding to questions and suggestions from peers and teachers.

Descriptive Writing Video Stories

As you head out on a field trip, take pictures throughout using a digital camera, or if students are using tablets, have them take pictures so they can easily add them from the camera roll.

Launch Pixie and click the Import button. Navigate to the images from the field trip on your computer and choose Open. Each image will open on a different page. Go to the File menu and choose Save As Activity. Put this file on the Desktop or a common network drive and have students type on each page to describe events as they experienced them.

You could ask students to type and/or record a simple sentence about what happened on the trip when each picture was taken. You could also keep the pictures out of order and ask students to put them in the correct sequence.

After students complete the first draft, have them look at the details in the picture. What colors do they see? Can they remember any special sounds they heard at that time? Ask them to go back and add details to their text.

Print student pages in booklet form or send the project URL to parents to share your class trip with the families of your students

Writing

I.13. The student will write to communicate ideas for a variety of purposes.

Curriculum Framework - To be successful with this standard, students are expected to write narrative pieces that include at least two sequenced events, with some details, and conclusion.

Create a Flow Chart

"How to make a peanut butter sandwich" is probably getting old for you! To make learning more authentic, brainstorm events and procedures at school. What should you do if the fire alarm goes off? How do you check out a book from the school library? How do you find your bus after school? Discuss different ways students can find out these answers, including books, experts, visual displays, and posters.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizers folder, and select the Flow Chart activity.
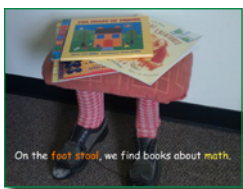
Ask students to choose a procedure they will teach to others. Have each student use the Flow Chart activity to write the necessary steps and decorate it with clip art stickers and painted illustrations to create posters or instruction sheets. Students can even record narration to explain the steps.

Link to their final presentation URLs from your classroom web site to share these how-to's with the rest of the school.

I.14. The student will use available technology for reading and writing.

Curriculum Framework - To be successful with this standard, students are expected to use digital tools to produce and publish writing including in collaboration with peers.

Welcome to Our Classroom

After students have been in class a couple of weeks, have students help you create a tour of your classroom that shows important features and how they are used. As a class, brainstorm the different parts of your room, such as the reading corner, desk groups, pencil sharpener, etc. Walk around the room and take pictures of each place students have identified, or if students are using tablets, have them take pictures so they can easily add them from the camera roll.

Launch Pixie and click the Import button. Navigate to the images on your computer and choose Open. Each image will open on a different page. Go to the File menu and choose Save As Activity. Put this file on the Desktop or a common network drive and have students type on each page to describe events as they experienced them.

Have students type and/or record a simple sentence about each area. You may want to start with a repetition ("At the reading corner, we …"). Have aides or older students help your students complete their sentences and record their voices.

You can follow the same process to create electronic or print handbooks for classroom procedures. You could have students create multi-page Pixie projects to show the procedures for checking out a library book, paying for lunch, signing in to a computer, arriving at school in the morning, what to do before leaving in the afternoon, and fire drill procedures.

Writing

I.I4. The student will use available technology for reading and writing.

Curriculum Framework - To be successful with this standard, students are expected to use digital tools to produce and publish writing including in collaboration with peers.

Our Version

Read a story that follows a repetitive pattern, such as "Mary Wore Her Red Dress" by Merle Peek. Talk to students about the repetition and let them know your class will be making their own version of this book. Then, tell students they will create their own version of the story by changing the noun and verb of the sentence. For example, "Mary wore her pink dress, pink dress. Mary wore her pink dress all day long."

Students can start from a blank page and create from scratch. If you want to create a basic template that includes a text box and even a sentence starter, create the template, go to the File menu and choose Save As Activity. Put this file on the Desktop or a common network drive and have students double-click to start. This format will prompt a Save As, so they won't overwrite your template.

Have each student create a page in Pixie that includes their completed sentence and an illustration to match. If your computers or tablets have cameras or web cams, have students capture their faces as well.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. When all of the pages are complete, print out the class version of the book or project it for the class to see and read aloud.

Language Arts Lesson

While individual activities can be used to address specific language standards, you can also create engaging lessons that address multiple standards in one project.

Students will write how-to stories about getting ready for school and publish them to share with their families and to use at home. They will organize their ideas using a beginning, middle, and end organizer. They will then write and illustrate their stories using this template in the Pixie Activity Library. This project provides a window into student home life so you can better get to know and understand your students.

Engage

Read, or reread, *Alexander and the Terrible, Horrible, No Good, Very Bad Day* by Judith Viorst. Focus on Alexander's problems as he gets ready for school. You may even choose to simply focus on this section or revisit it when students are preparing to write their own "Getting Ready for School" stories.

As a class, create a list of some of the things your students do when they get ready for school. You students may come up with ideas like brush teeth, eat breakfast, get dressed, and feed the dog. It may take a while to get students to come up with specific steps, but once a few ideas are on the list, it will be easier for students to come up with them on their own.

Using the class ideas as a foundation, have each student create the list the things they think should be included in a how-to get ready for school book. Have students use a beginning, middle, and end organizer to group together similar actions and establish a basic timeline.

If students are struggling with events and order, have them write ideas on sticky notes. This will make it easy to change order and group things together, before working on a more official organizer.

Create

Once the students have completed their organizer, have them write complete sentences for each part of the how-to book. What should happen first? Next? Last?

Talk to students about their writing to make sure they have included capital letters at the beginning and periods at the end. Ask them what they will draw on each page. Will their illustration support their writing? What can they add or change? How can they add to or change the picture?

Have each student use the Begin and End Book activity to write and illustrate their story. Each page in the activity has a text box and room for a picture. You may want to have an older student buddy or aide help students type their stories. You may want to save this activity to your classroom computer(s) and add a shortcut they can use so they can begin working right away.

Share

Have each student print their pages as a booklet using the Send button. This will print all four pages in the project on one sheet of paper students can folder into a small booklet they can share with peers and family.

You can also link to the URL for each student's how-to book from your classroom web site to create your own how-to library. This gives student work has a real world audience in your family and community.

Language Arts Lesson (continued)

Virginia Standards of Learning

Oral Language

1. The student will continue to demonstrate growth in the use of oral language.

    b) Tell and retell stories and events in logical order.

    e) Express ideas orally in complete sentences.

Reading

5. The student will apply knowledge of how print is organized and read.

Writing

13. The student will write to communicate ideas for a variety of purposes.

    a) Generate ideas.

    b) Focus on one topic.

    c) Revise by adding descriptive words when writing about people, places, things, and events.

    d) Use complete sentences in final copies.

    e) Begin each sentence with a capital letter and use ending punctuation in final copies.

    f) Use correct spelling for commonly used sight words and phonetically regular words in final copies.

    g) Share writing with others.

14. The student will use available technology for reading and writing.

    Curriculum Framework - To be successful with this standard, students are expected to use digital tools to produce and publish writing including in collaboration with peers.

Grade 1 Mathematics
Number and Number Sense
Focus: Place Value and Fraction Concepts

1.1. The student will

    1a. The student will count from 0 to 100 and write the corresponding numerals; and

    1b. The student will group a collection of up to 100 objects into tens and ones and write the corresponding numeral to develop an understanding of place value.

Place Value

Skip counting and grouping objects helps us count, or add, faster. When we consider place value, two digit numbers aren't grouped randomly. The two digits always represent the number of groups of ten and the number of ones. For example, the number 36 represents three groups of ten, and 6 ones. Representing numbers as ones and groups of ten can make understanding place value easier. Work through the list of two-digit numbers on the Place Value activity with the entire class using an interactive whiteboard or projector.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and Operations folder, open the Base Ten folder, and select the Place Value I activity.

When students get comfortable with the process, head to the computer lab and have students use the Base Ten stickers (Stickers Library>Math>Base Ten) to create numbers you call out or assign. Students can also add stickers to the page and then compute the numbers they represent.

Add with Blocks
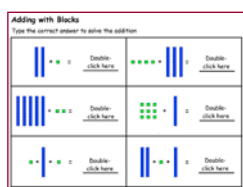
Grouping numbers together using ten as a base helps make adding and subtracting much quicker. After exploring base ten groupings using manipulatives, open various Base Ten activities in front of the class and work together to compose numbers in base ten groupings. If you project on an interactive white board, students can move the ones blocks over groups of tens to fill them up and see remainder.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and Operations folder, open the Computation folder, and select the Adding Blocks activity.

As students gain confidence, assign the Adding with Blocks activity. This activity includes integers already grouped by tens and ones. Then, assign the Base Ten Grouping activity, which requires student to regroup ones into tens, to assess for understanding.

To help students understand the idea of grouping, share a real life problem from your school. For example, if your grade was going to go on a field trip, how many bus seats would you need? If classes have 24 students in each and there are three classes going, can you group tens together to more quickly estimate how many buses with 50 seats you will need? You can also use the Base Ten stickers (Stickers library>Math>Base Ten) to visually represent this data, making it even easier to solve.

Number and Number Sense
Focus: Place Value and Fraction Concepts

1.2. The student will count forward by ones, twos, fives, and tens to 100 and backward by ones from 30.

Skip Counting
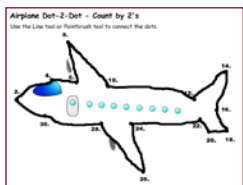
Two, four, six, eight! Who do we appreciate? Skip counting! Students usually know this cheer long before they are skip counting or adding by twos. Start off with this cheer and then practice skip counting to 20. Use the Count by Twos activity as an individual assessment to see how well your students can skip count to 20.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and Operations folder, open the Computation folder, and select the Count by Twos activity.

In addition to helping with multiplication, skip counting also helps us add faster. Demonstrate how to skip count on a clock to tell time by the hour AND minute. What other examples can the class come up with for using skip counting?

Computation and Estimation
Focus: Whole Number Operations

1.5. The student will recall basic addition facts with sums to 18 or less and the corresponding subtraction facts.

Decomposing Numbers
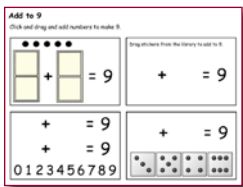
Decomposing numbers refers to the ability of students to break numbers apart and form equivalent representations. When determining place value, one decomposes numbers into tens and ones. Decomposing numbers below ten involves understanding that 9 can be 4+5, 6+3, 7+2, and even 6+2+1. Ask your students if anyone knows of a way to add to 9. Let this student choose how they will represent numbers using dominoes, numbers, dice, or other images. Continue to explore ways to decompose and compose the number nine. To evaluate student understanding, assign the Add to 9 activity.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and Operations folder, open the Numbers folder, and select the Add to 9 activity.

To extend their work, assign each student a number and ask them to create a "Facts about the Number X" presentation. Have students add and create pages that show different ways to add to get to their number. Encourage students to use fact along with objects, symbols, and drawing. Encourage them into include audio. Link to each student project from your classroom web site to share student work with parents and create a resource that students can use to practice number facts at home.

Computation and Estimation
Focus: Whole Number Operations

1.6. The student will create and solve one-step story and picture problems using basic addition facts with sums to 18 or less and the corresponding subtraction facts.

Adding 3 Numbers
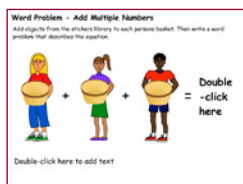
Word problems can be a struggle to master, but they are helpful for getting students to visualize equations and to see how math is applied in the world beyond the classroom. Open the Addition Word Problem activity and project it so the entire class can see it.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and Operations folder, open the Computation folder, and select the Addition Word Problem activity.

Have students choose objects from the Stickers library to add to the baskets in the activity. Have the class call out the equation you create. Then, work together to translate the equation into a word problem. You may want to start by giving each person a name and writing out the number and name of the objects before adding verbs and the rest of the story.

Pixie is great for creating visual representations of any equation or word problem. Share examples of word problems with your students, then have them create their own word problem riddles. Students can use the Pixie paint tools and stickers to show how many objects and the symbols for the operations. They can type numbers in a text object or use number stickers to show value. If students are exploring word problems around a holiday, encourage them to use objects and events from that holiday to connect to the world outside of the classroom.

Measurement
Focus: Time and Nonstandard Measurement

1.7. The student will

b. The student will determine the value of a collection of pennies, nickels, and dimes whose total value is 100 cents or less.

Tell Time
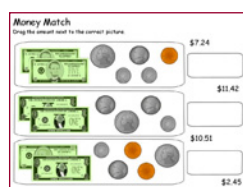
Students in first grade are starting to grasp the value of coins and have probably used coins or a dollar to buy candy or other small items. Share loose change with your students and simply let them play and count on their own.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Measurement folder, open the Money folder, and select the Counting Money activity.

Have each student complete the Counting Money activity so you can assess each student's individual comprehension and mastery. Assign additional activities for those excelling with money or have students use the Coins in the Stickers Library (Money folder) to add a collection of coins, practice counting, or tell a money story.

Measurement
Focus: Time and Nonstandard Measurement

1.8. The student will tell time to the half-hour, using analog and digital clocks.
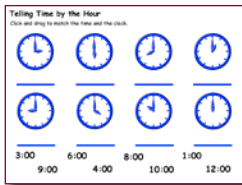
Tell Time

Direct students' attention to the clock. How many big numbers are on the clock? Have students point to the hour hand. Tell them that when the hour hand moves from one number to the next, one hour has passed. What can you do in an hour? Open the Tell Time activity in your teacher account so your class can view it. Ask students to help you determine the time shown on each clock.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Measurement folder, and select the Tell Time activity. Click the Customize button to add a copy to your projects, so you can open it with students.

You can also have students use Pixie's paint and text tools to show and describe an event that happens at a certain time each day, such as going to sleep at 8pm,. You might want to have students first add a clock with a specific time from the Stickers library (Objects>Clocks) and then have students draw a picture about what happens at that time of day, or draw a daily event and drag a clock to show the time it normally occurs.

If students draw pictures without clocks, have them click the Share button on the toolbar, so that you can combine them all together into one project (Import button). Then, project it in your classroom, and play a class game to add the correct time using the Clock stickers in the library.

Geometry
Focus: Characteristics of Plane Figures

1.12. The student will identify and trace, describe, and sort plane geometric figures (triangle, square, rectangle, and circle) according to number of sides, vertices, and right angles.

1.13. The student will construct, model, and describe objects in the environment as geometric shapes (triangle, rectangle, square, and circle) and explain the reasonableness of each choice.

Shapes Around Us
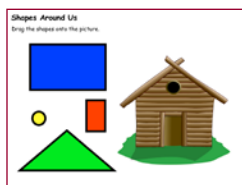
Create a center in your classroom with wooden blocks. Give student a week or two to build and take pictures of their creations. Open the images you have taken and talk as a class about the shapes that you see. Open the Shapes Around Us Activity and ask students to call out (or come up and drag if you have an interactive whiteboard) where you should place each shape to build a house.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Geometry folder, and select the Shapes Around Us activity. Click the Customize button to add a copy to your projects, so you can open it with students.
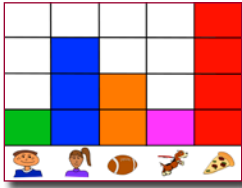
Then, have students us Pixie to draw their own imaginary cities using the Shapes tool. Challenge them to only create with the rectangle, circle, and triangle. For an even more advanced challenge, ask students to draw a self-portrait using only these tools – no eraser, paint bucket, line, or pencil tool. This also helps them see that they can layer shapes to create what they envision in their mind, helping them think geometrically. (see also "The Shape of Things" lesson plan)

Probability and Statistics
Focus: Data Collection and Interpretation

I.15. The student will interpret information displayed in a picture or object graph, using the vocabulary more, less, fewer, greater than, less than, and equal to.

Our First Graphs

"One of our biggest challenges with mathematics learning in the early grades is representing data in graphs. Since our students love working with pictures, we created a Pixie activity our Kindergarten and 1st grade classes could use to learn how to make bar graphs.

Working with other students at their table, students count how many of them are boys, how many are girls, which students like football, and which students have a dog. Then they add their own category in the 5th column and do the counting. Students tally their findings and fill each square in the graph to represent on student's answer.

Because we can change the stickers and table groups, each time is a unique experience. Kids fill in the squares with the Paint bucket tool to create their graphs, or use the stickers to create a pictograph. We also have students customize the graph to include their own objects, print it out, survey family and friends, and complete the graph as homework."
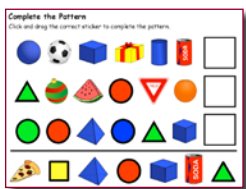
—Laura Spencer
Prospect Avenue Elementary, Santee, CA

Patterns, Functions, and Algebra
Focus: Patterning and Equivalence

I.16. The student will identify, describe, and extend repeating patterns.

Playing with Patterns

Pixie includes a range of activities and stickers students can use to generate patterns. You can use the activities to assess for students understanding.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Algebra folder, open the Patterns folder and choose the patterning activity you want to use.

Give students creative control by asking them to create their own patterns using the images in the Stickers library. You can also give them physical objects they can use to create patterns on tables and desks. Then, capture a photo of the pattern in Pixie. If you are using tablets, have them capture the image on the built in camera. Have students type a sentence or use the record feature to describe the repeating pattern.

Patterns, Functions, and Algebra

I.18. The student will demonstrate an understanding of equality through the use of the equal sign.

Complete the Equation
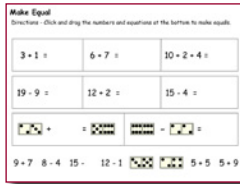
Understanding the meaning of equal – that everything on one side of the equals sign is balanced by everything on the other side – is the foundation for algebraic thinking. Locate at least 40 objects that are all the same size and weight, such as marbles, blocks, or dice. Using a balance scale, place objects on one side of the scale in two groups to represent the equation in front of the equals sign. For example, place a group of 3 blocks and a group of 4 blocks on one side of the scale. Ask a student to help you add the total number of blocks to the other side. Once you have success, have students group the second set of blocks differently (for example, a group of 2 and a group of 5). The scale will still balance since the total is the same on each side.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and Operations folder, open the Computation folder, and select the Make Equal activity. Click the Assign button to assign the activity to students.

Have students open the Make Equal activity and work together to complete the first equation using objects on the balance scale in the classroom. Let students solve the second equation on their own, with the balance scale as a support. Then, see if they can complete the other equations on their own, and then share answers with the class.

Math Lesson

While individual activities can be used to address specific math standards, you can also create engaging lessons that address multiple standards in one project.

The Shape of Things
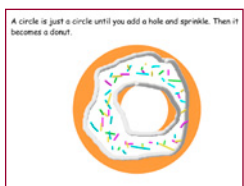
Students will compose images from 2-dimensional shapes and complete a sentence that describes their creation.

Engage

Ask students to find shapes around your classroom. While the clock is probably round and the whiteboard is probably a rectangle, prompt your students to find shapes that are part of a group of shapes. For example, your pencil sharpener will have a hole where you insert the pencil, but the entire shape of the sharpener may be a rectangle or an oval. As students call out shapes, highlight ones that are part of a group of shapes, and challenge them to find additional groups of shapes in your classroom.

Read the story the The Shape of Things by Dayle Ann Dodds and Julie Lacome. This rhythmic story showcases the basic shapes in common objects. As you read each page, have students look at the illustrations and name all of the shapes that they find. After reading this story, tell the students that you are going to create a Shape of Things book as a class.

Assign each student a basic shape like circle, square, triangle, rectangle, or oval. Explain that each student will create a page for the assignment that includes an illustration made from a combination of shapes that uses one particular shape as the main one in the group. Each student will then complete the following sentences:

A _____ (shape) is just a _____ (same shape) until you add a _____. Then it becomes a _____!

For example: *A circle is just a circle until you add a hole. Then it becomes a donut.*

Create

Demonstrate how to open Pixie, use the Paint tools, and type text. Be sure to demonstrate how to use the shape tool to draw both shape outlines and filled shapes. You may want to create a template that already includes the sentences above, so that students simply have to illustrate and complete the sentences. Post the words for common shapes so that students can easily see how to spell them.

Have students start by drawing the main shape first. Then add details to transform it into a special character, object, or location. Be sure to have each student record their voice reading their sentences. Encourage them to practice before recording for the final time, or to preview the sound and try again.

Share

When student pages are finished, have them click the Share button on the toolbar. Launch Pixie on your computer and click the Import button to import the shared pages into one class project . When all of the pages are complete, print a version of the book to have in class. Present it from your computer as a celebration of student work and link to it from your web site so that students can listen to and read the book at home with their family.

Math Lesson (continued)

Geometry

Focus: Characteristics of Plane Figures

1.12 The student will identify and trace, describe, and sort plane geometric figures (triangle, square, rectangle, and circle) according to number of sides, vertices, and right angles.

1.13 The student will construct, model, and describe objects in the environment as geometric shapes (triangle, rectangle, square, and circle) and explain the reasonableness of each choice.
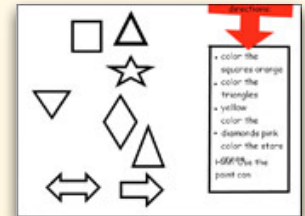
Grade I

Peer collaborative learning in Pixie

"Our kindergarten students at Meiklejohn Elementary School didn't know how to use Pixie, so I had the fourth-graders design shape activities in Pixie for them with directions like, 'Fill in the triangle shapes with red,' 'Drag the shape word inside the shape,' or 'Find how many squares are in the drawing.'

The fourth-graders then helped their kindergarten buddies learn how to open Pixie, find a file, and complete the shape activities they designed.

One student decided that he would teach his buddy about proper nouns and shapes, so he had his buddy drag the proper nouns in a circle and the nouns in a square. When I shared my concerns that it might be too hard, he said, 'But Mrs. Swenson, I have a really smart buddy!' He was right, and the buddy did just fine learning the proper nouns and the shapes!"

—Melissa Swenson

Meeting Virginia SOLs with Pixie®

Grade 2

What is Pixie?

Pixie is a cloud-based tool second-grade students can use to write, paint pictures, and tell stories. Pixie provides a fun way for students to explore and respond to curriculum topics related to the Virginia Standards of Learning.

Students can add text to a Pixie page to practice their writing, draw ideas from their imagination using the paint tools, record narration for stories, and more. Student work can be exported as videos, ePub format for iBooks, HTML 5 for use on the Web, or as printed as booklets, comics, and more.
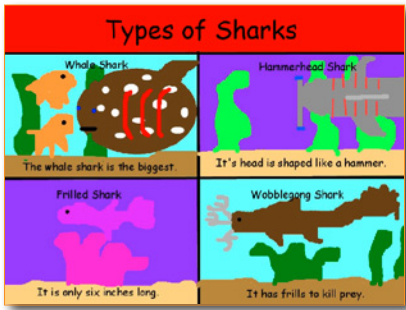
Using Pixie with Second-Grade Students

In second grade, students' abilities with language, writing, reading, and math are emerging and blossoming. They can increasingly explore and think about the world independently. Pixie provides an opportunity to support their exploration of the world around them and respond to what they find.

Pixie is also the perfect canvas for free play on the computer. Play is a powerful way for children to learn about the world. Pixie encourages children to create… artwork, stories, diagrams, designs, and more.

Grade 2 Contents

Language Arts

Mathematics

Grade 2 Language Arts

Oral Language

2.1. The student will demonstrate an understanding of oral language structure.
a) Create oral stories to share with others.

2.2. The student will expand understanding and use of word meanings.
c) Clarify and explain words and ideas orally.

Students Adapting Books

"One of our very first projects was an electronic book called "Things That Are Most in the World," based on the original by Judi Barrett. Second-grade teacher Miss Alia read the book to her students, and the class wanted to create their own version. The class worked together to brainstorm and record all of the superlatives they could think of. Then, each student chose their favorite superlative and wrote a sentence using the superlative that provided a clue to the meaning of the word.

After students wrote the text and created a storyboard sketch for their pages, the worked in a single class period to paint amazing illustrations as well as record themselves reading their sentence. We then combined all of their pages into a class book.

Students are, of course, motivated to work on the computer, and they have learned that the preparatory steps must be completed first. Knowing that their final product was going to be published to the Web for a potentially global audience encouraged the students to do their best work."

—Shelley Paul
Woodward Academy, College Park, Ga

Reading

2.5. The student will use phonetic strategies when reading and spelling.
b) Use knowledge of short, long, and r-controlled vowel patterns to decode and spell words.
c) Decode regular multisyllabic words.
Curriculum Framework - To be successful with this standard, students are expected to:
- distinguish long and short vowels when reading one-syllable regularly spelled words.
- apply knowledge of the consonant-vowel patterns CV (e.g., go), VC (e.g., in) , CVC (e.g., pin), CVCE (e.g., take), CVVC (e.g., wait), and CVCC (e.g., wind), to decode and spell words.
- decode words with common prefixes and suffixes.

Vowel Sounds
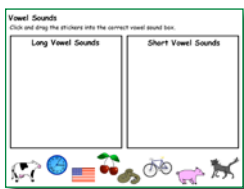
Remind students about how words are pronounced when they end in a "silent e." Explore words that usē the long a with a silent e, such as date, mane, frame.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder , open the Reading folder, open the Alphabetic Principle folder, and select the Vowel Sounds activity.

Have students complete the Vowel Sounds activity to practice long and short vowel sounds. If time permits, have students add more words and illustrations to fill each block with long and short vowel sounds. Students can record themselves saying the words and practicing the vowel sounds. They can play back the recordings to hear themselves.

Reading

2.7. The student will expand vocabulary when reading.

   Curriculum Framework - To be successful with this standard, students are expected to develop vocabulary by discussing meanings of words and by listening and reading a variety of text across the content areas.

Vocabulary Supports

As you read to the class or as students are reading independently, have them raise their hands to let you know they encounter an unfamiliar word. Have them ask the rest of the class if anyone can help share the meaning of the word. Work together to define the word. You may want to copy the sentence they are reading that includes the word or ask advanced students if they can help you use it in a new sentence. Collect the new words on a wall or bulletin board in your classroom.
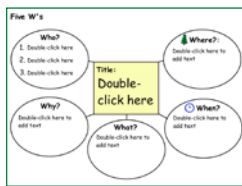
Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Vocabulary folder, and select the Vocabulary (green) activity.

At the end of the week or unit, give each student one of the words on the wall. Have student complete the Vocabulary activity, including a definition and original sentence that uses the word and provides a context clue to its meaning. Ask students to draw a picture of the word to help others remember the meaning. Print the pages in Postcard style (4 to a page) and distribute them to the class as vocabulary postcards or trading cards.

2.8. The student will read and demonstrate comprehension of fictional texts.

   c) Ask and answer questions about what is read.

Five W's

Read a favorite or familiar story to your class. Then, open the 5 W's activity and project it so students can see it. Write the title of the story in the middle and ask the students to help identify who, when, where, what, and how.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizers folder, and select a 5W's activity.

Ask students to choose their favorite scene from the story. Then, add a blank page and work with the entire class to recreate the scene. What could they draw in the background to show the story's "where" and "when?" What can you add as clip art or draw with the paint tools to show "who" and "what?" Have students use Pixie and create their own story scenes.

Reading

2.8. The student will read and demonstrate comprehension of fictional texts.
   g) Identify the main idea.

And the Moral of the Story is...

Stories with a moral are designed to teach a lesson, but generally do so in a fun way that makes it easy to understand and remember. After reading a variety of stories with morals to your students, ask them to create and print booklets that retell the tale.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open theTemplates folder, and select the Booklet activity.

Have students type the title and use the text tools, paint tools, and stickers to retell events in the story. Have students Send the file to print these stories as foldable booklets to share with the class.

To add a level of excitement to this project, students can create electronic versions of their stories. Have students use the Record feature to narrate each page in their story, then link to the final project online as a resource to support struggling readers, engage students in the content you are learning, or as a review for a missed class.

As their comprehension abilities grow, you can ask students to organize by beginning, middle, and end. If you print each story as a comic, you can cut the page into individual pieces and have the students practice sequencing the story.

2.8. The student will read and demonstrate comprehension of fictional texts.
   h) Summarize stories and events with beginning, middle, and end in the correct sequence.

Plot – Beginning, Key Event, and End
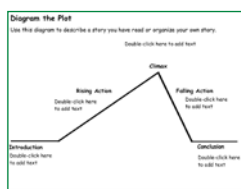
By now your students are probably comfortable thinking about a story in three blocks: the beginning, middle, and end. But the events in a story are actually structured a bit differently. Share a story that has an obvious key event.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension Folder, and select the Diagram the Plot activity.

Open the Diagram the Plot activity and work as a class to identify the beginning, middle, and end. Explain how the beginning introduces the story and the end concludes it. Explain that there are often multiple events in the middle and ask them to help you identify the most important. When does it occur in the story? What page is it on? Is it in the exact middle? Encourage them to use their math skills to find out.

Reading

2.8. The student will read and demonstrate comprehension of fictional texts.
Curriculum Framework - To be successful with this standard, students are expected to describe how characters in a story or poem respond to key events.

What Would You Do?
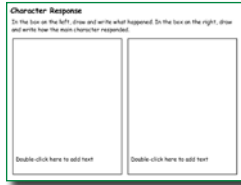
After reading a story like one of the **Magic Tree House** books, ask the students to tell you about important events. Ask questions like: *How did Jack respond? How did Annie respond? Were they the same? You might even ask: What would you have done?*

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Character Response activity.

Have the students begin by adding text, drawings, and stickers to the activity. Then, have them add a blank page to the file and write and draw what they would have done in the same situation.

2.8. The student will read and demonstrate comprehension of fictional texts.
Curriculum Framework - To be successful with this standard, students are expected to use information from illustrations and words to demonstrate comprehension of characters, settings, and plots.

Pictures Tell a Story

Students enjoy reading when they have success. Even before they can decode the words in a story, they can comprehend the meaning using pictures. To support their desire to read independently and boost comprehension, share a new picture book with your class and do a "picture walk." Assign the Key Ideas activity and have students write about what they know about characters, setting, and events using only the pictures in the book.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, Open the Comprehension folder, and open the Key Ideas activity.

Print each student's activity. Then, read the story as a group. Ask students to share how the actual story compared to what they interpreted based on the illustrations. How close were the students' guesses to the actual characters, setting, and events in the story?

Find a part that students didn't interpret correctly based on the pictures. Ask students what the illustrator could have done to better help them understand. As an extension, ask students to go back to Pixie to develop their own illustrations for this passage and record their voice describing how their picture supports and reflects the text.

Reading

2.8. The student will read and demonstrate comprehension of fictional texts.
Curriculum Framework - To be successful with this standard, students are expected to compare and contrast at least two versions of the same story (e.g., Cinderella stories).

Compare Stories
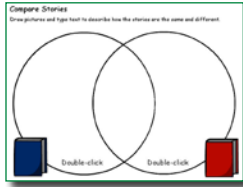
After students have read two versions of the same story (such as Cinderella), have them use the Compare Stories activity to identify similarities and differences.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Compare Stories activity.

Have students add text and pictures that show how each story is different in the parts of the circle that do not overlap. Then, as them to brainstorm ways that the themes, settings, and plots are similar and write about or draw them in the place where the circles overlap.

You can also have your students compare themselves to the main character in a story using the Main Character Comparison activity (Activities>Language Arts>Reading>Comprehension). This helps students build reading for meaning and descriptive writing skills as well as develop self-awareness.

2.9. The student will read and demonstrate comprehension of nonfiction texts.
e) Ask and answer questions about what is read.

Five W's

As you approach a holiday, such as the Fourth of July, Martin Luther King's birthday, or Presidents Day, ask your students to help you investigate the details of that holiday. Share several books and informational web sites that provide information about this person's life or events unique to that day in history. Utilize your media specialist or librarian to help you find books and web sites appropriate for your students' reading level.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizers folder, and select a 5 W's activity.

Ask students to help you answer the key details of who, what, where, when, and how of different holidays. Students can use the 5 W's activity to compile their findings and then present them to the class.

Reading

2.9. The student will read and demonstrate comprehension of nonfiction texts.

g) Identify the main idea.

Explore Main Idea

Have your students think about the main idea as an umbrella that covers all of the content and holds it together. Share a couple of different nonfiction books for early readers with your students. Look at the cover picture and title. What is the main idea? Now explore the titles, pictures, and text inside the book. How are they organized? Assign the Main Idea Umbrella activity and ask students to work individually to add text and use the paint tools and stickers to describe the main idea as well as key details for one of the books you have shared.
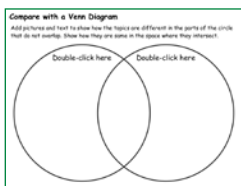
Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading Folder, open the Comprehension folder, and select the Main Idea Umbrella activity.

You might also assign students the Main Idea Umbrella activity for a nonfiction topic they will be exploring in their writing. This will help them collect information for their writing. You can also have students create a page that illustrates the main idea using clip art, the text tool, and the paint tools.

2.9. The student will read and demonstrate comprehension of nonfiction texts.

Curriculum Framework - To be successful with this standard, students are expected to relate their own experiences to make sense of and talk about a topic by: recognizing similarities between the current text and other texts read (text to text).

Information Display

Read and share two different texts about a topic with your students. Let your students know you want them to compare the two books. Have students record their comparisons using a Venn diagram. Students will likely first come up with differences in content between the two books.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizers Folder, and select the Venn 2 activity.

To help students compare the style and delivery, ask them to vote on which book was their favorite or the one they liked the best. Ask students to share the reasoning behind their choice. Were the pictures better in one of them? Did one have a better cover? Is this difference noted on their Venn diagram? Give students a chance to compare the books again to ensure that it compares content and style.

Reading

2.10. The student will demonstrate comprehension of information in reference materials.

b) Use pictures, captions, and charts.

Creating Non-Fiction Books
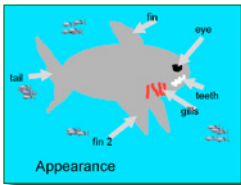
"When we were doing research projects, I noticed that my students were not making effective use of the features of non-fiction text to find the information they were seeking.

After discussing text features like table of contents, types of print, photographs, captions, close-ups, and labeling, I asked my student to create non-fiction animal reports that utilized the text features. They began by reading an assortment of non-fiction texts identifying the features. Students then selected an animal and used Pixie to develop their own non-fiction book to show their understanding of the animal's characteristics, habitat, offspring, and amazing facts.

It was exciting to observe as they explored each tool, increasing their skills as they added to the creativity of the pictures in their project. The result was a collection of unique, colorful, high-quality nonfiction books."

—Sheila Buscemi
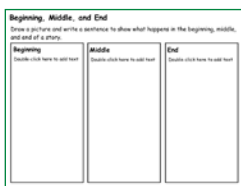Valley Elementary School, Frederick, Md

2.12. The student will write stories, letters, and simple explanations.

c) Expand writing to include descriptive detail.

Curriculum Framework - To be successful with this standard, students are expected to:

- include a beginning, middle, and end in narrative and expository writing.
- write narratives describing events with details, sequence, and a closure.

Beginning, Middle, and End

After visiting the library, computer lab, or special class like art, talk with your students about what happened. How did it begin? What did they do? How did it end? Brainstorm a list of things that occurred and then work as a class to put them in order. Have students use the text and paint tool on the activity to describe what happened at the beginning, middle, and end.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension Folder, and select the Begin and End activity.

As students get more sophisticated, have them retell an important or recent event that happened at home using the Begin and End book activity. In this activity, they will write, illustrate, and narrate an event by dividing it into actions that occurred in the beginning, middle, and end.

As an extension, talk with students about the steps in a process, such as getting ready to go to school. Assign the Flowchart activity (Activities>Templates>Graphic Organizers>Flowchart) and have students type out each step in the process.

Writing

2.12. The student will write stories, letters, and simple explanations.
Curriculum Framework - To be successful with this standard, students are expected to participate in shared research and writing projects.

Continent Experts

"In our second grade geography unit, students learn to identify and locate the seven continents on a world map. To add a research and writing component to their work, we asked them to become experts on continent.

First students were asked to complete an interest inventory to determine which continent they would enjoy learning more about. Students were then divided into research groups and used web sites, books, and atlases to find facts on their continent. Their research was guided by a graphic organizer given to each group.
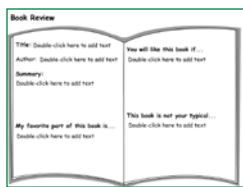
Students worked in small teams to develop a report on their continent that they shared in a class presentation and we shared from our classroom web page to educate family and community."

—Kathleen Scarborough
Virginia Beach, Va

2.12. The student will write stories, letters, and simple explanations.
Curriculum Framework - To be successful with this standard, students are expected to write informative/explanatory pieces that introduce the topic, use facts or opinions, and provide a concluding statement.

Book Review

Have students choose one the books they have read and enjoyed to review for other students. Have each student open the Book Review template. Have them type a sentence about the book as well as their opinion about it and use the paint tools to illustrate their favorite part.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Book Review activity for Grades K-2.

Link to student reviews from your classroom or media center web page to help students find more books they want to read. You can also ask students to print or share their final pages to combine into a class book review resource. Print out the pages in postcard (four to a page) or comic (six to a page) style, laminate them, and share them with other students at your school to help them choose books when they visit the school library.

Writing

2.12. The student will write stories, letters, and simple explanations.

Curriculum Framework - To be successful with this standard, students are expected to write informative/explanatory pieces that introduce the topic, use facts or opinions, and provide a concluding statement.

How to Make an Ice Cream Sundae

As you first help students learn how to write informative texts, you want to keep the focus on the structure of their writing, not the content. Rather than completing a text that requires research or the synthesis of new information, choose something they already know or can apply their imagination to writing, for example how to build the perfect ice cream sundae.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Writing folder, and select the Flow Chart activity.

Ask students to think about what types of things they like on an ice cream sundae. Then, have them use the Flow Chart activity to break down the process into precise steps someone else could use to make it.

Once students have had experience with a straightforward subject like a sundae, challenge them to create short how-to books on more sophisticated topics like how to find a book in the library, how to wash your hands, how to dress for winter, how to get somewhere, and so on. They can start with the Flowchart activity to get their ideas in order. Encourage them to use order words like first, after, next, and finally.

When the order is complete, assign the Booklet activity (Activities>Templates>Booklet) and have student write in complete sentences using order words and design a 4 page instructional booklet. Have students print and share their booklets with peers and family or use them as resource guides in your classroom library.

2.14. The student will use available technology for reading and writing.

Curriculum Framework - To be successful with this standard, students are expected to ask and respond to questions about material presented through media.

Creating Documentaries

"After attending a National Endowment of the Humanities workshop at Ellis Island, I decided a documentary that included my students' illustrations and narration would be an effective way to challenge and engage students while exploring immigration.

Students researched Ellis Island in their classroom through trade literature and on the Internet, and then focused on a particular topic to explore. After they learned the content, they decided the best way to illustrate it, including details like the chalk marks on clothing indicating a medical concern, steamships, and the steps the new arrivals had to ascend for their 'six-second medical exam.'

This project encouraged creativity and my students were engaged as they researched and illustrated their topic and practiced recording their narration. As we viewed the documentary, they also had the opportunity to learn from each other."

—Pat Leslie
Flemington, NJ

Writing

2.14. The student will use available technology for reading and writing.

Curriculum Framework - To be successful with this standard, students are expected to use available technology and media for reading and writing, including in collaboration with peers.

Classroom Projects Go Digital

"At Taylors Creek Elementary, students combine text, images, hand drawn artwork, and voice narration e to show evidence of their understanding of standards learned across the curriculum.

During language workshop, my second-grade students illustrate and narrate a page in a class book of homophones. Each student chose a pair of homophones and used them in a single sentence. Using Pixie, each student illustrated the sentence, adding color to the homophones to help them stand out. Then, students recorded their voices, chose a transition, and added music in the background, turning their work into a project entitled 'Are you ready to HEAR what we're learning in HERE?'

During math workshop, students used the stickers to make arrays that represent multiplication facts and fractions. Students used the paint and text tools to create a 'math facts house.' They chose three numbers to show the relationship between addition and subtraction, arranging the three numbers on the roof of the house. Then, they typed four related facts on the windows or door of the house.

As the world becomes more technology driven, giving students the opportunity to experiment with programs like Pixie motivates and enhances their learning at an early age, helping them to be successful in and out of the classroom."

—Melissa Aspinwall
Hinesville, GA

Language Arts Lesson

While individual activities can be used to address specific language standards, you can also create engaging lessons that address multiple standards in one project.

Amazing Animal Alliterations

Students write an alliterative sentence, create an illustration that supports and explains it, and read the sentence individually and then combine their work to create a class Alliteration Alphabet book.

Engage

Step 1: Introduce Alliteration.
Read *Marti and the Mango* to set the stage for recognizing and utilizing alliteration as a tool to entertain readers. As you read, identify alliteration and how it is used in the story. This will prepare students for how to use alliteration when they create their own original sentence.

Tongue twisters often use alliteration. Share a few tongue twisters with your students. You might try nursery rhyme favorites like Betty Botter Bought Some Butter or Peter Piper (Peter Piper picked a peck of pickled peppers. A peck of pickled peppers Peter Piper picked. If Peter Piper picked a peck of pickled peppers, where's the peck of pickled peppers Peter Piper picked?).

Step 2: Practice Writing Alliterative Sentences.
Before students work on creating their own pages, write a sentence together to practice. Choose a letter from the alphabet. Select a hard or an easy letter depending on the ability level of your class. Begin by brainstorming with the class all the animals that begin with this letter. For example, if you choose B, students will brainstorm examples such as bear, beaver, bunny, bobcat, bird, or buffalo.

As a class, write an original sentence using alliteration. A great place to start is by creating a short sentence in the noun–verb–noun format, starting with the animal. As students suggest new verbs and nouns, write them on the board and then choose the ones you want to use. An example might be, "Birds build bubbles."

Now, have the class brainstorm all of the adjectives and adverbs they can think of for this letter. For example, big, blue, boldly, bravely. Then, see where you can add them into the sentence. For example, Blue birds build big bubbles.

Open Pixie and ask a student volunteer to draw a picture depicting the sentence. If you have an interactive whiteboard, work together as a class to take turns using the paint tools to illustrate the sentence. Have a strong reader read the sentence as you record it on the page.

Create

Step 3: Begin Student Work.
Have students draw a letter out of a bag or assign letters based on student academic ability. Each student shouldbegin by brainstorming animals that begin with this letter. If students get stuck, head to http://wiki.answers.com and search for "What animal begins with the letter _?"

Next, have them brainstorm all of the verbs, nouns, adjectives, and adverbs they can think of that begin with their letter. If students are struggling, have them ask their classmates for help. You might also want to assign this project for homework to involve other family members.

Have students follow the noun-verb-noun model to begin writing their sentences. Then, add in additional adjectives and adverbs. Once students have written their alliterative sentences, have them think about how they might create an illustration that supports their writing.

Language Arts Lesson (continued)

Have them look at the adjectives to develop details they will include in their drawings. Next, have students use Pixie to type their sentences, illustrate the page using the paint tools, and record themselves reading the sentences.

Share

Step 4: Create a Class Book and Share.
When they are finished, have them click the Share button on the toolbar. Open Pixie on your computer and click the Import button on the toolbar to collect student work into one file.

Print a copy of the book for your classroom and share the URL link to student work from your classroom web page.

Get your school together for a formal presentation of your class's Amazing Animal Alliterations book! You can also share electronic and print copies in your school's media center.

Virginia Standards of Learning

2.2.1 The student will demonstrate an understanding of oral language structure.

> Curriculum Framework - To be successful with this standard, students are expected to speak in complete sentences when appropriate to task and situation to provide details and clarification.

Writing

12.2. The student will write stories, letters, and simple explanations.

13. The student will edit writing for correct grammar, capitalization, punctuation, and spelling.

> c) Capitalize all proper nouns and the word
> d) Use singular and plural nouns and pronouns.
> h) Use correct spelling for commonly used sight words, including compound words and regular plurals.
> j) Use verbs and adjectives correctly in sentences.

14. The student will use available technology for reading and writing.

Grade 2 Mathematics
Computation and Estimation
Focus: Number Relationships and Operations

2.3. The student will
- a) identify the parts of a set and/or region that represent fractions for halves, thirds, fourths, sixths, eighths, and tenths;
- b) write the fractions; and
- c) compare the unit fractions for halves, thirds, fourths, sixths, eighths, and tenths.

It's a Party!
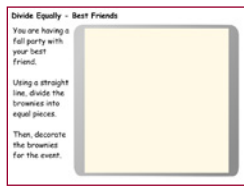
We all know how important it is to get the biggest piece of dessert! What's the best way to avoid trouble when you are the host? Divide equally! Ask your class to describe the meaning of the word equal. What does equal mean when you talk about shapes in math? To assess your students' understanding of equal, have them complete the multi-page Divide Equally activity.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Geometry folder, and select the Divide Equally activity.

Once they have the hang of dividing equally, ask your students to draw a picture of equal parts and then write a story to support the illustration. You can use the Sentence Strip activity as a template, or have them add a new page to the Divide Equally activity.

2.6. The student, given two whole numbers whose sum is 99 or less, will
- a) estimate the sum; and
- b) find the sum, using various methods of calculation.

Length on a Number Line
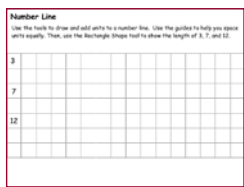
Length is the distance from one end of an object to another counted against an equal set of units. Because a number line contains equally spaced units, you can use a number line to plot and measure distance.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Measurement folder, and select the Length on a Number Line activity.

Open the Length on a Number Line activity on an interactive white board or project it where all students can see. Work together to draw a number line and decide the value of each unit.

Once the number line is complete, plot the specific number on the page on the number line. Draw a vertical line from that number to the row where the number is shown. Have students use the Rectangle tool to draw a filled rectangle from the 0 point on the number line to the length specified for each row.

Move to the second page and show the students the number 20. Is that going to fit on a number line like the one on the first page? How can you change the unit value on the number line to solve this problem? Work together to create a number line and draw the length of each number on the page.

When students get comfortable, have them try drawing their own number lines showing that they understand the concept of equal units.

Computation and Estimation
Focus: Number Relationships and Operations

2.6. The student, given two whole numbers whose sum is 99 or less, will
   a) estimate the sum; and
   b) find the sum, using various methods of calculation.

2.7. The student, given two whole numbers, each of which is 99 or less, will
   a) estimate the difference; and
   b) find the difference, using various methods of calculation.

2.8. The student will create and solve one- and two-step addition and subtraction problems, using data from simple tables, picture graphs, and bar graphs.

Game - What Number is It?

Place value is the value of a digit depending on its position, such as ones, tens, hundreds, and thousands places. Open the Place Value – Hundreds activity and project it so students can see or share it on your interactive whiteboard. Work as a class to add the correct number of shapes to each column to illustrate the number of hundreds, tens, and ones.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and Operations folder, open the Numbers folder, and select the Place Value - Hundreds activity.

In a computer lab, or at a center in your classroom, have students create three-digit numbers using the Base Ten blocks in the Stickers Library (Math>Base Ten). When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. Display each page for a given number of seconds and ask the students to write down the numbers they see.

Adding Three-Digit Numbers – Place Value
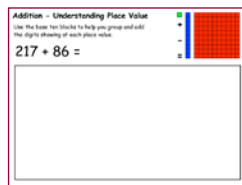
While there are many ways students can decompose numbers to 1000, the easiest way is to decompose by base ten units. Demonstrate for and practice with your students how to represent three-digit numbers with base ten blocks. Eventually compose an example with two different numbers represented. Then add an addition symbol between them. Ask students how they might solve the problem by regrouping the blocks of various values. Show your students how this regrouping is represented when they add three digital numbers using numerals.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Number and Operations folder , open the Base Ten folder , and select the Addition – Place Value activity.

Work through the operation on the first page of the Addition – Place Value activity with the entire class using an interactive whiteboard and projector. When students get comfortable with have students use Pixie to replicate the work on this page, complete the operations on the next two pages, and then develop their own numerical operation after adding base ten blocks to the last page.
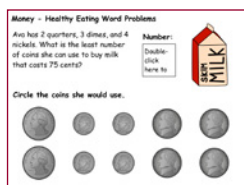
Measurement & Data
Focus: Money, Linear Measurement, Weight/Mass, and Volume

2.10. The student will
   a) count and compare a collection of pennies, nickels, dimes, and quarters whose total value is $2.2.00 or less; and
   b) correctly use the cent symbol (¢), dollar symbol ($), and decimal point (.).

Money Problems

Students in second grade are generally confident knowing the value of money, but adding coins that have different value adds another layer of complexity. Completing operations involving money that are presented as word problems gets even more complex.

Share loose change with each student and present a few word problems they can try to first solve on their own and then with the help of the rest of the class. After practicing, have each student complete the Money – Least Coins multi-page activity so you can assess each student's individual comprehension and mastery.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Measurement folder, open the Money folder, and select the Money – Least Coins activity.

You can also use the Money Problems activity in the same location for additional practice. To further their skills even more, have them start a new project and write and illustrate their own money problem (see the "Now That's a Problem" lesson).

12. The student will tell and write time to the nearest five minutes, using analog and digital clocks.

Tell Time
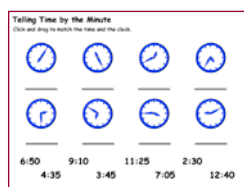
Skip count with your class by fives from 0 to 60. Open an image of a clock without any hands (you can find one in Stickers>Math>Clocks). Point to various spots on the clock and count from 0 to that number by fives, indicating each mark on the outside of the clock face as you count.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Measurement folder, and select the Tell Time – Minute activity.

To assess student ability to tell time by the minute, have them complete the Tell Time – Minute activity. You might also suggest a more open-ended project where students create clocks at various times of the day and write and illustrate what happens at that time.
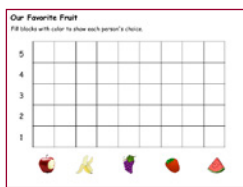
Geometry

Focus: Symmetry and Plane and Solid Figures

2.16. The student will identify, describe, compare, and contrast plane and solid geometric figures (circle/sphere, square/cube, and rectangle/rectangular prism).

Curriculum Framework - The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to

- Trace faces of solid figures (e.g., cube and rectangular solid) to create the set of plane figures related to the solid figure.
- Identify and describe plane and solid figures (e.g., circle/sphere, square/cube, and rectangle/rectangular prism), according to the number and shape of their faces, edges, and vertices using models.
- Compare and contrast plane and solid geometric figures (e.g., circle/sphere, square/cube, and rectangle/rectangular prism) according to the number and shape of their faces, edges, vertices, and angles.

Favorite Fruit

You can model this process to get your students started! Open the Favorite Fruit Graph on your interactive whiteboard and see how the fruits at the bottom compare to your students' favorites. Have each student look at the fruit on the graph, come to the interactive board, and use the Paint Bucket fill tool to add their individual data.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Data Analysis folder , open the Graphing folder, and select the Favorite Fruit Graph activity.

Geometry
Focus: Symmetry and Plane and Solid Figures

2.16. The student will identify, describe, compare, and contrast plane and solid geometric figures (circle/sphere, square/cube, and rectangle/rectangular prism).

Curriculum Framework - The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to

- Trace faces of solid figures (e.g., cube and rectangular solid) to create the set of plane figures related to the solid figure.
- Identify and describe plane and solid figures (e.g., circle/sphere, square/cube, and rectangle/rectangular prism), according to the number and shape of their faces, edges, and vertices using models.
- Compare and contrast plane and solid geometric figures (e.g., circle/sphere, square/cube, and rectangle/rectangular prism) according to the number and shape of their faces, edges, vertices, and angles. c) compare the unit fractions for halves, thirds, fourths, sixths, eighths, and tenths.

Go on a Shape Hunt

Open the Find Shapes activity and project it so that your students can see. Look at each picture and call out the shapes you see in it.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Geometry folder, and select the Find Shapes activity.

This activity contains basic shapes and is great for younger students, but your second graders are capable of much more! What other shapes can your students think of? Prompt them if they don't start sharing the 3-dimensional shapes they know.

Once you have a list of shapes, form small teams of students around each shape. Ask the student teams to work together to find or draw a single page with at least 4 different examples of their shape in the real world. You may want to provide a digital camera students can use to take pictures around school, or go to www.pics4learning.com to find additional photographs.

To combine student work into a team project, have each team member click the Share button on the toolbar. Then, each of them can also click the Import button on the toolbar to find and add the pages for their team mates. Have students present their work for the class. Ask for additional examples for each shape as you show each page.
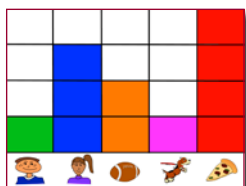
Probability and Statistics
Focus: Applications of Data

2.17. The student will use data from experiments to construct picture graphs, pictographs, and bar graphs.

2.19. The student will analyze data displayed in picture graphs, pictographs, and bar graphs.

"One of our biggest challenges with mathematics learning in the early grades is representing data in graphs. Since our students love working with pictures, we created a Pixie activity our Kindergarten and 1st grade classes could use to learn how to make bar graphs.

Working with other students at their table, students count how many of them are boys, how many are girls, which students like football, and which students have a dog. Then they add their own category in the 5th column and do the counting. Students tally their findings and fill each square in the graph to represent on student's answer.

Because we can change the stickers and table groups, each time is a unique experience. Kids fill in the squares with the Paint bucket tool to create their graphs, or use the stickers to create a pictograph. We also have students customize the graph to include their own objects, print it out, survey family and friends, and complete the graph as homework."

—Laura Spencer
Prospect Avenue Elementary, Santee, CA

Math Lesson

While individual activities can be used to address specific math standards, you can also create engaging lessons that address multiple standards in one project.

While individual activities can be used to address specific math standards, you can also create engaging lessons that address multiple standards in one project.

Engage

Introduce the concept of skip counting to your students. A fun way to get them excited about skip counting and to practice their skills is to play with a rubber ball. Have the students take turns bouncing the ball and counting off by 2's, 5's, 10's, etc. Be sure to explain to them that skip counting is another way to multiply.

Once the students have an understanding of skip counting, read Bunches and Bunches of Bunnies by Louise Matthews. This book explains the concept of multiplication using pictures. Ask your students to illustrate this word problem:

> There are four cats. Each cat has four legs. How many cat legs are there in all?

Have the students share their pictures in small groups. Encourage them to notice that while the pictures are different, they still have the same numbers in them. Post them on the wall as examples.

Next, work on the same process using a different approach. Have students practice identifying numbers in pictures and writing multiplication word problems. Open Pixie and add a sticker of a rain cloud from the Weather folder.

> Each cloud has four raindrops. If there were X clouds, how many raindrops would there be?

Continue this process with a few other stickers. As an entire class, brainstorm everyday objects that work for multiplication word problems. Ask the students to find an object at home that could

be part of a multiplication word problem. When you meet again, have each student share their object with the rest of the class. You may even want to ask them to bring the object to school.

Create

Let students know they will create their own multiplication word problems using stickers in Pixie. Assign students a number series (2's, 3's, 4's) appropriate for their multiplication skill level.

Give each student a four-pane storyboard to help them develop the pages of their book. Have students write an equation in each of the panes. Next, have each student find stickers they can use to represent the numbers in the equation. Have them write down the name of the sticker (or a description) and write the text of their multiplication word problem in each box on their storyboard.

You might want students to create two pages for each problem, the first one containing the problem, and the second one containing the problem and the answer.

Share

Once the students have completed their problems, have them print their work at postcard size to create a set of word problem flash cards the class can use at a center in your classroom. You can also link to each students project from your class web site as a place students can go to review multiplication facts and practice solving word problems from home.

Math Lesson (continued)

Virginia Standards of Learning

2.5. The student will recall addition facts with sums to 20 or less and the corresponding subtraction facts.

2.6. The student, given two whole numbers whose sum is 99 or less, will
   a) estimate the sum; and
   b) find the sum, using various methods of calculation.

2.7. The student, given two whole numbers, each of which is 99 or less, will
   a) estimate the difference; and
   b) find the difference, using various methods of calculation.

2.8. The student will create and solve one- and two-step addition and subtraction problems, using data from simple tables, picture graphs, and bar graphs.

2.9. The student will recognize and describe the related facts that represent and describe the inverse relationship between addition and subtraction.

Grade 2

Peer collaborative learning in Pixie

"Our kindergarten students at Meiklejohn Elementary School didn't know how to use Pixie, so I had the fourth-graders design shape activities in Pixie for them with directions like, 'Fill in the triangle shapes with red,' 'Drag the shape word inside the shape,' or 'Find how many squares are in the drawing.'

The fourth-graders then helped their kindergarten buddies learn how to open Pixie, find a file, and complete the shape activities they designed.

One student decided that he would teach his buddy about proper nouns and shapes, so he had his buddy drag the proper nouns in a circle and the nouns in a square. When I shared my concerns that it might be too hard, he said, 'But Mrs. Swenson, I have a really smart buddy!' He was right, and the buddy did just fine learning the proper nouns and the shapes!"

—Melissa Swenson

Meeting Virginia SOLs with Pixie®

Grade 3

What is Pixie?

Pixie is a cloud-based tool third-grade students can use to write, paint pictures, and tell stories. Pixie provides a fun way for students to explore and respond to curriculum topics related to the Virginia Standards of Learning.

Students can add text to a Pixie page to practice their writing, draw ideas from their imagination using the paint tools, record narration for stories, and more. Student work can be exported as videos, ePub format for iBooks, HTML 5 for use on the Web, or as printed as booklets, comics, and more.

Using Pixie with Third-Grade Students

In third grade, a student's ability to read, write, do math, and explore the worlds of science and history is expanding rapidly. Their work with Pixie growing more sophisticated as their writing and drawing includes more detail and complexity. Respond to student work in the same way – with more detail and complexity and ask them lots of questions about their work.

As students complete the activities in this guide or play in Pixie on their own, ask them to share their thoughts and feelings. Give them the freedom to take some of the activities wherever their interests lead. Passion for learning is perhaps the most important thing you can teach students at this age.

Grade 3 Contents

Grade 3 Language Arts

Oral Language

3.2. The student will present brief oral reports using visual media.
a) Speak clearly.
b) Use appropriate volume and pitch.
c) Speak at an understandable rate.
e) Use contextually appropriate language and specific vocabulary to communicate ideas.

Class Memory Book

At the end of the school year, let students know that they will create a page for their class memory book. You might choose to have each student recount a favorite event, or brainstorm as a class, a list of things that happened over the year and assign an even to each student as their topic for the class memory book.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, and select the Memory Book activity.

Ask each student to write about the event, use the Paint tools and stickers to add appropriate illustrations, and the click the Record button to record their description of the event. Link to or embed their projects on your classroom or school website to share with family and community.

3.2. The student will present brief oral reports using visual media.
Curriculum Framework - To be successful with this standard, students are expected to deliver oral presentations in an engaging manner that maintains audience interest by:
• speaking at an understandable rate;
• using visual media (e.g., images, posters, and charts) to emphasize or enhance facts or details.

Our Preferred Poetry Podcast!

Poetry is a great way to learn to read aloud with intonation, cadence, and expression, especially when the poems are silly and written for kids! Collect your class's favorite poems or give students time to explore the poems at www.gigglepoetry.com. Have each student select a poem they want to read and illustrate.

Have students copy and paste the text from gigglepoetry.com onto a blank Pixie page. Have them use the Paint tools and Stickers to add illustrations that support the content of the poem. Click the record button to record the student reading the poem with intonation and inflection.

Link to each students Pixie page from your classroom website to create a poetry destination for parents to visit. To combine all of their pages into one file you can embed on your web site, have students click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project.

Reading

3.4. The student will expand vocabulary when reading.

   b) Use knowledge of roots, affixes, synonyms, and antonyms.

   c) Apply meaning clues, language structure, and phonetic strategies.

   e) Discuss meanings of words and develop vocabulary by listening and reading a variety of texts.

   f) Use vocabulary from other content areas.

   g) Use word reference resources including the glossary, dictionary, and thesaurus.

Vocabulary Trading Cards
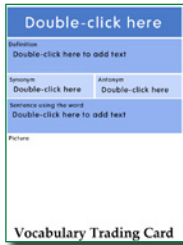
Vocabulary Trading Card

As you read to the class or as students are reading independently, have students raise their hand to let you know they encounter an unfamiliar word. Have them ask the rest of the class if anyone can help share the meaning of the word. Keep a list of these new words and post it where all students can see and add to it.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Vocabulary folder, and select the green Vocabulary activity.

At the end of the week or unit, ask students to choose a word from the list and create a vocabulary trading card to teach others about the word. Students should define the word so that other students can understand the meaning, use it in a sentence with the same context as the unit you are studying, and draw a picture that helps describe the meaning. Have students print enough copies of their page using the Send button in Pixie. Here they can choose Print, Repeat Page, and Postcard to print copies they can cut out and distribute to the rest of the class.

3.4. The student will expand vocabulary when reading.

   f) Use vocabulary from other content areas.

Vocabulary Trading Cards

Vocabulary Trading Card

Students are more eager to learn new vocabulary when they get some choice in the matter. As you are exploring nonfiction on a topic in your classroom, ask your students to keep track of new words they encounter. Give them the definition or have them look up the meaning of each word on their list.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Vocabulary folder, and select the Vocabulary Trading Card activity.

At the end of the week, or unit, ask students to choose their favorite new word and create a trading card to teach the meaning to other students. Students should define the word so that other students can understand the meaning, use it in a sentence with the same context as the unit you are studying, and draw a picture that helps describe the meaning.
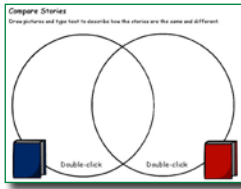
Then, have them click the Send button on the toolbar, choose Print, choose Repeat Page, and select Postcard so they can cut them out and distribute them to the rest of the class.

Reading

3.5. The student will read and demonstrate comprehension of fictional text and poetry.
   b) Make connections between previous experiences and reading selections.
   d) Compare and contrast settings, characters, and events.

Compare Stories

Have students read a series such as "Two Bad Ants" and "Just a Dream" by Chris Van Allsburg. After students have read two stories, use the Compare Stories activity in Pixie to compare them.
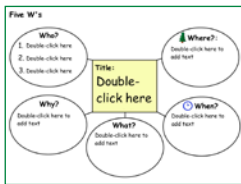
Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Literature folder, and select the Compare Stories activity.

Have students add text and pictures that show how each story is different in the parts of the circle that do not overlap. Then, ask them to brainstorm ways that the themes, settings, and plots are similar and write about or draw them in the place where the circles overlap.

3.5 The student will read and demonstrate comprehension of fictional text and poetry.
   f) Ask and answer questions about what is read.
   i) Identify the main idea.

What's the Main Idea?

Have students complete a leveled reader. Then, have each student define the main idea of the story in their own words. Once they have written the main idea, have them find three supporting facts from the story.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizers folder, and select the Main Idea activity.

To extend the project, ask students to add pages to the Pixie file and use the Paint and Text tools to recreate their favorite scene. What could they draw in the background to share the main idea.

Reading

3.5. The student will read and demonstrate comprehension of fictional text and poetry.
Curriculum Framework - To be successful with this standard, students are expected to identify the problem (conflict) and solution, main idea, and supporting details.

Career Fair
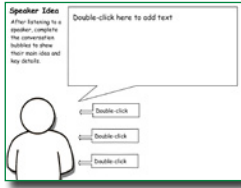
It is important to connect the learning that goes on inside the classroom with the work and lives of people outside of it. One common way we make this connection is by inviting "experts" to our classes to share knowledge and information as it relates to their career. Encourage students to take notes about what they are hearing.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open Reading folder, and select the Comprehension folder>open the Speaker Idea activity.

After a guest visits, have students complete the Speaker Idea activity in Pixie to summarize the information they learned. Have students print out their pages and use them to discuss the visit with another peer or share with the entire class.

3.5 The student will read and demonstrate comprehension of fictional text and poetry.
Curriculum Framework - To be successful with this standard, students are expected to gain meaning before, during, and after reading by: understanding the basic lessons or morals of fairy tales, myths, folktales, legends, and fables from diverse cultures.

Folktales
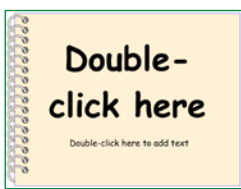
Folktales – traditional stories that include a moral – can be found in cultures around the world. Explore examples of a variety of folktales. You can find a great collection of American folktales at: www.americanfolklore. net. Once your students are familiar with the format, have them choose one of their favorite folktales and use Pixie to create and print booklets that retell the story.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, and select the Booklet activity.

To give the project a more authentic spin, have the students retell the stories in the form of comic pages. Rather than using a template, have students create and illustrate four or six pages in Pixie. Then, have them click the Send button on the toolbar, choose the Print as Postcard (4 panel) or comic (6 panel) layout to create one comic sheet with each Pixie page as a panel.

Reading

3.5. The student will read and demonstrate comprehension of fictional text and poetry.
Curriculum Framework - To be successful with this standard, students are expected to apply knowledge of characterization by describing a character's attributes (traits, motivations or feelings);

Character Cause and Effect
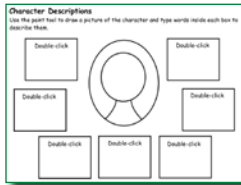
Third graders begin to understand a character's, or characters', motivations and traits within a story. To help assess their growing ability, have them complete Pixie's Character Description activity to show the traits of the main character in a book you have read as a class or they have read independently.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Character Description and the Cause and Effect activities.

To challenge your students to share what they comprehend about the actions in a story, have them complete the Cause and Effect activity to describe events in the story. Make sure they identify the "who" for each cause. When they are finished, have them use both of their Pixie files to explain how the main character's motivations and feeling impacted the events in the story.

3.5. The student will read and demonstrate comprehension of fictional text and poetry.
Curriculum Framework - To be successful with this standard, students are expected to recognize structural elements of poems (e.g., verse, rhythm) and drama (e.g., casts, dialogue).

Response to Literature
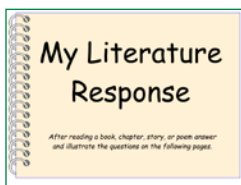
Asking students to share what they think and understand about what they have read helps you assess comprehension and validates their perspective. After students read a story or poem, have them respond to and illustrate the prompts on each page of the Response to Literature book. Ask them to use identify a chapter, scene, or stanza as they respond to and illustrate each sentence.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Response to Literature activity.

Students can also use Pixie to create a book talk in which they share excerpts from the story, retell an important scene, and record their thoughts about the story.

Reading

3.6. The student will continue to read and demonstrate comprehension of nonfiction texts.
   g) Identify the main idea.
   h) Identify supporting details.

Explore Main Idea

Have your students think about the main idea as an umbrella that covers all of the content and holds it together. Share a couple of different nonfiction books related to a science or social studies topic you are studying. Look at the cover picture and title. What is the main idea? Now explore the titles, pictures, and text inside the book. How are they organized?

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading Folder, open the Comprehension folder, and select the Main Idea Umbrella activity.

Project a copy of Pixie's Main Idea Umbrella activity for students to see. Work together to add text that describes the main idea of one section. Also brainstorm key details from each paragraph in that section.

You can also have students use the Main Idea Umbrella activity on a nonfiction topic they will be exploring in their writing workshop. This will help them collect information for their writing. You can also have students create a page that illustrates the main idea using clip art, the text tool, and the paint tools.

3.6. The student will continue to read and demonstrate comprehension of nonfiction texts.
   Curriculum Framework - To be successful with this standard, students are expected to use text formats such as the following to preview, set a purpose for reading, and locate information relevant to a given topic efficiently:

The Right to Vote
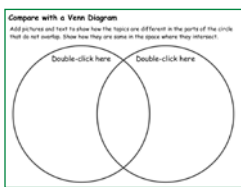
The election period is a great time to discuss how the right to vote for all Americans came about. Read a book about Susan B. Anthony, Elizabeth Stanton, or Martin Luther King. Talk with your students about the suffrage movement and equal rights movement. What are some of the similarities to these two major movements? Why is the right to vote important to all United State Citizens?

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizers folder, and select the Venn Diagram activity.

First, open the activity and work as a class to compare the two using the Venn Diagram. Then, have students choose one of the events from the class comparison to research and share. Have each student create a page in Pixie with text, illustrations, and voice narration to share information and facts about each important part of the Right to Vote.

Reading

3.6. The student will continue to read and demonstrate comprehension of nonfiction texts.
Curriculum Framework - To be successful with this standard, students are expected to use text features to make meaning by using illustrations to gain information (e.g., maps, photographs).

A Picture is Worth a 1000 Words
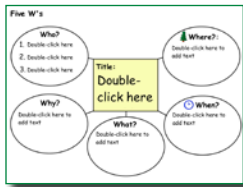
Locate before and after shots from a major event of a location or throughout history. Consider images of your local Main Street fifty years ago and today, or the skyline of a major city, or an area before and after extreme weather. Ask students what they can tell about the changes that took place from the pictures. Were the changes natural or man-made? Is there evidence of damages, changes thanks to technology, growth of the population?
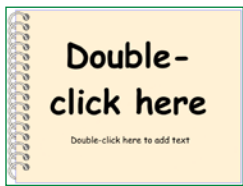
Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Research folder, and select the Notebook activity.

Have students choose a location and a point of history to find two images, one before the event and one after the event. Insert the images onto the page. Add text to describe the scene before the event and then on the next half of the page under the changed picture add how the scene changed and what caused it. Have the students print or present their page to share it with the rest of the class.

3.7. The student will demonstrate comprehension of information from a variety of print and electronic resources.
Curriculum Framework - To be successful with this standard, students are expected to retrieve information from electronic sources.

Research Geography of Our Nation

The United States has a variety of geography, which is shared in the song "America the Beautiful". With teacher guidance, students will research a given geographical feature of the United States, such as the mountains, the plains or the desert using the Internet.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, and select the Booklet activity.

Students will then add text and drawing to this Pixie template to create a mini-booklet with the information learned through their Internet research. Have them add images to help enhance the booklet by selecting stickers and then using the search function to find images that match the geography the students are researching.

Writing

3.9. The student will write for a variety of purposes.
   a) Identify the intended audience.
   c) Write a clear topic sentence focusing on the main idea.
   d) Write a paragraph on the same topic.
   e) Use strategies for organization of information and elaboration according to the type of writing.
   f) Include details that elaborate the main idea.
3. IO. The student will edit writing for correct grammar, capitalization, punctuation, and spelling.

Practice with Prefixes
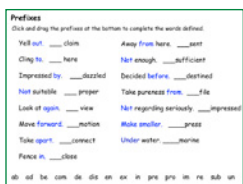
Pixie contains a wealth of activities on parts of speech. The specific activities can help you zero in on specific areas for practice for English Language Learners. Rather than working as a whole class or even in a lab situation, consider making specific activities available for student practice at a center in your classroom.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open Parts of Speech folder, and select the Prefixes and/or Suffixes activity.

The Prefixes and Suffixes activities ask students to drag the prefix or suffix at the bottom of the page to complete words that include a short definition or description. Have students print or save their finished work to use as an assessment of skill mastery as you work one-on-one with other students.

Students can also create a word journal using multisyllabic words and words with common suffixes (for example, likable, admirable, adorable). They can extend their written journal entries by drawing pictures of the meaning and narrating each word and its sounds.

Writing

3.9. The student will write for a variety of purposes.

Curriculum Framework - To be successful with this standard, students are expected to follow the organization of particular forms of writing for:

- narratives
- sequence events
- use transition words and phrases for sentence variety
- and to manage the sequence of events
- use specific vocabulary to convey experiences and events
- provide a conclusion

The Best Way to Spend a Saturday

As students learn how to write informative texts, focus on the structure of their writing more than on the content. Ask your students what would be the best way to spend a Saturday. How will they get around? What would they like to do? Who will they spend their day with? Have each student use the Flowchart activity to plan out the necessary steps.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Writing folder, and select the Flow Chart activity.

Once their steps and ideas have been added to the flowchart, assign and have students use the Booklet activity (Activities>Templates>Booklet) to write in complete sentences using order words and design a 4-page booklet. Encourage them to use order words (first, after, next, and finally) in their writing. Have students print booklet style, fold, and share their books with peers and family.

Writing

3.9. The student will write for a variety of purposes.

Curriculum Framework - To be successful with this standard, students are expected to follow the organization of particular forms of writing for informative/explanatory purposes:

- introduce a topic and group related information in paragraph form
- use facts, definitions, quotations, details, or other examples and information to develop the topic
- use linking words (e.g., also, another, and, more) and linking phrases (e.g., in order to, because of this, for example) to connect ideas within categories of information.
- follow the organization of particular forms of writing for: informative/ explanatory purposes
- provide a concluding statement or section

Book Review

Have students choose one of the books they have read and enjoyed to share with others and use Pixie to create a wanted poster for the selected book. They can use Pixie's paint tools to illustrate their favorite parts of the book.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Literature folder, and select the Wanted: Book Review activity.

Students can also create postcards or trading cards to tell other students about books in the library. Have students use the Send button to print out the pages as postcards (four to a page) or comics (six to a page). Then cut them out, laminate them, and share them with other students at your school to help them choose books when they visit the school library.

Writing

3.9. The student will write for a variety of purposes.

Curriculum Framework - To be successful with this standard, students are expected to follow the organization of particular forms of writing for:
- narratives
- sequence events
- use transition words and phrases for sentence variety
- and to manage the sequence of events
- use specific vocabulary to convey experiences and events
- provide a conclusion

3. IO. The student will edit writing for correct grammar, capitalization, punctuation, and spelling.

Descriptive Writing - Burger Style
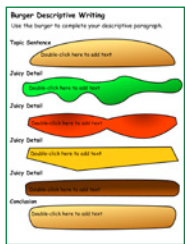
Have students develop a personal narrative about something that occurred recently, such as a field trip or a science experiment. A familiar event should help them easily determine sequence as well as remember specific details to make their writing descriptive. Have each student plan their writing using the Burger Writing activity in Pixie. In this simple diagram, students start with the topic and brainstorm juicy details that make their story tasty and interesting.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Writing folder, and select the Burger Writing activity.

After the introduction and conclusion (the buns that hold the piece together) and the juicy details have been outlined, have students write and illustrate each idea on a separate page in Pixie. Print out the pages as a comic or embed them in the class website to create online books.

3.II. The student will write a short report.
a) Construct questions about the topic.
b) Identify appropriate resources.
c) Collect and organize information about the topic into a short report.
d) Understand the difference between plagiarism and using own words.

Author Biography
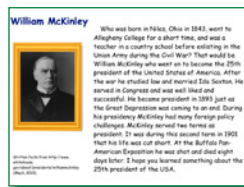
Ask the class who are some of their favorite authors, and why that person is their favorite. As the class brainstorms the reasons they like different authors, or illustrators, and record the information.

Next, have the students start researching using biographies in the library and favorite websites. Once the students have finished with their research, have them use Pixie to create a biography booklet or presentation about their favorite author.

Student biographies should have a title page, information about the author's early life and about the author's published works. Include images, text and audio. Link to or embed the web shows on your classroom or school website to share with family and community.

Writing

3.12. The student will use available technology for reading and writing.

Curriculum Framework - To be successful with this standard, students are expected to use available technology to compose, edit and share writing as well as to interact and collaborate with others.

Our Holiday Customs

As a class, brainstorm the different holidays that they celebrate. What parts of the celebration make the holiday special? Ask how the students celebrate the holiday that makes it special.

Have students choose their favorite holiday or select one from a list. Have them use Pixie to design a page that explains how they celebrate this holiday to make it special. If possible, have students share pictures from their actual family celebration. Include other images, text and audio.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. Embed the project onto the class web page or blog or share the link in your school's social media platform.

Language Arts Lesson

While individual activities can be used to address specific language standards, you can also create engaging lessons that address multiple standards in one project.
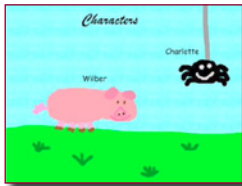
Students explore character, plot, and theme as they develop a trailer to promote a book they have read.

Engage

Getting students to read isn't always easy. Choose one of your favorite books and share it with your students in a way you think will get them excited about reading it. Then, tell why it was your favorite book.

Ask students what gets them excited about reading. Is it the characters? Is it the setting, an exciting plot, interesting themes, or a personal connection with the story?

Let your students know they will be using Pixie to create a booktalk in the style of a movie trailer to promote one of their favorite books.

First, have students determine which book they want to promote. Then, ask them to answer the following questions: Have I read another book by the same author? Did I like it as much as this book? What genre is this book? Is this a book part of a series? Do I have a personal connection to this book?

To better advertise their book, students need to be able to identify the theme. Themes are the fundamental and often universal ideas explored in a literary work. They are BIG ideas, like friendship, love, and courage. For example, when a character stands up for a friend in a story, we can infer from their actions that friendship and courage are themes in the story.

Common themes your students can look for in their books include friendship, love, cooperation, courage, loyalty, determination, fairness, anger, and being different.

As a class, explore how authors use themes to guide their writing. Ask students to reread important parts of the book and take notes as they analyze the book's characters,

setting, and plot to determine the theme. The actions of the main character are a great place to look for the theme.

To gather information students can use to develop their booktalk, use graphic organizers like thought webs and the 5 W's to show the central theme of the book as well as events in the story that relate to the theme.

Create

Next, have students prepare a script for their booktalk. An exciting script should include:

- An interesting hook.
- A vivid description of an event that supports the theme.
- The title and name of the author at the conclusion.
- A call to action.

Remind students that showing the story is more effective than trying to retell the story. As they write the script, have them think of the booktalk as a movie trailer. Their goal is to leave the viewer with a compelling reason to check out that book!

To transform their ideas into reality, it is helpful to have a storyboard or map of each student's vision. The storyboard should include information about which portion of the script each scene will include and what images and sound files will be used to support it.

Have students use Pixie to build their booktalk. They can use images from Pics4Learning or create their own images using the Paint tools. Students can use the Record feature to capture narration on each page of the project.

Share

Language Arts Lesson (continued)

Share the book trailers with the rest of the class or show them on the morning announcements to encourage others to read. The librarian may choose to display the book talks in the library as other classes come in for their scheduled library time. If your district or community has public access television, try to get your students' booktalks aired. This is a great way to encourage the entire community to read!

Virginia Standards of Learning

Oral Language

3.2. The student will present brief oral reports using visual media.

> a) Speak clearly.
>
> b) Use appropriate volume and pitch.
>
> c) Speak at an understandable rate.
>
> e) Use contextually appropriate language and specific vocabulary to communicate ideas.

Curriculum Framework - To be successful with this standard, students are expected to deliver oral presentations in an engaging manner that maintains audience interest by reporting on a topic, telling a story, or recounting an experience with appropriate facts and relevant details.

Reading

3.3. The student will apply word-analysis skills when reading.

Reading Focus Statement: An emphasis will be placed on learning about words, reading age-appropriate text with fluency and expression, and learning comprehension strategies.

3.5. The student will read and demonstrate comprehension of fictional text and poetry.

> i) Identify the main idea.

Curriculum Framework - To be successful with this standard, students are expected to:

• gain meaning before, during, and after reading by: understanding the basic lessons or morals of fairy tales, myths, folktales, legends, and fables from diverse cultures.

• apply knowledge of characterization by describing a character's attributes (traits, motivations or feelings);

Writing

3.8. Writing Focus Statement: At the third-grade level, students will continue to develop their writing skills. When they write letters, stories, and simple explanations, the instructional emphasis will be on paragraph development. Their sentences will become more complex, and they will learn to select details to elaborate the main idea of the paragraph. Students will revise and edit for correct sentence formation, grammar, capitalization, punctuation, and spelling. They will use their written communication skills across the curricula.

9. The student will write for a variety of purposes.

> a) Identify the intended audience.
>
> b) Use a variety of prewriting strategies.
>
> c) Write a clear topic sentence focusing on the main idea.
>
> d) Write a paragraph on the same topic.
>
> e) Use strategies for organization of information and elaboration according to the type of writing.
>
> f) Include details that elaborate the main idea.
>
> g) Revise writing for clarity of content using specific vocabulary and information.

3.10 The student will edit writing for correct grammar, capitalization, punctuation, and spelling.

> a) Use complete sentences.
>
> b) Use transition words to vary sentence structure.
>
> c) Use the word I in compound subjects.
>
> d) Use past and present verb tense.
>
> e) Use singular possessives.
>
> f) Use commas in a simple series.
>
> h) Use apostrophes in contractions with pronouns and in possessives.
>
> i) Use the articles a, an, and the correctly.
>
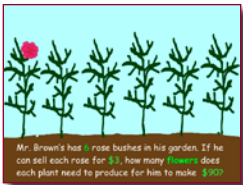> j) Use correct spelling for frequently used sight words, including irregular plurals.

Grade 3 Mathematics
Number and Number Sense
Focus: Place Value and Fractions

3.2. The student will recognize and use the inverse relationships between addition/subtraction and multiplication/division to complete basic fact sentences. The student will use these relationships to solve problems.

Now That's a Problem

Read Bunches and Bunches of Bunnies by Louise Mathews to your students. This book explains the concept of multiplication using pictures. Work as a class to brainstorm everyday objects that work for multiplication word problems.

Have each student brainstorm a word problem and then use Pixie to write out the word problem and add illustrations that show the multiplication. For example, "Mr. Brown has 5 rose bushes in his garden. If he can sell each rose for $3, how many roses does each plant need to produce for him to make $30?"

Have each student duplicate their first page to show how they would solve the equation mentioned in the word problem. The second page should demonstrate how to solve the problem with an equation and by highlighting the array in the image.

3.3. The student will
- a) name and write fractions (including mixed numbers) represented by a model;
- b) model fractions (including mixed numbers) and write the fractions' names; and
- c) compare fractions having like and unlike denominators, using words and symbols (>, <, or =).

Real World Fractions

When represented only by numbers, fractions can be scary. This is why most people introduce fractions with mathematics manipulatives or familiar objects like chocolate bars. After exploring how to identify and create basic fractions using a chocolate bar or another manipulative, assess your students' understanding using various Pixie Fractions activities.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and operations folder, open the Fractions folder, and select the Fractions activities you want to use.

As your students start to identify fractions in the world around them, have them create a poster sharing examples of fractions in the real world.
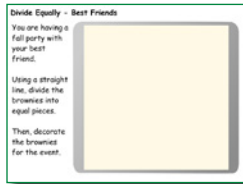
Number and Number Sense
Focus: Place Value and Fractions

3.3. The student will
   a) name and write fractions (including mixed numbers) represented by a model;
   b) model fractions (including mixed numbers) and write the fractions' names; and
   c) compare fractions having like and unlike denominators, using words and symbols (>, <, or =).

It's a Party!

We all know how important it is to get the biggest piece of dessert! But what do you do to avoid conflict when you are the host? Divide equally! Ask your class to describe the meaning of the word equal. What does equal mean when you talk about shapes in math? To assess your students' understanding of equal, have them complete the multi-page Divide Equally activity in Pixie.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Geometry folder, and select the Divide Equally activity.

Once they have the hang of dividing equally, ask your students to draw a picture of equal parts and then write a story to support the illustration. You can use the Sentence Strip activity as a template, or have them add a new page to the Divide Equally activity.

Computation and Estimation
Focus: Computation and Fraction Operations

3.5. The student will recall multiplication facts through the twelves table, and the corresponding division facts.

3.6. The student will represent multiplication and division, using area, set, and number line models, and create and solve problems that involve multiplication of two whole numbers, one factor 99 or less and the second factor 5 or less.

Multiplication in the Real World
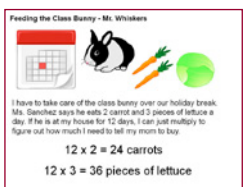
Real life practice of the multiplication tables will help the students understand why they need the skill and will help them retain the skill. Have the students think of a time when they had to add items that were already grouped together, such as there are "five tables with seven new books on each table. How many new books did the library receive?"

Assign each student a multiplication fact. Then have the student open Pixie, and using the Pixie tools, write their "real world" multiplication story. Use images to show the objects being grouped. Add audio to the slide sharing how multiplication made solving the problem easier. Then share the project.
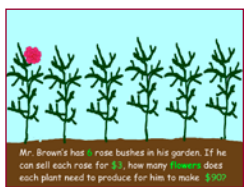
As the teacher, import all of the pages into one class file. Embed the project on your class website or share the link on your class networking page.

Computation and Estimation
Focus: Computation and Fraction Operations

3.6. The student will represent multiplication and division, using area, set, and number line models, and create and solve problems that involve multiplication of two whole numbers, one factor 99 or less and the second factor 5 or less.

Read Bunches and Bunches of Bunnies by Louise Mathews to your students. This book explains the concept of multiplication using pictures. Work as a class to brainstorm everyday objects that work for multiplication word problems.

Have each student brainstorm a word problem and then use Pixie to write out the word problem and add illustrations that show the multiplication. For example, "Mr. Brown has 5 rose bushes in his garden. If he can sell each rose for $3, how many roses does each plant need to produce for him to make $30?"

Have each student duplicate their first page to show how they would solve the equation mentioned in the word problem. The second page should demonstrate how to solve the problem with an equation and by highlighting the array in the image.

Measurement
Focus: U.S. Customary and Metric Units, Area and Perimeter, and Time

3.9. The student will estimate and use U.S. Customary and metric units to measure
   a) length to the nearest 1/2 inch, inch, foot, yard, centimeter, and meter;
   b) liquid volume in cups, pints, quarts, gallons, and liters;
   c) weight/mass in ounces, pounds, grams, and kilograms; and
   d) area and perimeter.

3.10. The student will
   a) measure the distance around a polygon in order to determine perimeter; and
   b) count the number of square units needed to cover a given surface in order to determine area.
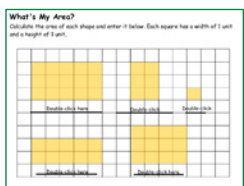
Finding the area of various geometric figures is a simple and useful mathematical operation that often proves useful in the real world, for example when you need to know much carpet to buy to re-carpet a room in your house.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Measurement folder, and select the Find the Area activity.

Work with students to develop foundations in determining area using the Find the Area activity. Project the activity where all students can see and work together to count the squares. Continue by having students work, individually to assess their understanding.

To extent their learning, have students use the Grid activity to design a new playground. Then, have students fill in squares to estimate the area each part of the playground will occupy.

Geometry

Focus: Properties and Congruence Characteristics of Plane and Solid Figures

3.14. The student will identify, describe, compare, and contrast characteristics of plane and solid geometric figures (circle, square, rectangle, triangle, cube, rectangular prism, square pyramid, sphere, cone, and cylinder) by identifying relevant characteristics, including the number of angles, vertices, and edges, and the number and shape of faces, using concrete models.

Quadrilaterals
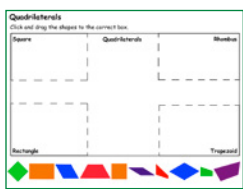
Talk about shapes in different sizes and categories. Any four-sided, 2-dimensional shape with straight sides is a quadrilateral. There are special types of quadrilaterals like rhombus and rectangles. Use this activity to practice understanding of the different types of quadrilaterals

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Geometry folder, and select the Quadrilaterals activity.

After students complete the activity, have them add a text box or record their voice to share the rule for what makes each type of quadrilateral different from the others.

Probability and Statistics

Focus: Applications of Data and Chance

3.17. The student will
   a) collect and organize data, using observations, measurements, surveys, or experiments;
   b) construct a line plot, a picture graph, or a bar graph to represent the data; and
   c) read and interpret the data represented in line plots, bar graphs, and picture graphs and write a sentence analyzing the data.

Favorite Bar Graphs
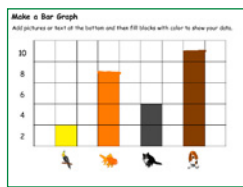
Have students use the Make a Graph Activity, as the basis for their own data collection. Have small teams of students choose a topic (like favorite food, sports, or pets) and have them survey the members of their team and other class teams.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Templates folder, and select the Make a Graph activity.
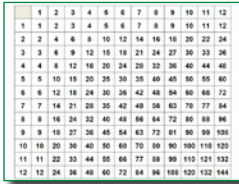
Team members should determine the largest number of respondents in any category so they can select units of measurement for the graph. Teams can then work together to collect data and then individually record it in Pixie by filling in each square with a solid color using the paint bucket or by adding stickers to each square to create a pictograph.

Patterns, Functions, and Algebra
Focus: Patterns and Property Concepts

3.19. The student will recognize and describe a variety of patterns formed using numbers, tables, and pictures, and extend the patterns, using the same or different forms.

Multiplication Patterns

While many students can simply memorize the multiplication tables, others need to see and understand the underlying patterns to be able to apply this knowledge to fractions and other operations in the future.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Templates folder, and select the Multiplication Chart activity.

Have each student open the Multiplication Chart activity in Pixie. Look at the numbers in the 5 column. See if students identify that the product always ends with a 0 or a 5. Then, work with students to see if you can determine a simple rule (like even and odd) for this pattern.

Let students explore the multiplication chart on their own. Encourage them to look diagonally as well as horizontally and vertically. What other patterns can they find? How do 0 and 1 work?

Focus: Solve problems involving the four operations, and identify and explain patterns in arithmetic.

3.20. The student will:
   a) investigate the identity and the commutative properties for addition and multiplication; and
   b) identify examples of the identity and commutative properties for addition and multiplication.

Student-created Tutorials

Talk to students about the commutative, associative, and distributive properties of multiplication and how these can be applied to problems to make them easier to solve. For example, the distributive property means you can multiply a number by breaking the number into parts, like tens and ones, multiplying the parts separately, and adding the products.

Have students work to develop multi-page projects in Pixie that introduce a property of multiplication or division and demonstrate how it can be used as a strategy to solve sample operations.

Having students create their own tutorials provides them with an opportunity to demonstrate their knowledge while helping their peers. Link to student tutorials from your classroom web site so students can use the tutorials as homework, review, and for differentiation.

Math Lesson

While individual activities can be used to address specific mathematics standards, you can also create engaging lessons that address multiple standards in one project.
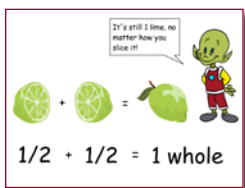
Students will use Pixie to demonstrate the concept of fractions and how fractions are written in mathematical terms.

Engage

Discuss the concept of fractions with your students. Help them understand the concept of less than 1, but greater than 0. Provide everyday examples of fractions, such as slices of pizza, orange segments, or squares of a chocolate bar. You can have students work along with you as you read The Hershey's Milk Chocolate Bar Fractions Book by Jerry Pallotta and Rob Bolster.

Show how you can divide one object into many objects and how this translates into a written fraction. For example, when 1 chocolate bar is separated into 4 pieces, each piece equals ¼ of the chocolate bar.

Have students work with their parents, or other family members, to brainstorm a list of foods and household objects that can easily be divided into fractions. Have students share their ideas as you create a master list of objects. Have students bring objects to school and work as a class to discuss how each whole object can be divided into pieces that represent fractions.

Create

Let students know that they will work in teams to demonstrate how to divide a whole into fractions. Divide students into small groups of 3–5. Have each team choose an object from the list that the class brainstormed.

Have the team create a storyboard that demonstrates how they will divide their object into different fractions. Their storyboards should demonstrate how they will show the object as a whole, how it will be divided into fractions, and how these fractional parts will be labeled. This will help you evaluate for comprehension before they begin working.

Each team should determine which pages in the project that each team member will create. Have each student work to design their assigned page. When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project.

Share

Celebrate their success by having each team share its presentation with the rest of the class or to another class learning fractions. As they present, ask team members to share what they learned about fractions as they built their project. You may also want to share the completed files by embedding the projects on your web site.

Virginia Standards of Learning

Number and Number Sense
Focus: Place Value and Fractions
3. The student will
    a) name and write fractions (including mixed numbers) represented by a model;
    b) model fractions (including mixed numbers) and write the fractions' names; and
    c) compare fractions having like and unlike denominators, using words and symbols ($>$, $<$, or $=$).
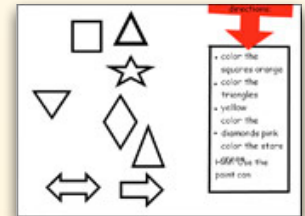
Grade 3

Peer collaborative learning in Pixie

"Our kindergarten students at Meiklejohn Elementary School didn't know how to use Pixie, so I had the fourth-graders design shape activities in Pixie for them with directions like, 'Fill in the triangle shapes with red,' 'Drag the shape word inside the shape,' or 'Find how many squares are in the drawing.'

The fourth-graders then helped their kindergarten buddies learn how to open Pixie, find a file, and complete the shape activities they designed.

One student decided that he would teach his buddy about proper nouns and shapes, so he had his buddy drag the proper nouns in a circle and the nouns in a square. When I shared my concerns that it might be too hard, he said, 'But Mrs. Swenson, I have a really smart buddy!' He was right, and the buddy did just fine learning the proper nouns and the shapes!"

—Melissa Swenson

Meeting Virginia SOLs with Pixie®

Grade 4

Tech4Learning
10+ YEARS
SERVING EDUCATION

What is Pixie?

Pixie is a cloud-based tool fourth-grade students can use to write, paint pictures, and tell stories. Pixie provides a fun way for students to explore and respond to curriculum topics related to the Virginia Standards of Learning.

Students can add text to a Pixie page to practice their writing, draw ideas from their imagination using the paint tools, record narration for stories, and more. Student work can be exported as videos, ePub format for iBooks, HTML 5 for use on the Web, or as printed as booklets, comics, and more.

Using Pixie with Fourth-Grade Students

In fourth grade, a student's ability and understanding are growing rapidly. Expanding curiosity and the ability to find answers on their own allows students to be more independent learners. While encouraging this independent learning, be sure to remain involved in their work and offer ideas, suggestions, and lots of praise. As they build projects, encourage them to be creative and remind them it takes practice to get good at writing and drawing. Try to find ways to give their creations an audience. This will help keep their time in Pixie from feeling like "work."

As you explore some of the ideas in this guide, think of the students in your class. Which ones will respond if allowed to explore content in this way? Pixie allows you to assign different activities to different students, so you can more easily adjust the content and work to meet individual student learning needs.

Don't forget time for open "play" in Pixie so students can explore wherever their interests lead. Passion for learning is one of the most important things to teach at this age!

Grade 4 Contents
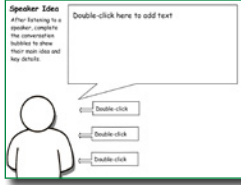
Language Arts

Mathematics

Grade 4 Language Arts
Communication: Speaking, Listening, Media Literacy

4.2. The student will make and listen to oral presentations and reports.
  b) Listen to and record information.

It is important to connect the learning that goes on inside the classroom with the work and lives of people outside of it. One common way to make this connection is by inviting "experts" into our classes to share knowledge and information as it relates to their job or personal history. Encourage students to take notes about what they are hearing.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Speaker Idea activity.

After a guest visit, have students complete the Speaker Idea activity in Pixie to summarize the information they learned. Have students print out their pages and use them to discuss the visit with a classmate or share with the entire class.

4.2. The student will make and listen to oral presentations and reports.
  Curriculum Framework - To be successful with this standard, students are expected to make oral presentations and reports by reporting on a topic or text, telling a story, or recounting an experience in an organized manner, using specific vocabulary, appropriate facts and descriptive details to support main ideas or themes.

Field Trip Memory Book

Field trips are one of the most enjoyable and memorable events of the school year. After a field trip, have students create a page for the field trip memory book. You might choose to have each student recount a favorite exhibit or part of the field trip, or brainstorm a list of things that happened during the trip and assign the events to different students to capture for the field trip memory book.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, and select the Memory Book activity.

Ask each student to write about the event, use the Paint tools and stickers to add appropriate illustrations, and the click the Record button to record their description of the event. If pictures were taken, bring in a picture of the event. Link to the URLs for each student project from your school web site or class Edmodo page.

Reading

4.4. The student will expand vocabulary when reading.
  a) Use context to clarify meanings of unfamiliar words.
  b) Use knowledge of roots, affixes, synonyms, antonyms, and homophones.
  c) Use word-reference materials, including the glossary, dictionary, and thesaurus.
  d) Develop vocabulary by listening to and reading a variety of texts.
  e) Use vocabulary from other content areas.

Vocabulary Trading Cards
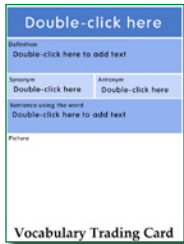
As you read to the class or when students are reading independently, have students raise their hands to let you know when they encounter an unfamiliar word. Have them ask the rest of the class if anyone can help share the meaning of the word. Keep a list of the new words the class encounters and post it where all students can both see it and add to it.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Vocabulary folder, and select the Vocabulary (green) activity.

At the end of the week, or unit, ask students to choose their favorite word from the list and create a vocabulary trading card to teach others about the word. Students should define the word so that other students can understand its meaning, use it in a sentence with the same context as the unit you are studying, and draw a picture that helps describe the meaning.

Have students click the Send button, choose Print, choose Repeat pages, and select Trading Cards. This will print the image nine to a page. Have students print enough copies so they can cut out and share their card with the rest of the class. If this size makes it too hard to read the content, try printing at postcard size. This will print the image at four to a page.

4.4. The student will expand vocabulary when reading.

Curriculum Framework - Reading Focus Statement: Students will read widely from content-area texts and nonfiction literature. They will also collect information from a variety of resources in order to acquire additional knowledge about a topic. They will construct questions about their topic, gather information, and synthesize the information for use in their oral presentations and writings.

Inventions
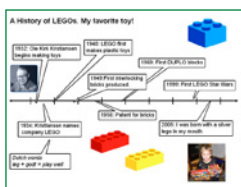
Inventions are fascinating to our students and are all around us. Innovations can also be made to our favorite and most useful tools (OXO kitchen utensils story). Read part of the book *Toys! Amazing Stories Behind Some Great Inventions* by Don Wulffson.

Talk with your students about some of their favorite inventions that have evolved over time. How was the invention started? What is the process of the invention becoming copyrighted? What else do your students know about inventions?

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizers folder, and select the Timeline activity.

Ask students to select an invention and complete a timeline about the events and process of this invention. Students should complete research on the release of the invention as well as significant events in process of the creation of that invention. In addition to the visual timeline they create, you may want to ask students to create a page in Pixie for each event in the timeline.
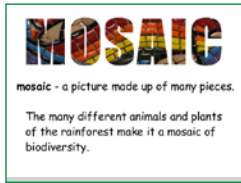
Reading

4.4. The student will expand vocabulary when reading

    e) Use vocabulary from other content areas.

    Curriculum Framework - To be successful with this standard, students are expected to determine the meaning of general academic and content-specific words or phrases in a text.

Mental Image Vocabulary

Mental images of words can help students learn the words and help store the words in their memory. Depending on the level of your students, distribute vocabulary words to each student or to small teams. Have each student or group write a definition for the term and brainstorm synonyms and antonyms for it.

Review their definition and synonyms and antonyms with your students and ask them to brainstorm ideas for pictures that might provide a visual clue to each word's meaning. Have students use a digital camera to take pictures of those clues or explore the Photos folder in the Stickers library to use images from the Pics4Learning collection.

Have students use the Text tool to type the vocabulary term on the page. Choose a fun font in a large size. Add the pictures that match the word. Have students print enough copies of their page using the Postcard style (4 to a page with the Repeat Page option selected) to cut out and distribute to the rest of the class.

You may also want to print the page in color at full-size to make it part of a word wall or classroom vocabulary list. You can also use Pixie's Import Page function to collect all pages into one file and run as a slide show students can watch when they arrive at class in the morning.

4.4. The student will expand vocabulary when reading.

    Curriculum Framework - To be successful with this standard, students are expected to determine the meaning of general academic and content-specific words or phrases in a text.

4.5. The student will read and demonstrate comprehension of fictional texts, narrative nonfiction texts, and poetry.

    e) Identify the problem and solution

Vocabulary Trading Cards

Students are more eager to learn new vocabulary when they get some choice in the matter. As you are exploring nonfiction on a topic in your classroom, ask your students to keep track of new words they encounter. Give them the definitions or have them look up the meaning of each word on their list.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Vocabulary folder, and select the Vocabulary Trading Card activity.

At the end of the week or unit, ask students to choose their favorite new word and create a trading card to teach the meaning to other students. Students should define the word so that other students can understand its meaning, use it in a sentence with the same context as the unit you are studying, and draw a picture that helps depict the meaning.

Have students print enough copies of their page using the Postcard style (4 to a page with the Repeat Page option selected) to cut out and distribute to the rest of the class.

Reading

4.5. The student will read and demonstrate comprehension of fictional texts, narrative nonfiction texts, and poetry.

c) Identify the main idea.

Curriculum Framework - To be successful with this standard, students are expected to identify main ideas of a text and summarize using supporting details.
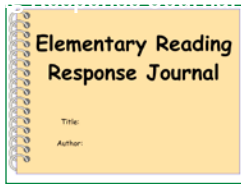
As students are working through leveled readers, assign Pixie's Reading Response activity to explore details in a story that hint at the theme. The Reading Response Journal activity includes opportunities for summarizing events, sharing how text made a student feel, and opportunities to compare and make predictions.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Literature folder, and select the Reading Response Journal 3-5 activity.

Most reading series are organized by themes, making it easy to compare texts with a common theme and explore how different authors address the same theme. Using Pixie's Compare activity (Activities>Graphic Organizers>Templates) can also help students identify ways that different stories approach a theme.

4.5. The student will read and demonstrate comprehension of fictional texts, narrative nonfiction texts, and poetry.

c) Identify the main idea.

Curriculum Framework - To be successful with this standard, students are expected to describe in depth a character, setting, or event drawing on specific details from the text (e.g., words, actions, or a character's thoughts).

Character Scrapbook
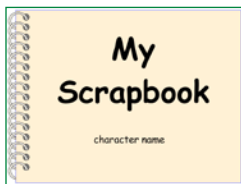
To begin, work with your class to brainstorm traits of the main character of a story you are reading. Open the Character Description activity in Pixie on an interactive whiteboard and work together to add in details. Be sure that students support the "what" details they identify with relevant examples from the text.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Character Scrapbook activity.

Have students demonstrate their understanding by creating a digital scrapbook for a character. The Character Scrapbook activity includes pages for students to write journal entries about important events from the main character's perspective, a picture page to show important events, a souvenirs page to share objects and explanations of why they are important to the main character, and a page for them to write a letter from the main character to a secondary character about a problem in the story and the secondary character's response.

Reading

4.5. The student will read and demonstrate comprehension of fictional texts, narrative nonfiction texts, and poetry.

c) Identify the main idea.

Curriculum Framework - To be successful with this standard, students are expected to make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.

Pictures and Silent Movies

Chris Van Allsburg's books, like Jumanji and Zathura, are as well known for their illustrations as they are for their stories. Share one of his books with your class, and do a picture walk, asking students to share what they think happens on each page.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Key Ideas activity.

Challenge students to determine information about what they think they can know about characters, setting, and events using only the pictures in the book. Print individual student work and work in small teams to compare, or project student projects and discuss as an entire class.

Next, have the students use Pixie to create a "silent movie" of a favorite children's story using only images. Present the silent movies to the rest of the class. Ask students to guess the story, and then try to identify what happens in each scene. Then, have students record audio to retell the story in their movie. How do written words or audio files improve the communication of the story? How do the images continue to enhance the story?

4. 5. The student will read and demonstrate comprehension of fictional texts, narrative nonfiction texts, and poetry.

f) Describe the relationship between text and previously read materials.

Curriculum Framework - To be successful with this standard, students are expected to discuss the similarities and differences between text and previously read materials (e.g., similar themes and topics, patterns of events).

Compare
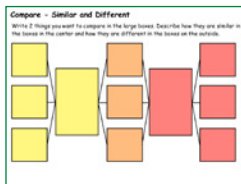
Provide students with, or explore together, different versions of a story with similar themes, such as *Cinderella* and *Ella Enchanted* or one title from the *Harry Potter* series and one from the *Charlie Bone* series.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizers folder, and select the Compare activity.

Have students compare the two stories on their own. When they have finished, have them work with a partner to compare and analyze their diagrams. What similarities and differences did they have in common? Which ones were different? After working with a partner, ask students to duplicate their comparison page and create a second version that includes the new information they and their partner uncovered.

7

Writing

4.6. The student will read and demonstrate comprehension of nonfiction texts.
    d) Identify the main idea.
    e) Summarize supporting details.

Explore Main Idea

Have your students think about the main idea as an umbrella that covers all of the content and holds it together. Share a couple of different nonfiction books related to a science or social studies topic you are studying.

Look at the cover picture and title. What is the main idea? Now explore the titles, pictures, and text inside the book. How are they organized? Project a copy of Pixie's Main Idea Umbrella activity for students to see. Work together to add text to describe the main idea of one section of the book, as well as key details from each paragraph in that section.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading Folder, open the Comprehension folder, and select the Main Idea Umbrella activity.

Have students complete the Main Idea Umbrella activity on a nonfiction topic they will be exploring in their writing workshop. This will help them collect information for their writing. You can also have students create a page that illustrates the main idea using clip art, the text tool, and the paint tools.

4.7. The student will write cohesively for a variety of purposes.
    h) Use transition words for sentence variety.
    Curriculum Framework - To be successful with this standard, students are expected to recognize different modes of writing have different patterns of organization (narrative)
        • organize an event sequence that unfolds naturally
        • use transition words and phrases for sentence variety and to manage the sequence of events
        • use specific vocabulary, words, and phrases to convey experiences and events
        • provide a conclusion

Descriptive Writing - Burger Style
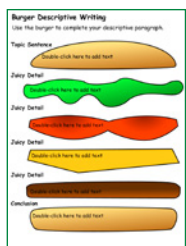
Have students develop a personal narrative about something that occurred recently, such as a family event or a trip to the zoo. Choosing a familiar event will help them determine sequence as well as remember specific details to make their writing descriptive. Have each student plan our their writing use the Burger Writing activity in Pixie. In this simple diagram, students start with the topic and brainstorm "juicy details" that make their story tasty and interesting.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Writing folder, and select the Burger Writing activity.

After the introduction and conclusion (the top and bottom buns that hold the story together) and the juicy details have been outlined, have students write and illustrate each idea on a separate page in Pixie. Print out the pages as a comic.

8

Writng

4.7. The student will write cohesively for a variety of purposes.

b) Focus on one aspect of a topic.

k) Include supporting details that elaborate the main idea.

Curriculum Framework - To be successful with this standard, students are expected to recognize

different modes of writing have different patterns of organization (informative/ explanatory)

• clearly introduce a topic and group related information in paragraphs

• use facts, definitions, opinions, quotations, details, or other examples and information to develop the topic

• use specific vocabulary to inform and explain the topic; and

• provide a concluding statement or section related to the topic

Your Very Own eHow

Television loves DIY (Do It Yourself) programming. There are entire channels devoted to cooking, decorating , and building. The eHow do-it-yourself web site features videos and articles on how to do just about everything. Fourth-grade students are getting more and more capable and many of them have already found passions like soccer, woodworking, sewing, and more.

Combine this media with their current passions by asking students to choose one of their favorite pastimes and create a how-to with Pixie. Letting them practice procedural writing on their favorite topics will engage them in writing informational text.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Writing folder, and select the Flow Chart activity.

As they begin to think about what they want to share, have students use the Flowchart activity brainstorm the steps in the procedure as well as identify the words they can use to link the steps, such as next, also, and because.

Once their steps and ideas have been added to the flow chart, have students create individual pages in a new Pixie project for each step someone needs to complete in order to sew a skirt, complete a great corner kick, or bake a great chocolate cake.

Encourage students to use order words (first, after, next, and finally) in their writing and add supporting illustrations to each page. They should record their voice explaining each step and then embed the project (Send button, Copy Project Embed) on the class blog or Edmodo page.

Writing

4.7. The student will write cohesively for a variety of purposes.

Curriculum Framework - To be successful with this standard, students are expected to use available technology to gather information, aid in writing, and interact and collaborate with others.

4.9. The student will demonstrate comprehension of information resources to research a topic.

c) Use technology as a tool to organize, evaluate, and communicate information.

ABC's of Fourth Grade

Select a theme for a fourth grade ABC book. You might choose to focus on processed and procedures of 4th grade as a book to share with students the next year, select your state or other social studies focus, or even select a general theme like math and use this as an opportunity for review of terminology and concepts.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Alphabetic Principle folder, open the ABC Book folder and select a letter activity and assign the activity to the appropriate student.

Assign each student a letter and ask them to use Pixie to create a page for a class ABC book on your topic or theme. For example,, "L is for laughs because Ms. Brown makes us laugh with all the great jokes and stories."

Students should type text on the page and use the Paint tools and stickers to create appropriate illustrations. When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. When all pages are together, sort them into alphabetical order and publish to FLASH or HTML to share from your class web site, or print the pages at postcard size to make a book or set of ABC cards.

Research

4. 9. The student will demonstrate comprehension of information resources to research a topic.

a) Construct questions about a topic.
b) Collect information from multiple resources including online, print, and media.
c) Use technology as a tool to organize, evaluate, and communicate information.
d) Give credit to sources used in research.
e) Understand the difference between plagiarism and using own words.

Research with Graphic Organizers
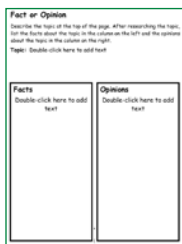
Fourth graders are independent learners and generally want to learn more about topics they enjoy. Have students conduct research on a person in history you are studying, or if you have the support, let them research a famous sports star or musician. A student-driven project will require more assistance to find appropriate informational materials, but often results in increased engagement.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizers folder, and select the Fact or Opinion activity.

Have students take notes as they complete their research using the Fact or Opinion organizers in Pixie. Rather than writing a research report, ask students to create a two-page presentation in Pixie. The first page should include at least three facts they have found in their research. The next page should include their personal opinions about the subject using opinion words they found in their research such as: feel, believe, always, never, most, best, and worst.

Language Arts Lesson

While individual activities can be used to address specific language standards, you can also create engaging lessons that address multiple standards in one project.

Students will use Pixie create a presentation to persuade the National Park Service to add another monument or memorial to Washington DC.

Engage

Washington DC is a treasure trove of Memorials and Monuments. Take a picture tour of the different monuments and memorials, sharing the difference between a memorial and a monument.

As a class, create a list of the qualities shared by the monuments and memorials. Let students know that it is their task to identify these qualities in the next person or event that should be added to the DC Monuments and Memorials. They will craft a persuasive argument and then develop a persuasive presentation to convince others to support adding their selection.

Give students some time to think about the memorial they think should be added. You may want to assign research about several lesser-known events or people before having them choose, or ask them to survey family and friends for their opinions.

Have students choose the event or person they think should be added to Washington DC. You might have them complete a KWL worksheet to help them identify what they already know about their selection, as well as identify topics that they will need to research.

Create

The goal of persuasive writing is to convince others to agree with our facts, share our values, accept our arguments

and conclusions, and adopt our way of thinking. Discuss elements of persuasive writing with your students, so they are ready to establish facts, provide examples, prioritize

arguments, craft an emotional appeal, state conclusions, and communicate logically.

Have each student use his or her research to write a persuasive essay about why their selection should be the next DC Monument/Memorial. Have students share their rough drafts with a classmate before editing and submitting their finished written arguments.

Discuss the structure of the Pixie project with your students. Like their persuasive essay, the first page should contain a position statement, such as "The New DC Memorial/Monument should be _____ because..."

The rest of the project should include pages that present arguments why this selection should be added to Washington DC and a final page that restates the position and summarizes the argument. The presentation should include supporting images and illustrations, as well as narration that summarizes the argument.

Share

Have students share their persuasive presentations with the rest of the class using the Show option on the Pixie toolbar. They can mute the audio if they would like to summarize live instead of playing their recorded narration. As a class, discuss the effectiveness elements of each argument. At the end, can the class choose just one new memorial/monument.

Language Arts Lesson (continued)

Virginia Standards of Learning

Communication: Speaking, Listening, Media Literacy

2. The student will make and listen to oral presentations and reports.

a) Use subject-related information and vocabulary.

Curriculum Framework - To be successful with this standard, students are expected to make oral presentations and reports by reporting on a topic or text, telling a story, or recounting an experience in an organized manner, using specific vocabulary, appropriate facts and descriptive details to support main ideas or themes.

Reading

4. The student will expand vocabulary when reading.

Curriculum Framework - To be successful with this standard, students are expected to determine the meaning of general academic and content-specific words or phrases in a text.

5. The student will read and demonstrate comprehension of fictional texts, narrative nonfiction texts, and poetry.

e) Identify the problem and solution

h) Draw conclusions/make inferences about text.

k) Use reading strategies throughout the reading process to monitor comprehension.

l) Read with fluency and accuracy.

6. The student will read and demonstrate comprehension of nonfiction texts.

a) Use text structures, such as type, headings, and graphics, to predict and categorize information in both print and digital texts.

l) Read with fluency and accuracy.

Writing

7. The student will write cohesively for a variety of purposes.

b) Focus on one aspect of a topic.

j) Revise writing for clarity of content using specific vocabulary and information.

k) Include supporting details that elaborate the main idea.

Curriculum Framework - To be successful with this standard, students are expected to recognize different modes of writing have different patterns of organization (informative/explanatory)

- clearly introduce a topic and group related information in paragraphs
- use facts, definitions, opinions, quotations, details, or other examples and information to develop the topic
- use specific vocabulary to inform and explain the topic; and
- provide a concluding statement or section related to the topic

8. The student will edit writing for correct grammar, capitalization, spelling, punctuation, sentence structure, and paragraphing.

a) Use subject-verb agreement.

b) Include prepositional phrases.

c) Eliminate double negatives.

d) Use noun-pronoun agreement.

e) Use commas in series, dates, and addresses.

f) Incorporate adjectives and adverbs.

g) Use correct spelling for frequently used words, including common homophones.

h) Use singular possessives.

9. The student will demonstrate comprehension of information resources to research a topic.

b) Collect information from multiple resources including online, print, and media.

c) Use technology as a tool to organize, evaluate, and communicate information.

d) Give credit to sources used in research.

e) Understand the difference between plagiarism and using own words.
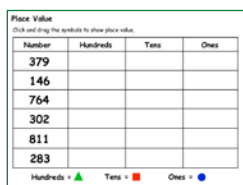
Grade 4 Mathematics
Number and Number Sense
Focus: Place Value, Fractions, and Decimals

4.I. The student will

a) identify orally and in writing the place value for each digit in a whole number expressed through millions;

b) compare two whole numbers expressed through millions, using symbols (>, <, or =); and

c) round whole numbers expressed through millions to the nearest thousand, ten thousand, and hundred thousand.

Game - What Number is It?

Place value is the value of a digit depending on its position in the number, such as ones, tens, hundreds, and thousands places. After practicing with place value, assign the Place Value – Hundreds activity so you can evaluate student's ability to add the correct number of shapes to each column to mark out the number of hundreds, tens, and ones.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and Operations folder , open the Numbers folder, and select the Place Value - Hundreds activity.

Next, give students an opportunity to use the Base Ten blocks in the Stickers Library (Math>Base Ten) to create a three digit number. Have each student click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project.

Click the View Full Screen button at the bottom of the window and play a game with your class. Display each page and have students see how fast they can call out the number. You may also choose to display each page for a given number of seconds and ask the students to write down the numbers they see.

Number and Number Sense
Focus: Place Value, Fractions, and Decimals

4.2. The student will
- a) compare and order fractions and mixed numbers;
- b) represent equivalent fractions; and
- c) identify the division statement that represents a fraction.

Curriculum Framework - Curriculum Framework - To be successful with this standard, students are expected to represent equivalent fractions through twelfths, using region/area models, set models, and measurement models.

Equivalent Fractions
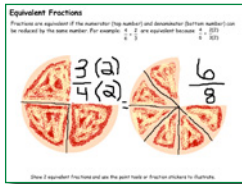
Fractions are equivalent if the numerator (top number) and denominator (bottom number) can be reduced, or multiplied, by the SAME number. This is why you can double each of the ingredients for a batch of cookies to feed twice as many people, but still create the same cookie, since each ingredient is still the same fraction of the whole as it was before. After demonstrating how to produce equivalent fractions to your students, have students use the Equivalent Fractions activity to demonstrate their understanding.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and operations folder, open the Fractions folder, and select the Equivalent Fractions activity.

By pairing numeric representations of equivalent fractions with a visual model of the same thing, students will learn that they need to copy and paste the model (X) number of times to create the equivalent. This will help cement their understanding of the concept.
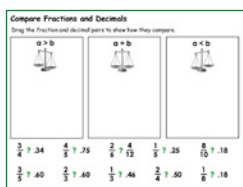
Number and Number Sense
Focus: Place Value, Fractions, and Decimals

4.3. The student will

    a) read, write, represent, and identify decimals expressed through thousandths;

    b) round decimals to the nearest whole number, tenth, and hundredth;

    c) compare and order decimals; and

    d) given a model, write the decimal and fraction equivalents.

Fractions and Decimals

Show four quarters to your students. How much does this total? Ask students if they can guess where the name "quarter" comes from. Represent 100 cents as $1.00. Then, show students that the decimal representation of a quarter is .25. Ask your students if they know the decimal equivalent of some common fractions (a half-dollar is another great example).

Show your students how to convert from a fraction to a decimal by dividing the numerator by the denominator. This might also be a good time to revisit how to round numbers as well.

To assess your students' ability to convert basic fractions to decimals, round to the nearest hundredth, and compare values, have them complete the "Fractions and Decimals" activity in Pixie. After completing, see if students have found any shortcuts to help them assess comparative value before they convert the fraction and compare decimal against decimal.

Click the Project button, click Activities, open the Math folder, open the Numbers and Operations folder, open the Fractions folder, open the Fractions and Decimals activity.

Computation and Estimation

Focus: Factors and Multiples, and Fraction and Decimal Operations

4.4. The student will
- a) estimate sums, differences, products, and quotients of whole numbers;
- b) add, subtract, and multiply whole numbers;
- c) divide whole numbers, finding quotients with and without remainders; and
- d) solve single-step and multistep addition, subtraction, and multiplication problems with whole numbers.

Visualizing Remainder
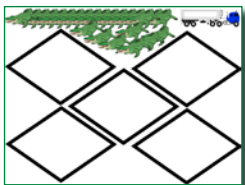
"Using clip art to demonstrate grouping and sets was one of the first ways I integrated technology into my teaching, so when the fourth–grade teachers at the Bullis School asked for some help with division and remainders, I knew just what to do.

Many students who were good with fact families couldn't extend their skill to division problems that have no 'non facts' that did not have a matching multiplication fact (for example 9/3 vs. 10/3) and struggled with the concept of the remainder.

I developed my own series of Division Zoo activities, each of which included 24 animals and two to ten cages and assigned them to students. They then had to drag animals into cages so that each cage contained the same number of animals. Each page also included a picture of a truck, allowing students to move 'spare' animals into the truck for shipment to another zoo. When they were finished, students wrote out math equations to represent the objects on each page.

The lesson reinforced the concept of division into equal groups and that a remainder happens when you have an amount left over that is too small to fit into one of the groups. Some students rushed into spreading out their animals and wound up with equations that did not match their manipulative work, providing instant feedback that demonstrated which students were struggling.

Later in the year, students used Pixie to develop word problems involving the interpretation of a remainder. Students could divide stickers and then look at the problem to see if they needed more items (i.e. enough cars to carry a group of people) or if they had items they could not use (i.e. extra ingredients that would not be enough to bake an additional pie). Working with clip art really helped students see the remainder as the 'left over' amount.

Using Stickers as graphic manipulatives and typing equations and answers into text objects made Pixie an invaluable tool in exploring the world of division."

—**N. Gordon,** Potomac, MD

Computation and Estimation
Focus: Factors and Multiples, and Fraction and Decimal Operations

4.4. The student will
   a) estimate sums, differences, products, and quotients of whole numbers;
   b) add, subtract, and multiply whole numbers;
   c) divide whole numbers, finding quotients with and without remainders; and
   d) solve single-step and multistep addition, subtraction, and multiplication problems with whole numbers.

Multiplying with Arrays

Using arrays helps students visualize mathematical equations, making them more concrete and easier to understand. The patterns in arrays also build foundations for patterns in algebra. Open Pixie's Grid – XSmall activity so all students can see it and work together to develop an array that represents a simple multiplication equation, such as 15x11.
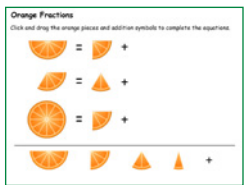
Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Templates folder, and select the Grid - XSmall activity.

Assign each student a different multiplication equation. Have students open the medium-sized grid template in Pixie (Activities>Math .Templates .Grid – Medium) and use the Paint Bucket Fill tool to create an area model. When the first model is complete, ask students to duplicate the page and adjust the colors in their model to show different ways to factor the number.

4.5. The student will
   a) determine common multiples and factors, including least common multiple and greatest common factor;
   b) add and subtract fractions having like and unlike denominators that are limited to 2, 3, 4, 5, 6, 8, 10, and 12, and simplify the resulting fractions, using common multiples and factors;
   c) add and subtract with decimals; and
   d) solve single-step and multistep practical problems involving addition and subtraction with fractions and with decimals.

Orange Fractions

When represented only by numbers, fractions can be scary. This is why most people introduce fractions with manipulatives. The same holds true as students begin to learn to add fractions.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Numbers and operations folder, open the Fractions folder, and select the Orange Fractions activity.

Depending on the ability of your class, open the Orange Fractions activity and project it so you can all work together or have them work individually and move about the room to help students first determine what the denominator in the equation should be by counting how many segments would be in an entire (whole) orange. Since adding fractions requires a common denominator, working with only orange segments that are equal, means they can focus on adding the segments (numerators) to produce the correct sums.

Computation and Estimation
Focus: Factors and Multiples, and Fraction and Decimal Operations

4.5. The student will

a) determine common multiples and factors, including least common multiple and greatest common factor;

b) add and subtract fractions having like and unlike denominators that are limited to 2, 3, 4, 5, 6, 8, 10, and 12, and simplify the resulting fractions, using common multiples and factors;

c) add and subtract with decimals; and

d) solve single-step and multistep practical problems involving addition and subtraction with fractions and with decimals.

Whose Cookie is the Biggest?
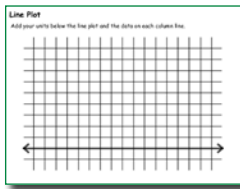
Bring in a bag of animal crackers or cookies. These should all be about the same size, but still with enough difference to be easily measurable. Distribute 3-4 cookies to each student. Ask them to measure each cookie to the nearest 1/8 of an inch using a standard ruler.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Templates folder, and select the Line Plot activity.

Then, have each them open the Line Plot activity and place units along the line at the bottom at 1/8 increments from the largest to the smallest cookie size. Walk around the room to monitor each student's progress. Using their line plot, ask students to identify the largest cookie, the smallest cookie, the two cookies closest in size, and the two cookies that have the largest size difference.

Have students share their finding with the entire class, describing the size differences in eighths of an inch.

Measurement
Focus: Equivalence within U.S. Customary and Metric Systems

4.6. The student will

a) estimate and measure weight/mass and describe the results in U.S. Customary and metric units as appropriate; and

b) identify equivalent measurements between units within the U.S. Customary system (ounces, pounds, and tons) and between units within the metric system (grams and kilograms).

4.7. The student will

a) estimate and measure length, and describe the result in both metric and U.S. Customary units; and

b) identify equivalent measurements between units within the U.S. Customary system (inches and feet; feet and yards; inches and yards; yards and miles) and between units within themetric system (millimeters and centimeters; centimeters and meters; and millimeters and meters).

4.8. The student will

a) estimate and measure liquid volume and describe the results in U.S. Customary units; and

b) identify equivalent measurements between units within the U.S. Customary system (cups, pints, quarts, and gallons).

Converting Chart Data

Introduce the various units within both systems of measurement (standard and metric). Have each student in your class use the Ten Frame activity template in Pixie (Activities>Math>Templates>Ten Frame) to develop their own conversion charts for converting liquid measurements, time, and distance within these systems. If you are working with limited time or a range of ability, group students together and have them complete one conversion chart to share with the class.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Measurement folder, and select the Running Chart activity.

To assess students' ability to work with the charts and begin converting on their own, have them complete the Running Chart activity in Pixie. After converting meters and kilometers, and minutes and seconds, work as a class to brainstorm other real-world activities that might require conversion within the same measurement system such as liquid measurements in recipes, the time it takes to complete a task, and distance traveled.

Measurement

Focus: Equivalence within U.S. Customary and Metric Systems

4.7. The student will

a) estimate and measure length, and describe the result in both metric and U.S. Customary units;

Perimeter is the total length around the outside of a 2-dimensional shape. Students can find the perimeter of a shape by counting similar units, but this can be time consuming. To help them understand how knowing formulas can make their life easier, have them complete the Perimeter activity in Pixie.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Measurement folder, and select the Perimeter activity.

In this activity, students first count to determine perimeter. Then, they work to rearrange complex shapes into rectangles so they can apply the 2x +2y formula to find the perimeter. This helps them begin to learn to break down complex shapes into simple ones to determine perimeter and area as their mathematical expertise grows.

You can assess students' ability to determine perimeter, as well as work with formulas, by having them apply what they know to story problems and real world examples. The last page of the Perimeter Pixie activity asks them to create flower beds that have a perimeter of 64. Once students have completed this part of the activity, ask them to add a new page to the file to create another shape or space and show how they can determine perimeter.
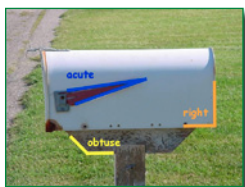
Geometry

Focus: Representations and Polygons

4.10 The student will

a) identify and describe representations of points, lines, line segments, rays, and angles, including endpoints and vertices.

Angles All Around Us

Introduce different types of angles (acute, obtuse, and right) to your students. Once you think students understand the different types of angles, have them showcase their knowledge using a digital camera and the paint tools in Pixie.

Have students work in small teams to locate and capture images around your school (or online) that contain both an acute and obtuse angle. Have students download the pictures to the computer and open them in Pixie. Instruct students to use the arrow shape in the Pixie Shapes tool to identify the angles in their picture. They should also add text captions to each angle to note whether the angle is acute or obtuse.

Initially students find it difficult to find both angles in the same picture. But it doesn't take long for them to discover that when they find one angle, they often find its supplement. Give bonus points to students who also locate a right angle in the same picture.

After students have printed their work, hang them up around the room as visual examples of acute and obtuse angles.

Focus: Representations and Polygons

4.11 The student will

a) investigate congruence of plane figures after geometric transformations, such as reflection, translation, and rotation, using mirrors, paper folding, and tracing; and

b) recognize the images of figures resulting from geometric transformations, such as translation, reflection, and rotation.

Line Symmetry
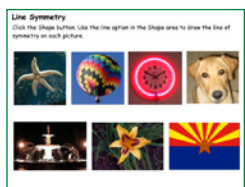
Open the Symmetry – Line activity in Pixie on your interactive whiteboard. After looking at the images on the page, ask your students if they can tell you what symmetry means. Ask students to work in Pixie to draw the line of symmetry on each image in the activity.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Geometry folder, and select the Symmetry – Line activity.

To practice and assess their skills, you can have students complete some of the other line symmetry activities. For example, students can select a picture and set it as the background. Then have students use the paint tools to draw the line of symmetry and then recreate one side of the picture with paint tools.

Patterns, Functions, and Algebra
Focus: Geometric Patterns, Equality, and Properties

4.I5. The student will recognize, create, and extend numerical and geometric patterns.

Pattern Rules

Patterns are all around us, in designs for architecture, flooring, art work and much more. Sometimes patterns are for function purposes, as a way to "lock" pieces in. Have students investigate where they see a pattern and discuss if the pattern is based on design or function and what rules the pattern follows. Next, have the students develop their own patterns for a floor or wall design. Developing their own patterns helps elementary student build concrete understandings of patterns and their rules.

Have students use objects in Pixie's Sticker library to create and extend patterns. Share student work between small teams or present in front of the entire class. Ask students to predict which shapes will come next in the patters. How do they know? Work as a class to determine the rule for each visual pattern.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Algebra folder, open the Patterns folder, and select the Patterns-Numbers activity.

Explain to students how to write mathematical rules for determining sequences. Teach them how to write the rule, with 'n' representing the position in the sequence (for example, n+1). Have students work on their own to extend the remaining sequences. Get back together as class and discuss the rules students developed to determine the next number.

Math Lesson

Pixie also makes it easy to implement open-ended lessons that engage students in the Common Core Standards.

Exploring Line Symmetry

Students will use Pixie to create original artwork and manipulate images to demonstrate understanding of line symmetry.

Engage

Write the word "symmetry" on the board. Ask your students if they can tell you what it means. Share some examples of real-world objects that are symmetrical. See if you can get students to define what makes these images symmetrical.

To help students grasp the concept of symmetry, distribute square handheld mirrors and have them practice making symmetry by holding the mirrors up to various objects. Explain that this is called bilateral, or line, symmetry because the symmetry is along one axis.

Go back to the example images of symmetry and ask students to identify the line of symmetry in each image.

Create

Activity 1: Symmetry in the World Around Us
To give students a chance to practice and apply their skills, divide them into teams of three or four. Have each student use a digital camera to take a picture of a symmetrical object. If you do not have a digital camera, students can find images at Pics4Learning.com or in the Pixie stickers library.

Help each team transfer their images to the computer. Students should open the images in Pixie and use the Line tool to draw the line, or lines, of symmetry on each image.

Activity 2: Mirror Symmetry with Faces
Though our faces exhibit symmetry, they are not perfectly symmetrical. You can have students use Pixie to show how one side of their face is slightly different from the other.

Have students pair up to take a front view photograph of each other's faces. In Pixie, have them open the image as a sticker and resize it. Have the students glue the image to the background, select half of their face with the Rectangle Selector tool, and use the copy, paste, and flip buttons to show true symmetry with their faces. Students should do this for both sides of their face, resulting in a total of three images.

Activity 3: Painting Symmetrical Objects
Butterflies are common symmetrical objects. Share a couple of images of butterflies and have students talk about their symmetry. Make sure they can identify the line of symmetry that runs directly through the body of the butterfly.

Have students use Pixie to paint a butterfly with a vertical body and one wing. Then, have them use the same technique they used for their faces to create a complete butterfly by selecting half the butterfly, copying and pasting the selection, flipping it and moving it into position.

Next, test students' ability to think symmetrically by having them use the mirroring feature of the Paintbrush tool to draw another butterfly. Have students choose the Paintbrush tool, check the Mirror box on the Editing panel, and choose 2 for line symmetry painting.

Starting in the middle of the canvas, have them paint one wing; the other wing will paint at the same time. Remind them to click the Undo button if they need to try again.

Math Lesson (continued)

Share

There are multiple ways in which students can share their work with these activities. Ask students to add narration to their Pixie pages to check for understanding of symmetry and share the projects as a slideshow embedded on the class web page or as a link in Edmodo. Finally, students can add text to their images and print them out to make a book of symmetry.

Virginia Standards of Learning

Geometry

Focus: Representations and Polygons

4.11 The student will

    a) investigate congruence of plane figures after geometric transformations, such as reflection, translation, and rotation, using mirrors, paper folding, and tracing; and

    b) recognize the images of figures resulting from geometric transformations, such as translation, reflection, and rotation.
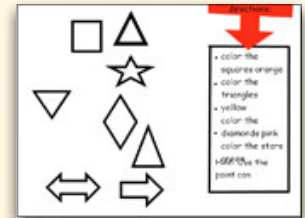
Grade 4

Peer collaborative learning in Pixie

"Our kindergarten students at Meiklejohn Elementary School didn't know how to use Pixie, so I had the fourth-graders design shape activities in Pixie for them with directions like, 'Fill in the triangle shapes with red,' 'Drag the shape word inside the shape,' or 'Find how many squares are in the drawing.'

The fourth-graders then helped their kindergarten buddies learn how to open Pixie, find a file, and complete the shape activities they designed.

One student decided that he would teach his buddy about proper nouns and shapes, so he had his buddy drag the proper nouns in a circle and the nouns in a square. When I shared my concerns that it might be too hard, he said, 'But Mrs. Swenson, I have a really smart buddy!' He was right, and the buddy did just fine learning the proper nouns and the shapes!"

—Melissa Swenson

Meeting Virginia SOLs with Pixie®

Grade 5

Tech4Learning
10+ YEARS
SERVING EDUCATION

What is Pixie?

Pixie is a cloud-based tool fifth-grade students can use to write, paint pictures, and tell stories. Pixie provides a fun way for students to explore and respond to curriculum topics related to the Virginia Standards of Learning.

Students can add text to a Pixie page to practice their writing, draw ideas from their imagination using the paint tools, record narration for stories, and more. Student work can be exported as videos, ePub format for iBooks, HTML 5 for use on the Web, or as printed as booklets, comics, and more.

Using Pixie with Fifth-Grade Students

In fifth grade, students are transitioning from thinking like a child to thinking like an adult. They are capable of dealing with conflict and complexity, and should be asked to create products for use by other people that challenge their abilities. Work in Pixie should involve lots of writing and creativity as they explore the new boundaries of their thinking.

As you explore some of the ideas in this guide, think of the students in your class. Which ones will respond if allowed to explore content in this way? Pixie allows you to assign different activities to different students, so you can more easily adjust the content and work to meet individual student learning needs.

Don't forget time for open "play" in Pixie so students can explore wherever their interests lead. Passion for learning is one of the most important things to teach at this age!!

Grade 5 Contents

Language Arts

Mathematics

Grade 5 Language Arts

Presentation of Knowledge and Ideas

5.2. The student will use effective verbal and nonverbal communication skills to deliver planned oral presentations.

   a) Maintain eye contact with listeners.

   b) Use gestures to support, accentuate, and dramatize verbal message.

   c) Use facial expressions to support and dramatize verbal message.

   d) Use posture appropriate for communication setting.

   e) Determine appropriate content for audience.

   f) Organize content sequentially around major ideas.

   g) Summarize main points as they relate to main idea or supporting details.

   h) Incorporate visual media to support the presentation.

   i) Use language and style appropriate to the audience, topic, and purpose.

A Day in the Life – Classroom News

Rather than putting together a monthly newsletter for parents, include students in the process and create your own class magazine or daily news section on your web site with embedded Pixie projects. This is a great way for students to share their knowledge and practice their speaking skills.

Assign individual reports for each day of the month or have a small team work together each day with students in roles of researcher, fact checker, graphic artist, voice talent, and so on. Have students create a page for each event or class that day using sequencing words to connect and organize the news report.

Encourage students to include written details that make the story interesting and engage the viewer/ listening. Students can practice oral fluency and intonation as they use the audio record feature to record their voice, speaking clearly and at an even rate. Stickers, photos, and original art will help to share the story visually. Embed the story into the news section of your class website.

Communication: Speaking, Listening, Media Literacy

5. 2. The student will use effective verbal and nonverbal communication skills to deliver planned oral presentations.

g) Summarize main points as they relate to main idea or supporting details.

A Speech to Remember
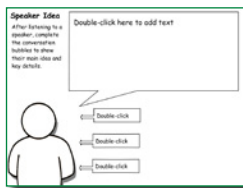
It is important to connect the learning that goes on inside the classroom with the work and lives of people outside of it. One common way we make this connection is by inviting "experts" to our classes to share knowledge and information as it relates to their job or personal history. Encourage students to take notes about what they are hearing.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Speaker Idea activity.

After listening to the speech, have students complete the Speaker Idea activity in Pixie to summarize the information they learned, including how the speech was relevant today. Have students print out their pages and use them to discuss the visit with another peer or share with the entire class.

There have been many important speeches given throughout history, and many of those speeches can be found archived online for today's generation to experience. Rather than face-to-face speaker visit, use a website like Archive.org to find an important historical speech for students to experience.

5.2. The student will use effective verbal and nonverbal communication skills to deliver planned oral presentations.

h) Incorporate visual media to support the presentation.

Field Trip Fun

Field trips are one of the most enjoyable and memorable events of the school year. If you are working with 1:1 tablets, or have some to share, be sure to have students take pictures on the field trip. When you return, have students craft multimedia thank-you notes.

Have each student create a page in Pixie that includes text, photographs, and illustrations about one specific highlight of the trip. Then, have them record a brief thank you to further personalize their note. When finished, have the students rename their page and then share it with the class.

Have students click the Projects button, select their thank you, can click the Send button to send a URL link to their thank you via email to the person or organization hosting the field trip.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. Then, share a link to the combined thank-you project with family, community, and staff from the site you visited.

Reading

5.3. The student will learn how media messages are constructed and for what purposes.
   a) Differentiate between auditory, visual, and written media messages.

Making Graphic Novels

With declining interest in traditional literature and the advent of easy-to-use multimedia tools, our notion of what a book looks like is expanding. Share a graphic novel with your students, or a novel such as Rapunzel's Revenge by Dean Hale. Talk about how the pictures support the story, replace words, and attract the reader. Ask questions like: How do the pictures help the reader make inferences? How do they influence emotion and meaning?

Have each student choose a folktale or myth you have been studying and convert it into a graphic novel. Students can use Pixie's paint tools to create their own characters and backgrounds, or they can find images in the Stickers library. They can use Pixie's text bubble options to transform text into onomatopoeic sound effects, conversations, and thoughts.

When the pages are complete, have students click the Print button and choose one of the multi-up formats to print the work in the form of a graphic novel. Pair students together to share their graphic novels with another student for feedback. Have students make edits to the pictures and text, and print again. Use cardboard or book binding kits to add structure to the books and share them in the school media center.

5.4. The student will expand vocabulary when reading.
   a) Use context to clarify meaning of unfamiliar words and phrases.
   b) Use context and sentence structure to determine meanings and differentiate among multiple meanings of words.
   d) Identify an author's use of figurative language.

Figurative Language
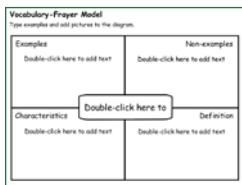
Work with your class to brainstorm or collect examples of metaphors and similes they have encountered in their reading. Have students use the Frayer Model activity for vocabulary to practice identifying what a phrase means, as well as what it does not mean.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Vocabulary folder, and select the Vocabulary –Frayer Model activity.

You might also encourage students to print their pages as trading cards designed to help other students, and English Language Learners, to better understand the meaning. Have students print enough copies of their page using the Postcard style (4 to a page with the Repeat Page option checked) to cut out and distribute to the rest of the class.

Reading

5.4. The student will expand vocabulary when reading.
- a) Use context to clarify meaning of unfamiliar words and phrases.
- b) Use context and sentence structure to determine meanings and differentiate among multiple meanings of words.
- f) Develop vocabulary by listening to and reading a variety of texts.
- g) Study word meanings across content areas.

Vocabulary Wanted Posters

As you read to the class or when students are reading independently, have students raise their hand to let you know they encounter an unfamiliar word. Have them ask the rest of the class if anyone can help share the meaning of the word. Keep a list of these and post it where all students can both see it and add to it.
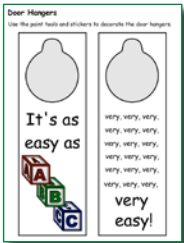
Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Vocabulary folder, and select the Wanted Poster activity.

Have each student select a word from the list and creates a Wanted poster for the word. Print the posters out in postcard format (4 to a sheet) and find acceptable place around the classroom and school to post them to build everyone's vocabulary.

5.4. The student will expand vocabulary when reading.
- d) Identify an author's use of figurative language. 6.4 CF Identify figurative language in text, including
  - • simile – figures of speech that use the words like or as to make comparisons;
  - • hyperbole – intentionally exaggerated figures of speech; and
  - • metaphor – a comparison equating two or more unlike things without using "like" or "as."

Figuratively Speaking Doorknob Hangers

Some figures of speech are easy to understand (i.e. Busy as a Bee), but others aren't quite so easy and require cultural or historical knowledge (i.e.: that attorney is an ambulance chaser). Assign each student an example of figurative language in use and have them use Pixie to create a door hanger that explains the figure of speech with text on one side and an illustration on the other.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder and select the Door Hanger activity.

Once each student has created a door hanger, have them print them out and hang them on various doors around school.

Reading

5.4. The student will expand vocabulary when reading.
g) Study word meanings across content areas.

Vocabulary Trading Cards

Students are more eager to learn new vocabulary when they get some choice in the matter. As you are exploring nonfiction on a topic in your classroom, ask your students to keep track of new words they encounter. Give them a definition or have them look up the meaning of each word on their list.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Vocabulary folder, and select the Vocabulary Trading Card activity.

At the end of the week, or unit, ask students to choose their favorite new word and create a trading card to teach the meaning to other students. Students should define the word so that other students can understand the meaning, use it in a sentence with the same context as the unit you are studying, and draw a picture that helps describe the meaning. Have students print enough copies of their page using the Postcard style (4 to a page with the Repeat Page option selected) to cut out and distribute to the rest of the class.

5.5. The student will read and demonstrate comprehension of fictional texts, narrative nonfiction, and poetry.
b) Describe character development.
c) Describe the development of plot and explain the resolution of conflict(s).

Curriculum Framework - To be successful with this standard, students are expected to understand that characters are developed by:
  • what is directly stated in the text;
  • their speech and actions; and
  • what other characters in the story say or think about them.

Curriculum Framework - To be successful with this standard, students are expected to understand that some characters change during the story or poem and some characters stay the same.

Curriculum Framework - To be successful with this standard, students are expected to understand that the main character has a conflict that usually gets resolved.

Character Description
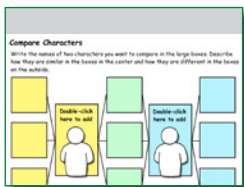
Read Louis Sachar's Holes with your students. Discuss programs like Camp Green Lake and their place in society. Discuss the benefits and the drawbacks. Assign the Compare Characters Activity and have students compare the family, life, choices of Stanley Yelnats and Zero, drawing on specific details from the text.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Literature folder, and select the Compare Characters 3-5 activity.

To extend their work, have students choose one aspect of their comparison and illustrate Pixie pages and record audio to create an interview with these two characters.
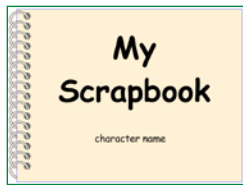
Reading

5.5. The student will read and demonstrate comprehension of fictional texts, narrative nonfiction, and poetry.
   g) Identify main idea.
   h) Summarize supporting details from text.
   Curriculum Framework - To be successful with this standard, students are expected to identify main idea or theme.

Character Scrapbook

Brainstorm traits of the Greek gods before reading The Lightning Thief with your students. Then, read the book. Project the Character Description activity in Pixie and work together on Zeus to add details. Be sure that when students share a "what" detail, they also answer why they think this using relevant examples from the text.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading folder, open the Comprehension folder, and select the Character Scrapbook activity.

Assign student different characters from the book, including the gods, goddesses and the students attending Camp Half-Blood. Have students create a digital scrapbook for their assigned character. Scrapbooks should include journal entries about important events from the character's perspective, a picture page to show important events, a souvenirs page to share objects and explanations of why they are important to the character, and a page where students write a letters between their character and another about a problem in the story.

5.6. The student will read and demonstrate comprehension of nonfiction texts.
   d) Identify the main idea of nonfiction texts.
   e) Summarize supporting details in nonfiction texts.

Explore the Main Idea
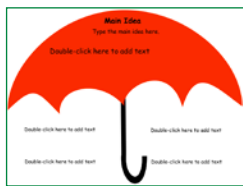
Have your students think about the main idea as a flower's center, with each petal a supporting detail. Distribute nonfiction books related to a science or social studies topic you are studying.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Reading Folder, open the Comprehension folder, and select the Main Idea Flower activity.

Have student look at the cover picture and title. What is the main idea? Now explore the titles, pictures, and text inside the book. How are they organized? Have students complete the activity adding text to describe the main idea of one section of the book, as well as key details from each paragraph in that section.

You might also have students complete the Main Idea Flower activity on a nonfiction topic they will be exploring in their writing workshop. This will help them collect information for their writing.

Reading

5.6. The student will read and demonstrate comprehension of nonfiction texts.

Curriculum Framework - To be successful with this standard, students are expected to compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.

Select a book about Sacajawea and another about the Louis and Clark Expedition. Divide the class into two teams. One half read the book about Sacajawea and the other half read the Lewis and Clark point of view. Have the students use Pixie to create a journal of the expedition as either a friend of Sacajawea or as one of the "white" members of the expedition.

Students can use Pixie's text options to recount the events and the drawing tools to draw pictures of what they see and maps of the land they are exploring. Compare the journals as a whole class. How were things seen different by the Natives and the Explorers?

5.7. The student will write for a variety of purposes: to describe, to inform, to entertain, to explain, and to persuade.

d) Write a clear topic sentence focusing on the main idea.
e) Write multi-paragraph compositions.
i) Include supporting details that elaborate the main idea.

Curriculum Framework - To be successful with this standard, students are expected to produce a clear and coherent written piece in which the development and organization are appropriate to purpose and audience.
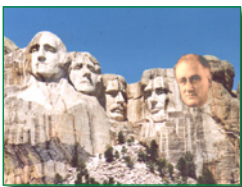
The goal of persuasive writing is to convince others to accept our conclusions based on the way we present facts and ideas. Discuss elements of persuasive writing with your students to prepare them to establish facts, provide examples, prioritize arguments, craft an emotional appeal, state conclusions, and communicate logically.

Work as a class to brainstorm qualities that make a great leader. Have your students imagine that a time machine can bring one of those former Presidents to the future to be President again for four more years. Have them investigate a President from the United State's History that they think would be a great leader in today's world and could help our country get back on track.

Challenge your students to create a persuasive presentation or document that argues for this President to be brought to the future. Give students a list of past Presidents and some time to talk with family and friends. Then, have students make a choice, craft a written persuasive argument, and use Pixie to create a presentation to convince others.

As students share their persuasive presentations with the rest of the class, discuss the effectiveness of the elements of each argument.

Writing

5.7. The student will write for a variety of purposes: to describe, to inform, to entertain, to explain, and to persuade.

    a) Identify intended audience.

    b) Use a variety of prewriting strategies.

    c) Organize information to convey a central idea.

Creative Project Work

Creative writing requires many details, but those details need to be well developed and organized. Customize the "Burger Writing Template" to have students write a short story instead of a paragraph. In the template they are asked to share a juicy detail that supports the topic.

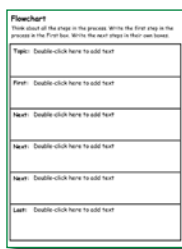**Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Writing folder, and select the first Burger Writing activity.**

Once the students have created their graphic organizer with juicy details, have them then write their story and share it in Pixie. Students can create pages in Pixie and use the Text tool to share the story and the stickers and paint tools to illustrate it. Once complete, print the pages out four to six to a page. Cut the pages out and turn it into a mini-book for the reading center in the classroom library.

5.7. The student will write for a variety of purposes: to describe, to inform, to entertain, to explain, and to persuade.

    f) Use precise and descriptive vocabulary to create tone and voice.

Your Very Own eHow

Television loves DIY (Do It Yourself) programming. There are entire channels devoted to cooking, decorating, and building. The eHow DIY web site features videos and articles on how to do just about everything. Fifth-grade students are getting more and more capable and many of them have already found passions like soccer, woodworking, sewing, and more. Have your students choose one of their favorite pastimes and create a how-to using Pixie. As they begin to think about what they want to share, have them brainstorm ideas using the "Flowchart" activity.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Language Arts folder, open the Writing folder, and select the Flowchart activity.

Once their steps and ideas have been added to the flow chart, have students create a page in Pixie for each step one must complete in order to sew a skirt, complete a great corner kick, or bake a decadent chocolate cake. Encourage them to use order words (first, after, next, and finally) in their writing and add supporting illustrations to each page. They should record their voice explaining each step.

Have students print out their projects in booklet form to share as well as link to the electronic version of their projects from your classroom web site to create your own classroom eHow site.

Writing

5.7. The student will write for a variety of purposes: to describe, to inform, to entertain, to explain, and to persuade.

g) Vary sentence structure by using transition words.

Curriculum Framework - To be successful with this standard, students are expected to use narrative techniques, such as dialogue, description, and pacing, to develop experiences or characters.

Docudramas

In a docudrama, students act as if they are living in a specific time period or experiencing an event by creating a first-person digital story. Bernajean Porter (www.digitales.us) suggests using docudramas to make facts come alive for both student video creators and those who view their work.

Choose a theme for the docudramas. Should they be something that was funny, sad, or a lesson learned? Have the students select a person that they would like to interview and share their story, in that person's voice. (ie. Living during a war, losing a job, getting married, moving, graduating from college, etc.)

Have students begin researching more about the time frame of the event the person is sharing details about. This will help them focus on relevant facts and ideas to share. You may want to have students use the graphic organizers in the Activities>Templates folder to create timelines, fact and opinion charts, and identify descriptive Five W's details.

Have students build the pages, or scenes, of their project in Pixie by adding images they have located or creating their own illustrations. They can use the Record feature to add narration to each page. Students can click the Send button, choose Embed, and select a movie size to embed the file as a video you can post to a web site of resources for this topic that you can share with other students.

Writing

5.8. The student will edit writing for correct grammar, capitalization, spelling, punctuation, sentence structure, and paragraphing.

   c) Identify and use interjections.

   k) Identify and use conjunctions.

   Curriculum Framework - To be successful with this standard, students are expected to effectively use the following parts of speech: nouns, pronouns, verbs, adjectives, adverbs, prepositions, and interjections.

Preposition Stories

over a rock,

"I sat down with my plan book and Teacher's Editions for my combined fourth and fifth-grade class and noticed a couple of language arts lessons on prepositions for both grades. As a former kindergarten teacher, prepositions always remind me of the book *Rosie's Walk* by Pat Hutchins. After creating several digital stories this year with my students, I thought my students might like to create a preposition story using Pixie! It turned out to be one of the most fun and creative projects that my students created all year. Who knew prepositions could be so fun?

I started by reading *Rosie's Walk* to my students. They giggled at the story as the blundering fox followed the oblivious hen throughout the farm. As a class we recalled all the places Rosie went— around the pond and over the haystack, which led perfectly into a discussion on prepositions and how we use them in our writing. Normally during this discussion, half the class starts counting the holes in the ceiling tiles or planning ahead to their recess games. However, upon mentioning that they would be making a digital preposition story, eyes brightened, ears perked up, and I had their attention.

We identified the prepositions in the story and brainstormed many more. Working in small groups, the students were given a list of prepositions and a storyboard. They began by coming up with a character and setting. After a little encouragement, they came up with catchy character names like Tyler the Tiger and Yacka the Alpaca. They wrote eight prepositional phrases on the storyboard with quick sketches for the illustrations.

Students created a title slide, a page for the beginning of the story, a page for each prepositional phrase, and an ending page using stickers and original drawings. They enjoyed creating pictures with their creatures going up, over, around, and through. For each page, the students recorded their voices to tell the story. With a few guidelines from me and many options in Pixie, the students used their creativity and developed fabulous Preposition Digital Stories!"

Gillian Ryan
Santee, California

Research

5.9. The student will find, evaluate, and select appropriate resources for a research product.
   a) Construct questions about a topic.
   b) Collect information from multiple resources including online, print, and media.

Research with Graphic Organizers

To teach effective research strategies and information literacy, let students choose the topic or problem they want to research. Even if they choose a famous sports star or musician, they will learn the process of asking questions, determining where they can find answers, actually locating and assessing those resources, and then using and applying the information in a research report. To engage them even further, tell students they will create a booklet to share their research.

After students have chosen the topic, problem, or person they want to research, have them brainstorm a list of questions on the subject. Have students take notes as they complete their research using the Fact or Opinion organizers in Pixie.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Templates folder, open the Graphic Organizers folder, and select the Fact or Opinion activity.

Once research has been completed, ask students to create a two-page presentation in Pixie. The first page should include at least three facts they found in their research. The next page should include the student's opinion about the subject using opinion words they found in their research, such as feel, believe, always, never, most, best, and worst.

5.9. The student will find, evaluate, and select appropriate resources for a research product.
   a) Construct questions about a topic.
   b) Collect information from multiple resources including online, print, and media.
   c) Use technology as a tool to research, organize, evaluate, and communicate information.

My City, My State

What makes where you live special? Our families choose places to live based on economics, weather, family, geography, and culture. Have your students talk to their parents about why they chose to live where they do. Talk with the class about these conversations and discuss what attracts people to different neighborhoods in your city, different cities in your state, or different places in the county.

Have students conduct research using resources from the Internet and the library to learn more about a given city or state. Once they have their facts and information, ask them to create a pamphlet for people who might choose to visit their city or state.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open theTemplates folder, and select the Tri-fold Brochure activity.

Have students print the pamphlet to share in the school media center or office. If you are working with local places, invite someone from the tourism board or neighborhood agency to evaluate student work.

Link to individual student pamphlets on your classroom web site to create a resource for family and community on places to visit and things to see and do on vacation or in your area.

Research

5.9. The student will find, evaluate, and select appropriate resources for a research product.
   a) Construct questions about a topic.
   b) Collect information from multiple resources including online, print, and media.
   c) Use technology as a tool to research, organize, evaluate, and communicate information.
   d) Organize information presented on charts, maps, and graphs.
   e) Develop notes that include important concepts, summaries, and identification of information sources.
   Curriculum Framework - To be successful with this standard, students are expected to evaluate and combine (synthesize) related information from two or more sources.

Digital Documentaries

Turning a research report into a digital documentary can bring life and enthusiasm to this process in your classroom. Many students have probably seen documentaries on the History Channel, and you may even have shown one of Ken Burns' documentaries on the Civil War. Kids love being the expert, and developing a multimedia product allows them to demonstrate their command of the content as well as their skills combining images, text, narration, and music.

You can use this project to explore specific aspects of a topic, such as causes of the Great Depression or the desert ecosystem. First, have students complete research on the topic, then organize their ideas into a storyboard to show the general content and ideas they want to share on each page. Then have students craft specific text or narration for each page and explore images they can add to support their ideas.

For example, most students have a favorite invention. Are they aware of how that invention was even thought of, how it has changed over the years? It's time for them to use a variety of resources, including text and interviews, to find out the background details of their invention, many uses and changes over the years. Ask them to create their own "Did You Know" multimedia project on the invention. Kids love being the expert, and developing a multimedia product allows them to demonstrate their command of the content as well as their skills combining images, text, narration, and music.

Have students first complete research on the topic, then organize their ideas into a storyboard to show the general content and ideas they want to share on each page. Then have students craft specific text or narration for each page and explore images they can add to support their ideas.

Have students build each page, or scene, of their videos in Pixie by adding images they have located or creating their own illustrations. Students can use the Record feature to add narration to each page.

Before they share projects, have students click the View All Pages button at the bottom of the Pixie window and verify the order of their scenes, adjust the timing, and even add background music using the Options panel. Share the projects by embedding them into the class blog or website, or by emailing the links home to parents.

Language Arts Lesson

While individual activities can be used to address specific language arts standards, you can also create engaging lessons that address multiple standards in one project.
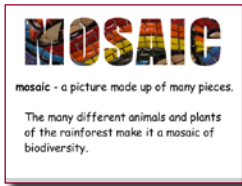
Students will use Pixie's Cool Word feature to create visual vocabulary cards.

Engage

Let your students know they are going to create their own set of vocabulary trading cards for a unit vocabulary list. Share a sample you have created in Pixie or visit the Inside Story web site (http://www.insidestoryflashcards.com) to print some examples.

Share the vocabulary list with your students. As a class, explore the meaning and spelling of each word. Provide definitions or have students research definitions on their own. Have students practice their fluency by writing sentences that contain the word.

You may also want to find examples in the texts the students are currently reading. Work together to explore the sentences students have written for key words that can help you determine the meaning of the word. This models the strategy of using the context of a sentence to help decode unfamiliar vocabulary terms.

Create

Depending on the level of your students, distribute vocabulary words to each student or divide them into small teams and assign terms. Each student, or team, should write or locate a definition for their vocabulary word and brainstorm synonyms and antonyms. Next, have them write a sentence that uses the word in context.

Looking back at their definition and sentence, have students brainstorm ideas for pictures that represent the meaning of the word or provide a visual clue to its meaning. Have students use a digital camera to capture their favorite image idea or search the Web to locate an appropriate image. Encourage them to use the copyright-friendly images at Pics4Learning.com.

Have students add their photo to a Pixie page. Have them add a second page and type a definition, sentence, and even synonyms and antonyms.

Share

Have students print the pages as a trading card, making sure to repeat the pages. Have students cut out the cards, glue front and back together, and trade them with the rest of the class so every student has a complete set.

You may also want to print the pages full-size in color to include on a word wall or classroom vocabulary list. You can also use Pixie's Import Pages function to collect all of the finished terms into one project that you can run as a slide show students can watch when they arrive at class in the morning.

Language Arts Lesson (continued)

Virginia Standards of Learning

Reading

4. The student will expand vocabulary when reading.

a) Use context to clarify meaning of unfamiliar words and phrases.

b) Use context and sentence structure to determine meanings and differentiate among multiple meanings of words.

d) Identify an author's use of figurative language.

f) Develop vocabulary by listening to and reading a variety of texts.

g) Study word meanings across content areas.

5. The student will read and demonstrate comprehension of fictional texts, narrative nonfiction, and poetry.

k) Make, confirm, or revise predictions.

l) Use reading strategies throughout the reading process to monitor comprehension.

m) Read with fluency and accuracy.

Curriculum Framework - To be successful with this standard, students are expected to read familiar text with fluency, accuracy, and expression to support comprehension.

6. The student will read and demonstrate comprehension of nonfiction texts.

Writing

7. The student will write for a variety of purposes: to describe, to inform, to entertain, to explain, and to persuade.

a) Identify intended audience.

b) Use a variety of prewriting strategies.

c) Organize information to convey a central idea.

8. The student will edit writing for correct grammar, capitalization, spelling, punctuation, sentence structure, and paragraphing.

f) Use commas to indicate interrupters.

j) Use correct spelling of commonly used words.

# Grade 5 Mathematics
Computation and Estimation
Focus: Multistep Applications and Order of Operations

5.4. The student will create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division with and without remainders of whole numbers.

Curriculum Framework - To be successful with this standard, students are expected to solve single-step and multistep problems involving addition, subtraction, multiplication, and division with and without remainders of whole numbers, using paper and pencil, mental computation, and calculators in which

- sums, differences, and products will not exceed five digits;
- multipliers will not exceed two digits;
- divisors will not exceed two digits; or
- dividends will not exceed four digits.

Multiplying Decimals
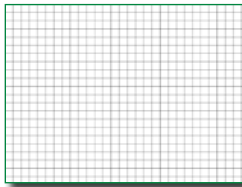
Using arrays helps students visualize mathematical equations, making them more concrete and easier to understand. The patterns in arrays also build foundations for patterns in algebra. Open Pixie's Grid – Small activity so all students can see it and work together to develop an array that represents a simple multiplication equation, such as 15x11.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Templates folder, and select the Grid - Small activity.

Assign each student a different number to create arrays of multiplication for, ie 16 with multiplication arrays of 2 X 8, 4 X 4, and 1 X 16. Have students open the Small Grid Activity and use the paint bucket to create an area model. When the first model is complete, ask students to duplicate the page and adjust the colors in their model to show different ways to factor the number. Make a title page for their number and then share with the class.

As the teacher, import all the arrays into one complete project. Print into mini flip books by printing 4 or 6 slides to a page. Embed the array projects on the class web page.

Computation and Estimation
Focus: Multistep Applications and Order of Operations

5.6. The student will solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers and express answers in simplest form.
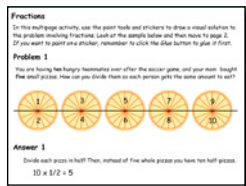
Before you begin working with word problems that include fractions, share some strategies for breaking down word problems as well as strategies for visualizing them. Open the Word Problems 2 activity and explore the first problem together. Look at the illustration. Ask students if they have other ways of drawing or labeling the problem.
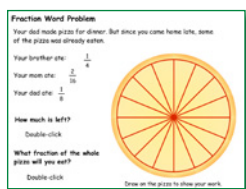
Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Number and Operations folder , open the Fractions folder, and select the Word Problems 2 activity.

Have students work individually to solve the fraction word problems on the next couple of pages of this activity. As they are working, walk around the room to answer questions and support students.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. Print the collection print as a booklet or use to lead a class discussion.

5.6. The student will solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers and express answers in simplest form.5.6 CF Curriculum Framework - To be successful with this standard, students are expected to develop and use strategies to estimate and compute addition and subtraction of fractions.

Word problems allow students to apply what they've learned in math class to real-world situations, but solving them is often difficult for many students. Word problems challenge students to apply math calculations, helping you identify misconceptions. Before you begin working with word problems that include fractions, share some strategies for breaking down word problems as well as strategies for visualizing them.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Number and Operations folder , open the Fractions folder, and select the Word Problems I activity.

Open the Word Problems 1 activity and explore the first problem together. Look at the illustration. Ask students if they have other ways of drawing or labeling the problem. Have students work individually to solve the fraction word problems on the next couple of pages of this activity. As they are working, walk around the room to answer questions and support students.

The last page of the activity asks students to create and illustrate a fraction word problem of their own. You can use this activity to assess their level of sophistication with adding and subtracting fractions.

Measurement
Focus: Perimeter, Area, Volume, and Equivalent Measures

5.8 The student will
  a) find perimeter, area, and volume in standard units of measure;
  b) differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation;
  c) identify equivalent measurements within the metric system;
  d) estimate and then measure to solve problems, using U.S. Customary and metric units.

Converting Chart Data

Introduce the various units within both systems of measurement (standard and metric). Have each student in your class use the Ten Frame activity to develop their own conversion charts for converting liquid measurements, time, and distance within these systems.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Templates folder, and select the Ten Frame activity. Click the Assign button to assign the activity to students.

If you are working with limited time or a range of ability, group students together and have them complete one conversion chart to share with the class. To assess students' ability to work with the charts and begin converting on their own, have them complete the Running Chart activity.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Measurement folder, and select the Running Chart activity.

After converting meters and kilometers, and minutes and seconds, work as a class to brainstorm other real-world activities that might require conversion within the same measurement system such as liquid measurements in recipes, the time it takes to complete a task, and distance travelled.
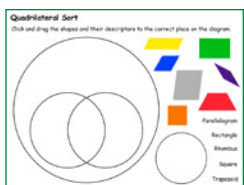
Geometry
Focus: Classification and Subdividing

5.13. The student, using plane figures (square, rectangle, triangle, parallelogram, rhombus, and trapezoid), will
  a) develop definitions of these plane figures; and
  b) investigate and describe the results of combining and subdividing plane figures.

Sort Quadrilaterals

Open the Quadrilaterals Sort activity so that all students in the class can see it. Work with the class to correctly categorize squares, rectangles, trapezoids, and rhombuses (rhombi). Have students articulate the specific attributes of each shape, making sure that they identify properties of the vertices (angle size), as well as properties of the edges.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Geometry folder, and select the Quadrilateral Sort activity.

When you think students can understand the differences in each of these shapes, have them work individually to complete the Quadrilateral Sort activity. When they are finished, talk with your students about how this activity was organized differently. Work with students to articulate how this activity shows a hierarchy of quadrilateral attributes.

Probability and Statistics
Focus: Outcomes and Measures of Center

5.15. The student, given a problem situation, will collect, organize, and interpret data in a variety of forms, using stem-and-leaf plots and line graphs.

Curriculum Framework - To be successful with this standard, students are expected to understand that line graphs show changes over time.

Developing their own patterns helps elementary student build concrete understandings of patterns and their rules. Students can easily use objects in Pixie's Sticker library to create and extend patterns.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. Click the Show button to present the project to the entire class. Ask students to guess which shape will come next. How do they know? Work as a class to determine the rule for each visual pattern.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Algebra folder, open the Patterns folder, and select the Patterns-Numbers activity.

Teach students how to write the rule for extending the pattern, with 'n' representing the position in the sequence (for example, n+1). Ask students to extend the remaining sequences and share the rule that helps determine the next number.

5.15. The student, given a problem situation, will collect, organize, and interpret data in a variety of forms, using stem-and-leaf plots and line graphs.

Curriculum Framework - To be successful with this standard, students are expected to understand that line graphs show changes over time.

Pattern Rules

Developing their own patterns helps elementary student build concrete understandings of patterns and their rules. Students can easily use objects in Pixie's Sticker library to create and extend patterns.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. Click the Show button to present the project to the entire class. Ask students to guess which shape will come next. How do they know? Work as a class to determine the rule for each visual pattern.

Click the Project button on the toolbar. Move over the New option in the list. In the Activities area, open the Math folder, open the Algebra folder, open the Patterns folder, and select the Patterns-Numbers activity.

Teach students how to write the rule for extending the pattern, with 'n' representing the position in the sequence (for example, n+1). Ask students to extend the remaining sequences and share the rule that helps determine the next number.

Math Lesson

As students get older, the language of math also gets more complex and when students take a standardized math test, they often encounter unfamiliar terminology. This project is designed to help them by specifically addressing the academic language they may encounter.

Math Terminology

Symmetry - When part of an object is a mirror image of another part.

The symmetry of a butterfly's wings mean I get to see two mirror copies of the most beautiful colors and patterns.
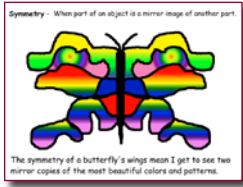
Students will learn academic vocabulary by creating an illustrated math dictionary in Pixie.

Engage

Remind students that thousands of words and expressions pertain to math and that they can often use prefix, suffix, and context clues to determine the meaning of words. For example, if they don't the meaning of octagon, they can use their knowledge that an octopus has eight legs to determine that an octagon is a shape with eight sides.

Discuss the symbols used in mathematics and how they can be included as math words. For example, x is a symbol used to mean multiply and used in equations to represent a variable.

Work with your class to create a word wall of math terms they already know. In small groups, have students brainstorm basic math terminology. Have them write the math terms on one index card and the definitions on a separate index card. Use the index cards as a matching game for students to practice the basic terms. Post the words and definitions together to complete the math word wall.

Bring math-related objects to class to help students come up with even more terms they know. You might share geometric shapes, formulas, manipulatives, and measuring tools, such as a liter container, meter stick, tangrams, graph paper, and number lines.

As you describe each object, use terminology that is both familiar and unfamiliar to the students. Ask students to write down words that are unfamiliar to them. Make sure to include geometry words, formula words, measurement words, number sense

words, and logic and probability words. When you're finished, review the unfamiliar words with your students and have them create additional cards for the word wall.

Create

Provide students with a list of the math terms appropriate to fifth grade. Depending on the size of your class or the ELA level of your students, distribute terms to individual students or small teams to create an illustrated dictionary of math terms.

Share an example that includes the elements that each dictionary page should feature, such as a title including the term, the definition, the word used in a sentence, and and an image depicting the term.

Before working on the computer, have each student, or team, write three sentences for their assigned terms:

1: ___ is for _____. (for example: A is for area).

2: The definition of the math term.

3: A sentence that describes the image they selected and uses the math term in context.

Next, have students or team members, create, capture, or locate an image that helps define or depict each term. They can use the paint tools in Pixie to draw their own images, use a digital camera to capture images they find in the world around them, or search for images in the Stickers library.

Math Lesson (continued)

If students are having a hard time finding a picture, have them share their definition and sentence with other students in the class. Work together to brainstorm similar words and more descriptive sentences to help determine key words they can use to search for images.

When students are finished, have them click the Share button on the toolbar. Launch Pixie on your machine and click the Import button to import the shared pages into one class project. Click the Show button to present the file as a slide show or embed on your class web site.

Share

When the dictionary is finished, each team should present their illustrated dictionary to the rest of the class so that everyone reviews all of the new terminology, or academic vocabulary. You can also link to the URLs for each team's project from your classroom web site. You might also print out each page at comic or trading card size and have students swap so each everyone has a complete collection of terms.

Grade 5

Peer collaborative learning in Pixie

"Our kindergarten students at Meiklejohn Elementary School didn't know how to use Pixie, so I had the fourth-graders design shape activities in Pixie for them with directions like, 'Fill in the triangle shapes with red,' 'Drag the shape word inside the shape,' or 'Find how many squares are in the drawing.'

The fourth-graders then helped their kindergarten buddies learn how to open Pixie, find a file, and complete the shape activities they designed.

One student decided that he would teach his buddy about proper nouns and shapes, so he had his buddy drag the proper nouns in a circle and the nouns in a square. When I shared my concerns that it might be too hard, he said, 'But Mrs. Swenson, I have a really smart buddy!' He was right, and the buddy did just fine learning the proper nouns and the shapes!"

—**Melissa Swenson**