

# enVisionmath2.0 © 2017, Grades K-5 Program Overview

#### Introduction



In this tutorial, we will provide an overview of **enVision**math**2.0**, 2017. We will begin by exploring the program goal, organization, and components. We will also look at support for content focus, coherence, and rigor.

Next, we will review the planning resources, lesson structure, and differentiation support to help you navigate through the program. Lastly, we will look at end-of-topic resources and assessments that help ensure program success.



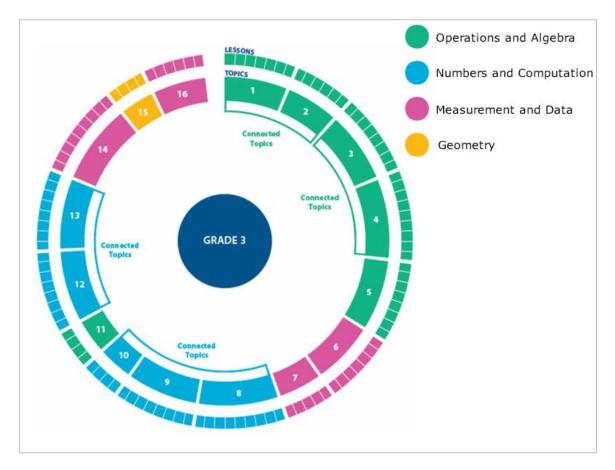
# Program Goal



**enVision**math**2.0**, 2017 is a core program developed for Grades K-5. It is based on a curriculum that embraces time-proven research principles for teaching mathematics with understanding.



### Organization



The program is organized to promote mathematical content connections. This wheel shows how lessons and topics are organized at each grade level.

Connected Topics show related content that is broken into topics to allow for assessment opportunities.

The sections on the wheel are color coded:

- Green for Operations and Algebra,
- Blue for Numbers and Computation,
- Pink for Measurement and Data, and
- Yellow for Geometry.

These topics and subsequent lessons are organized in a way that helps students focus on key ideas in order to develop deeper understanding. This allows for a "deeper dive" and genuine emphasis, or focus, on the content.



#### **Mathematical Practices**

Mathematical Practice 1	Mathematical Practice 2	Mathematical Practice 3	Mathematical Practice 4
Make sense of problems and persevere in solving them.	Reason abstractly and quantitatively.	Construct viable arguments and critique the reasoning of others.	Model with mathematics.
Habits of mind, processes, and dispositions that enable students to do mathematics with understanding			
Mathematical Practice 5	Mathematical Practice 6	Mathematical Practice 7	Mathematical Practice 8
Use appropriate tools strategically.	Attend to precision.	Look for and make use of structure.	Look for and express regularity in repeated reasoning.

To further strengthen Content Standards, **enVision**math**2.0** topics and lessons include authentic connections to math processes. Mathematical practices, or MPs, are the habits of mind, processes, and dispositions that enable students to understand mathematics and to use it with understanding. All aspects of the program incorporate these processes. Now, let us learn more about each mathematical practice. (http://www.corestandards.org/Math/Practice/)



#### MP #1 - Make sense of problems and persevere in solving them.

Students restate the problem in their own words and then develop a plan to solve the problem. They consistently evaluate their progress and modify their plan as needed. They ask themselves, "Does this make sense?"







#### MP #2 - Reason abstractly and quantitatively.

Students can take a quantitative representation (like a number or equation) and represent it multiple ways (like an image, drawing, or object). Additionally, they can represent a problem using real-life contexts. Students can also work in the reverse, taking a real-life application and putting the information into a visual or quantitative representation.





# MP #3 - Construct viable arguments and critique the reasoning of others.

Students can explain how they solved a problem using concise language and applied strategies. They can defend their reasoning as well as recognize their own mistakes. They can question others about their strategies also.







#### MP #4 - Model with mathematics.

Students can recognize math in real life and also use math models to solve problems. They can use symbols, pictures, or concrete models to show their thinking and can show relationships to other ideas.







#### MP #5 - Use appropriate tools strategically.

Students know when to use certain tools to explore and solve problems. They can determine which tools are appropriate and use them effectively. These could include hands-on tools as well as graphs, charts, visualization, and estimation.











#### MP #6 - Attend to precision.

Students are efficient and accurate in both their calculations and explanations. They use the correct terminology, symbols, and units in their work.







#### MP #7 - Look for and make use of structure.

Students see and understand how concepts are organized and can break down structures to make sense of new problems. They also look for patterns in problems.







# MP #8 - Look for and express regularity in repeated reasoning.

Students look for repeated reasoning in problems and develop shortcuts to make problem solving more efficient. They test their shortcuts and apply them to new, more difficult problems.







#### Focus, Coherence, and Rigor



The structure of the program promotes focus and deeper understanding, develops coherence within and across grade levels, and provides the foundation for rigor.

#### enVisionmath2.0 supports rigor through:

- conceptual understanding;
- application; and
- procedural skill and fluency.

Through conceptual understanding and application, students demonstrate deep understanding of core math concepts by applying them to new situations, as well as by writing and speaking about their understanding.

Procedural skill and fluency marks the end of learning progression. At this point, students should be able to solve the problem without hesitation, either mentally or with paper and pencil.



#### **Program Components**



**enVision**math**2.0** is available in print and online through Savvas Realize<sup>™</sup>. Student resources include a two-volume printed text, an eText, a problem-solving handbook, and other resources available through Savvas Realize<sup>™</sup>.

Teacher resources include a two-volume printed text, a Resource Masters booklet, a Program Overview, the Math Diagnosis and Intervention System 2.0 (or MDIS 2.0), professional development videos, and other resources available through Savvas Realize™.

We will explore some of the resources for both students and teachers later in this tutorial.



## **Planning Resources**

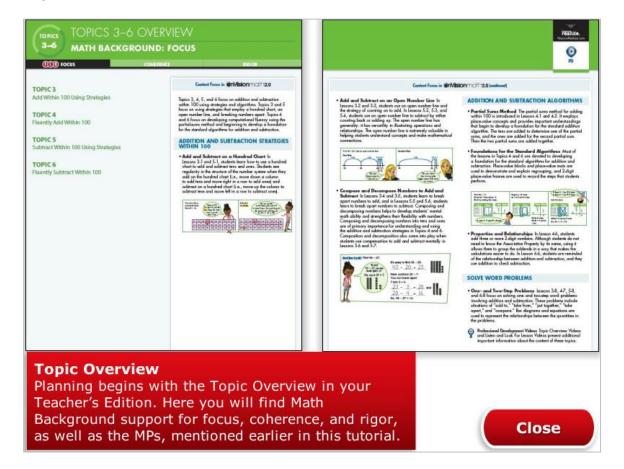


**enVision**math**2.0** provides a variety of support materials to help you plan and prepare students for instruction. These include a Topic Overview, Topic Planner, and Topic Opener.

The Topic Opener features Topic Essential Questions, a Math and Science STEM Project, and a Home-School Connection.

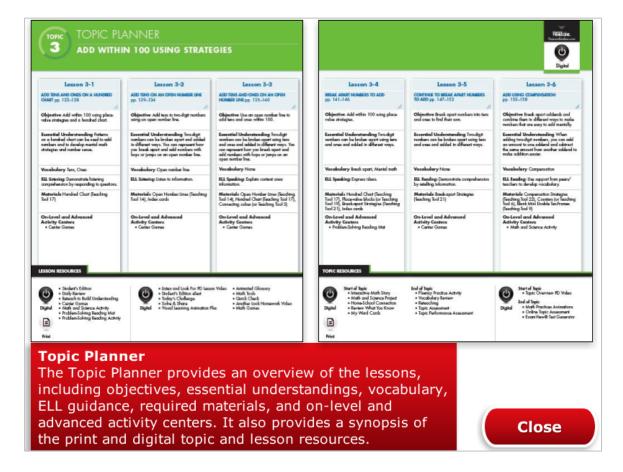


#### **Topic Overview**



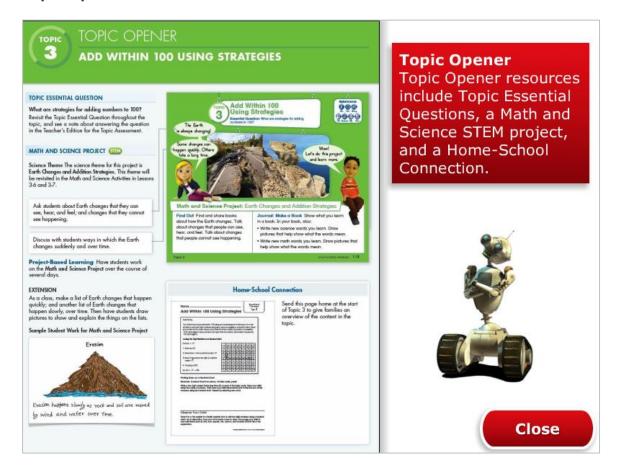


#### **Topic Planner**



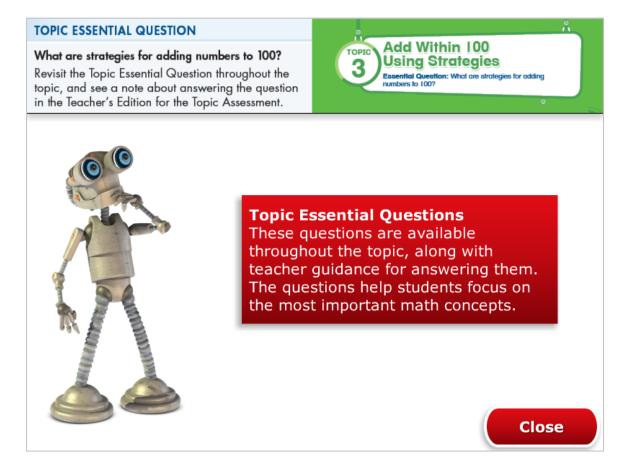


#### **Topic Opener**



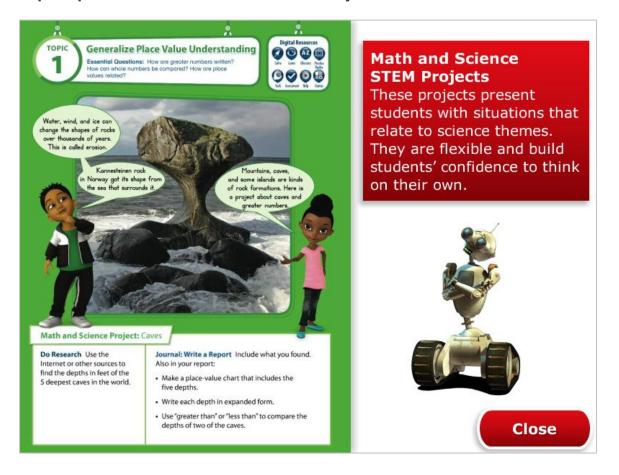


#### **Topic Opener: Topic Essential Questions**



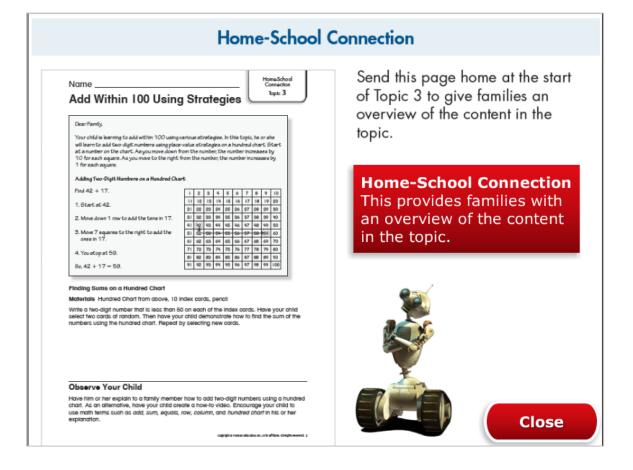


#### **Topic Opener: Math and Science STEM Projects**



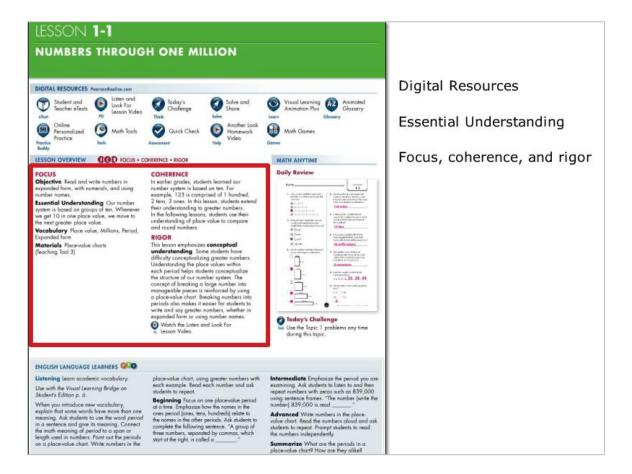


#### **Topic Opener: Home-School Connection**





#### Lesson Overview



Each lesson in **enVision**math**2.0** begins with a Lesson Overview. It includes Objectives, Essential Understanding, Vocabulary, and Materials.

At the top of the Lesson Overview page in the Teacher's Edition you will see the Digital Resources available through Savvas Realize™. The icons indicate the interactive tools, such as videos, that support the lesson content.

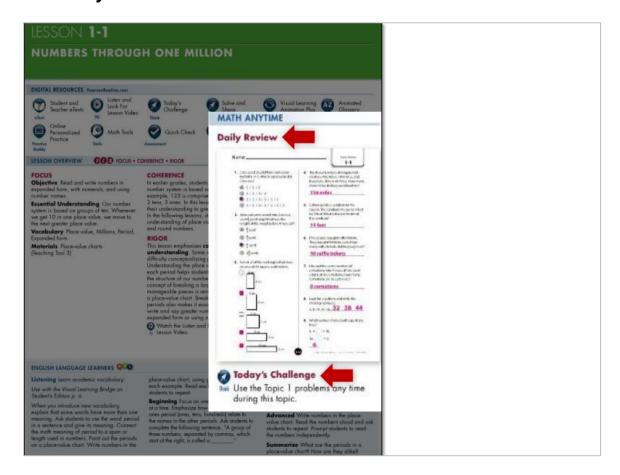
The Essential Understanding helps students focus on the most important math concepts. Keep it in mind as you plan lessons, engage students in the content, and assess their understanding.

This section also outlines the content focus, coherence, and rigor for in-depth understanding.

Lastly, this section includes a Listen and Look For Video with important information on introducing the content. It includes the Essential Understanding for the lesson, an in-depth look at a Key Problem, and specific strategies for you to use with students. There are two videos for each topic.



#### Math Anytime



In the Math Anytime section, you will find the Daily Review and Today's Challenge.

The Daily Review provides ongoing review, such as free response and selected response prompts that can be used anytime during the topic. You can access blackline masters in the Teacher's Resource Masters, as well as online in both printable PDFs and editable files.

Today's Challenge activities can also be used any time during the topic. Each challenge begins with a factoid to set the context for the learning. After the factoid, there are five problems that use the same data but become more difficult each day.

Students may be asked to:

- model to solve a problem;
- explain how they solved a problem;
- use reasoning to solve a problem; or
- extend their thinking as they work through a problem.

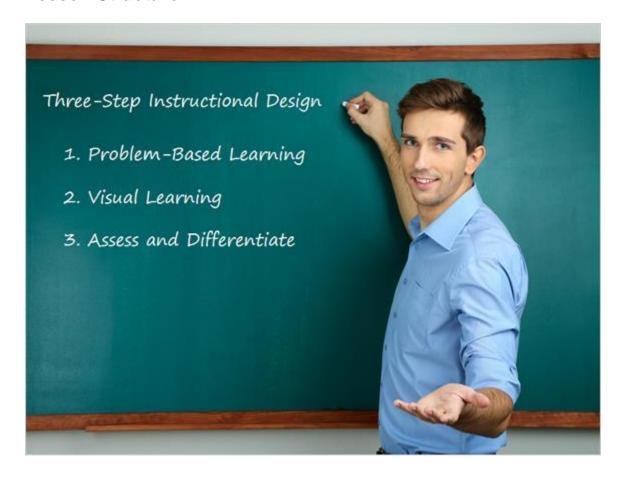
The final problem presents students with a do-it-yourself (or DIY) task. Here, students use the available data to create their own problem. On-screen tools help them write and model their problem.

The Today's Challenge Teacher's Guide-available online only-provides instructional support for each of



the Today's Challenge problems. It features a section with Guiding Questions and Differentiated Instruction support, which includes Vocabulary Review, Extra Support for English language learners, and Extension.

#### Lesson Structure



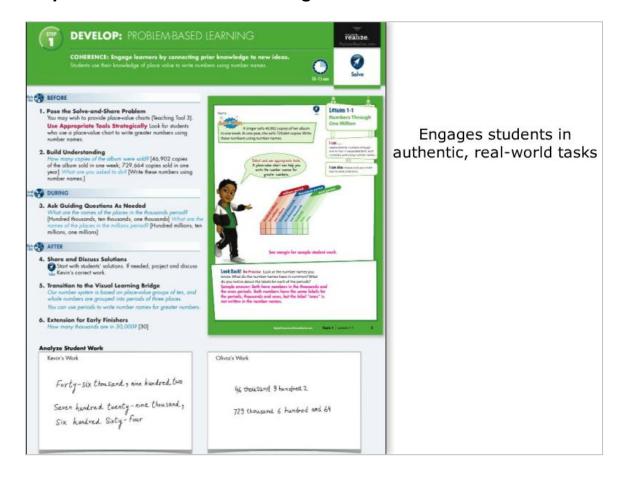
The **enVision**math**2.0** core instructional model is built on the interaction between problem-based learning and explicit visual instruction. These components are reflected in the three-step instructional design for each lesson:

- Problem-Based Learning
- Visual Learning, and
- Assess and Differentiate

Let us take a closer look at this three-step lesson structure.



#### Step 1: Problem-Based Learning



Each lesson begins with developing problem-based learning, which engages students in authentic, real-world tasks that develop mathematical understanding.

The Solve & Share problem helps students connect what they know to new ideas embedded in the problem. When students make these connections, conceptual understanding takes place. To further support these connections, use Solve & Share online with your interactive whiteboard during classroom instruction.

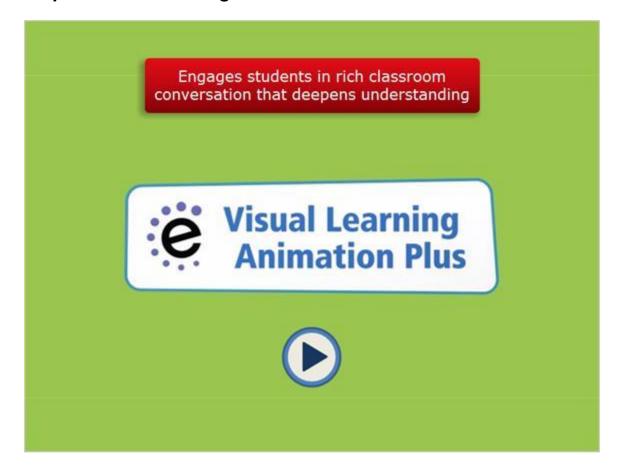
You can also assign the online Solve & Share problem to your students as homework.

The write-in text feature allows students to explain their reasoning and communicate their understanding.

The Teacher's Edition provides support to facilitate these question-driven conversations before, during, and after the activity.



Step 2: Visual Learning

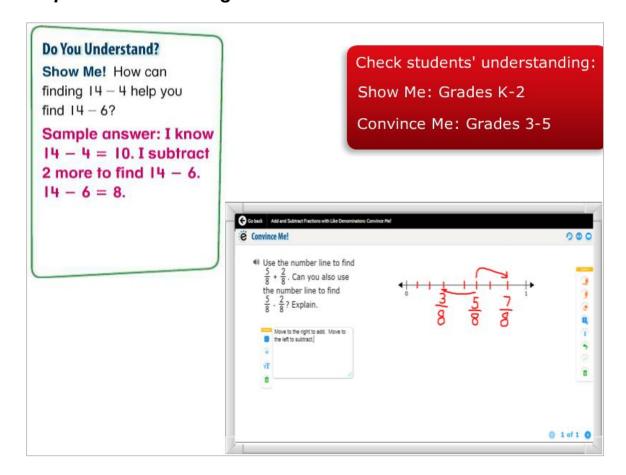


The second step of a lesson, Develop Visual Learning, emphasizes important mathematical ideas and new concepts through enhanced direct instruction. In this section, a series of visual examples-referred to as the Visual Learning Bridge-introduces and connects students' thinking from the Solve & Share problem to the new mathematical ideas within the lesson.

In addition to this visual representation of the concept, the Visual Learning Animation Plus engages students in a rich classroom conversation that deepens their understanding.



#### Step 2: Visual Learning



You can check students' understanding right after instruction in the Show Me section (for Grades K through 2) or Convince Me section (for Grades 3 through 5).

You can use the Guided Practice problems to show your students how to apply their understanding to different kinds of problems.

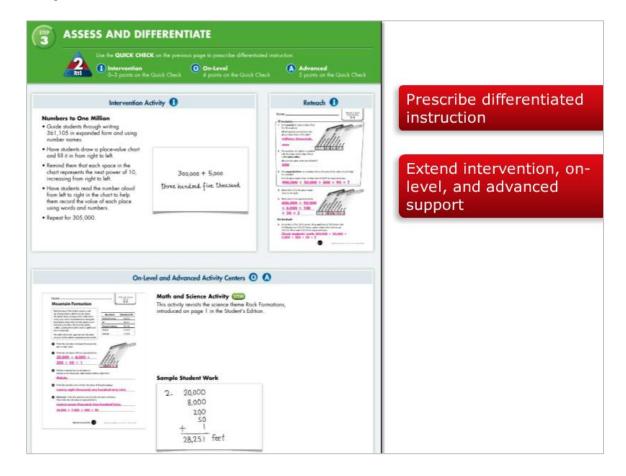
Next, students will apply the strategies they learned during Independent Practice.

The Problem Solving portion of the lesson allows students to explore and apply the mathematical practices.

The check marks next to some of the problems offer a Quick Check to assess students' understanding of the lesson content. This will help to inform your delivery of the third step of the lesson - Assess and Differentiate.



#### Step 3-Assess and Differentiate



During Assess and Differentiate, you will prescribe differentiated instruction of key understandings and skills, as well as extend intervention, on-level, and advanced support. The Quick Check assessment data you collected in Step 2 will help you determine students' support needs.

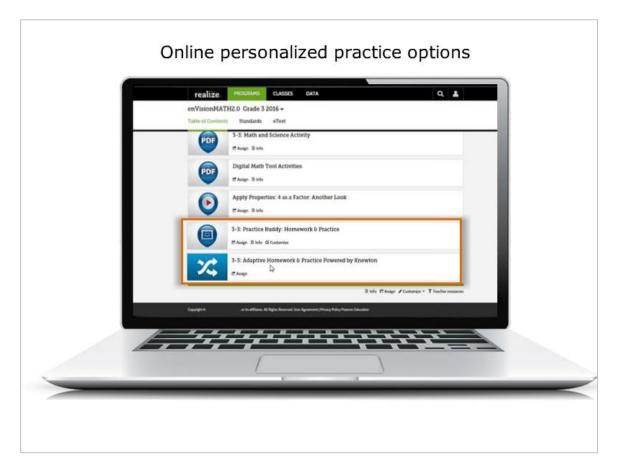
The Intervention Activity provides struggling students with visual or hands-on reinforcement of the lesson concepts.

Reteach intervention masters provide step-by-step instructions so students can break down problems into manageable parts.

The On-Level and Advanced Activity Centers include Center Games, Math and Science Activities, and Problem-Solving Reading Mat Activities to deepen students' understanding.



#### Personalized Practice and Homework Support



Online personalized practice options are available to students for extra support and homework guidance.

Practice Buddy, powered by MathXL® for School, provides on-level content practice for Grades 3 through 5. These exercises have built-in learning aids that let students select the type of support they need. These include:

- Help Me Solve This;
- View an Example;
- Another Look videos; and
- Visual Learning Animations.

Adaptive Homework and Practice Powered by Knewton provides support for the Homework and Practice part of each lesson in Grades 3 through 5.

Knewton gathers student performance information from the online assessments, Quick Checks, and Practice Tasks. It then uses that information to prescribe tasks and content to meet the individual learning needs of each student.

The Homework and Practice assignments provide both on-level and prerequisite skills support.

The Adaptive Homework and Practice assignments facilitate a more productive experience because they

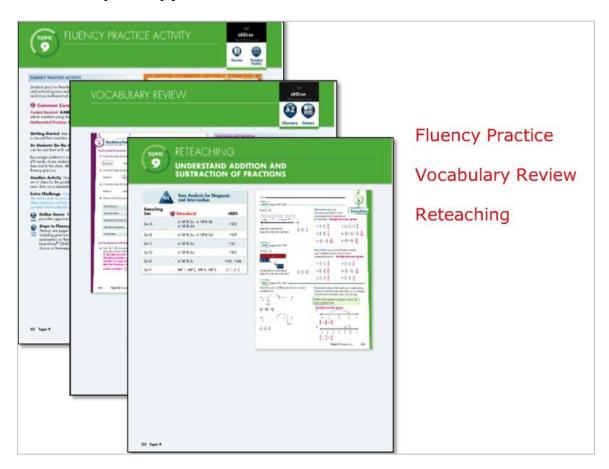


are tailored to each student's needs and understanding. This ensures that students are ready to progress to the next day's objective.

Instructional tasks include Another Look videos, Visual Learning Animation Plus videos, Reteach to Build Understanding worksheets, and Math Diagnosis and Intervention System 2.0 lessons.

And keep in mind, the more a student uses the prescribed Homework and Practice assignments, the better Knewton gets at adapting to the student's individual needs.

#### **End-of-Topic Support**



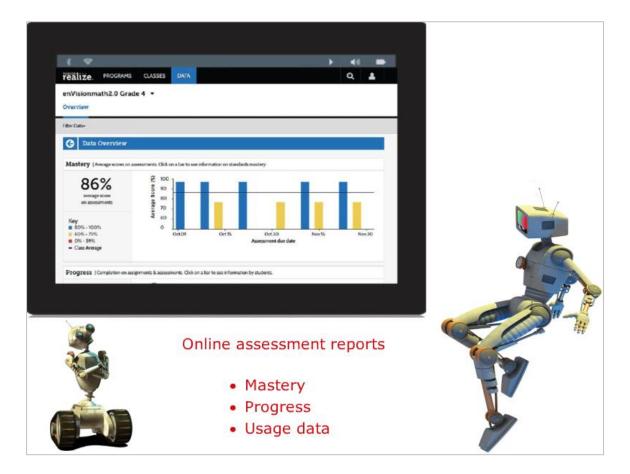
At the end of each topic, you'll find reviews to help reinforce essential understandings, skills, and concepts.

#### Reviews include:

- Fluency Practice;
- Vocabulary Review; and
- Reteaching



#### Assessments



enVisionmath2.0 provides assessments in both print and online.

Diagnostic assessment resources help you determine what your students know.

Formative assessments are built into lessons to help inform instruction.

Summative assessments include performance-based topic assessments to evaluate student learning.

You can also find a variety of auto-generated assessment reports online. These reports show mastery, progress, and usage data to help monitor students' progress and inform instruction.



#### Closing



Let us review what we learned about **enVision**math**2.0**, 2017. We began by exploring the program goal, organization, and components. We looked at support for content focus, coherence, and rigor.

Next, we reviewed the planning resources, lesson structure, and differentiation support to help you navigate through the program. Lastly, we looked at end-of-topic resources and assessments that help ensure program success.

For additional program resources, please visit MySavvasTraining.com.