

enVision A|G|A Differentiation

Introduction



The banner features the enVision A|G|A logo at the top left, with the word "enVision" in a bold, lowercase font and "A|G|A" in a larger, outlined font. Below the logo, the word "Differentiation" is written in a smaller, sans-serif font. The background is a light blue gradient with small white stars. On the left side, the text "Differentiated instruction resources" is displayed, with "resources" in a larger, bold font. Below this, the text "Reach the range of learners in your classroom" is written in a smaller font. On the right side, there is a photograph of a diverse group of students sitting around a table, engaged in a discussion or activity.

Hi, **enVision** A|G|A teachers!


Let's look at the variety of resources available for differentiated instruction at both the topic and lesson levels. These resources can help you reach the range of learners in your classroom.

Quick Tip




DIFFERENTIATED INSTRUCTION AND INTERVENTION
Built-in resources for supporting all learners!

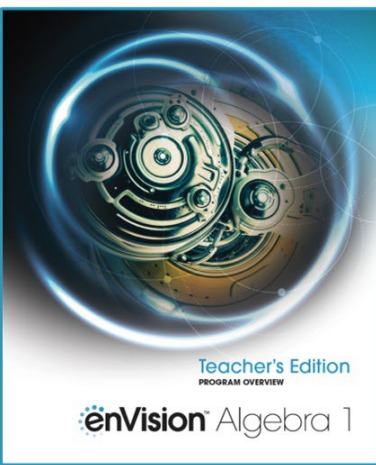
Powerful System- and Teacher-Driven Resources

- Use enVision A|G|A resources to provide a comprehensive personalized solution to meet the needs of all levels of learners and provide intervention activities.
- Customize lessons by uploading your own resources.




Includes DOK (Depth of Knowledge)

	DIFFERENTIATION RESOURCES	WHERE TO FIND
ONGOING INTERVENTION  1 RIT	During a LESSON Teacher Driven <ul style="list-style-type: none"> Adaptations for below- and above-level students Common Errors 	Teacher's Edition, print and digital
STRATEGIC INTERVENTION  2 RIT	At the end of a LESSON System and Teacher Driven <ul style="list-style-type: none"> Differentiation Library Reach to Build Understanding Mathematical Literacy and Vocabulary Additional Practice Enrichment Activities Online Practice with built-in Learning Aids powered by MathIXSM for School Adaptive Practice and Homework powered by Knowton Virtual Nerd Tutorial Videos 	Teacher Resource Masters, available as downloadable PDFs and downloadable Word docs, and digital Pearson-Realize.com
INTENSIVE INTERVENTION  3 RIT	As needed ANYTIME during a Topic System and Teacher Driven <ul style="list-style-type: none"> Personalized Study Plans Virtual Nerd Tutorial Videos Online Practice with built-in Learning Aids powered by MathIX for School 	Pearson-Realize.com



Teacher's Edition
PROGRAM OVERVIEW
enVision Algebra 1



Check out the Differentiation Resources chart in your *Teacher's Edition Program Overview* for a list of the enVision A|G|A differentiation resources and where to find them in the program materials.

Topic-level Differentiation

TOPIC 1 Solving Equations and Inequalities	
Topic Overview	2A
enVision STEM	
1-1 Applications on Real Numbers	5A
1-2 Solving Linear Equations	11A
1-3 Solving Equations With A Variable on Both Sides	18A
1-4 Literal Equations and Formulas	24A
1-5 Solving Inequalities in One Variable	30A
CCC Mathematical Modeling in 3 Acts: Collecting Cans	
1-6 Compound Inequalities	37A
1-7 Absolute Value Equations and Inequalities	43A
Topic Review	50
Topic Assessment	53A
Topic Performance Assessment	53C

enVision™ STEM Project

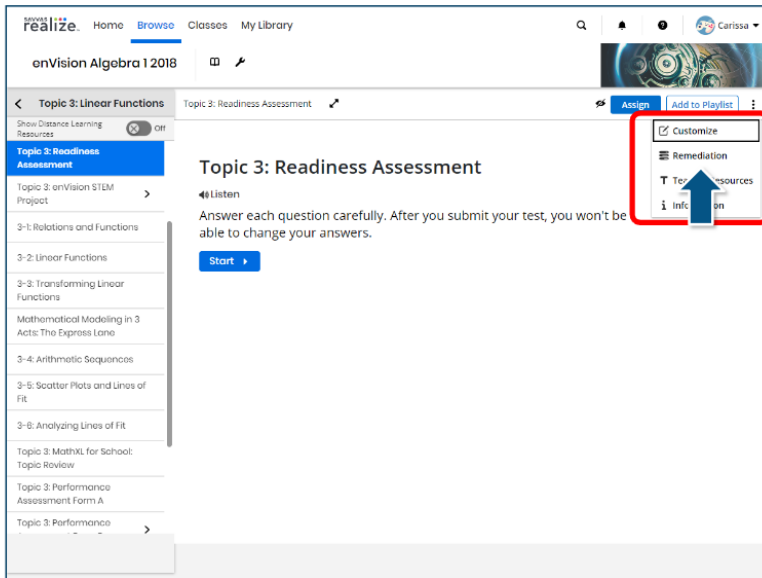
Mathematical Modeling in 3 Acts lesson

There are several topic-level opportunities to differentiate instruction for your students.

The Topic Readiness Assessment determines your students' readiness for the topic content and prescribes interventions as needed. The digital version of the assessment is auto-scored, and a personalized study plan is generated for each student based on his or her score. Students receive practice tasks in their Savvas Realize™ accounts tailored to their specific needs based on the results of the online assessments.

Each topic also includes an **enVision™** STEM Project and a Mathematical Modeling in 3 Acts lesson. These activities make math inviting with high-interest, low-entry tasks. Students can choose how they show what they know as they work on these tasks.

Quick Tip



Click the Remediation option under online assessments to see a list of the remediation resources you can use to differentiate instruction based on your students' results.

Lesson-level Differentiation



Four-step lesson structure

- Step 1 Explore
- Step 2 Understand & Apply
- Step 3 Practice & Problem Solving
- Step 4 Assess & Differentiate

You'll find differentiation resources and tips in each step of a four-step **enVision A|G|A** lesson.

Step 1: Explore

CRITIQUE & EXPLAIN
INSTRUCTIONAL FOCUS Students use their knowledge of number classification to focus on characteristics that groups of real numbers have in common. They consider sets of real numbers and the relationship between rational and irrational numbers.
STUDENT COMPANION Students can complete the Critique & Explain activity on page 1 of their Student Companion.

Before **WHOLE CLASS**
Problem Solving **STEP**
Q What do you notice about the numbers shown on the game cards? (They include whole numbers, decimals, fractions.)

During **SMALL GROUP**
Mathematics **STEP**
Q In what ways are Cindy's numbers similar? Different? (Cindy's numbers are all rational numbers. One number is a decimal, one is a fraction, and one is a whole number.)
Q In what ways are Victor's numbers similar? Different? (Victor's numbers are also all real numbers, two are irrational, and one is rational.)
For Early Finishers Have students make cards similar to those shown. They can make additional rules and play the game.
Q What was successful in getting three in a row? What type of?

After **WHOLE CLASS**
Facilitate a discussion about the characteristics of types of numbers and how they impact the game.
Q If you could only win the game with three rational numbers in a row, how could you use the number cards shown to win the game? (You could replace 1.3 with $\frac{1}{2}$.)
PARTS OF MIND Use with CRITIQUE & EXPLAIN
Construct Arguments. Cindy says that $\frac{1}{2}$ is an irrational number because the decimal form doesn't terminate. Construct an argument to support or refute Cindy's position.
It is true that the decimal form doesn't terminate. However, repeating decimal representations have a rational form.

1-1 **CRITIQUE & EXPLAIN**
Cindy and Victor are playing a card game. The cards they use have the following numbers:
Cindy: $\frac{1}{2}$, 1.3, $\sqrt{2}$
Victor: $\frac{1}{2}$, 1.3, $\sqrt{2}$
A. Do all players win the game in different ways?
B. How do you know that the game is fair? (The numbers are all real numbers.)

SAMPLE STUDENT WORK
A. Yes, Cindy would win because she has three rational numbers in a row. The number 1.3 is a decimal, which is a type of rational number.
B. Yes, you could get three rational numbers in a row. The number 1.3 is a decimal, which is a type of rational number. However, the number $\sqrt{2}$ is an irrational number. Therefore, the game is not fair.

Differentiate by letting students solve the problem using any method they choose

- Discuss the different strategies
- Make connections between various approaches
- Deepen conceptual understanding

In Step 1: Explore, differentiate instruction by letting students solve the problem-based learning activity using any method they choose.

As you and your students discuss the different strategies used to solve the problem, students can make connections between various approaches and deepen their conceptual understanding.

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

Step 2: Understand & Apply

Differentiate instruction
using the support notes

STEP 2 Understand & Apply

EXAMPLE 4 Operations With Rational and Irrational Numbers

Pose Purposeful Questions

ADV Advanced Students

USE WITH EXAMPLE 2 Have students explore creating equations for consecutive even or odd integer problems.

- The sum of three consecutive even integers is 108.
- The sum of three consecutive odd integers is 87.

Q: What expression represents three consecutive even integers?
Three consecutive odd integers?
[$x + (x + 2) + (x + 4)$]

Q: Why are these expressions the same?
[Consecutive even integers and consecutive odd integers both have differences of 2.]

Q: What is the solution to each problem?
[34, 36, 38; 27, 29, 31]

STRuggling Students

USE WITH EXAMPLE 4 Help students translate the verbal descriptions of problems into equations.

Carlos is 5 times 3 less than Sofia's age. Carlos is 40 years old. How old is Sofia?

Q: What does the variable represent in this situation?
[Sofia's age]

Q: What operation does *less than* mean? *Times*?
[subtraction; multiplication]

Q: What expression represents Carlos's age?
[$5(x - 3)$]

Q: What equation represents this situation?
[$5(x - 3) = 40$ because each side represents Carlos's age.]

Q: How old is Sofia?
[11]

ELL English Language Learners (Use with EXAMPLE 3)

LISTENING BEGINNING Read Part A of the example, up through the sentence that contains the word *whether*, aloud to students. Repeat the last sentence.

Q: What do you think of when you hear the word *whether*?
[Expect responses related to weather.]

Q: Weather, meaning hot, cold, or rainy has a word with the same sound but a different meaning. Listen to the sentence again. What do you think *whether* means in this context?
[if]

SPEAKING INTERMEDIATE Make sure students understand the everyday use of words in math. Have students talk with a partner about the word cases.

Q: What is a case?
[Answers may vary. Sample: something that you carry or store things in; different situations]

Q: What does it mean to *try several different cases* in this example?
[To try adding (or multiplying) different rational numbers to see if the idea works: that the sum (or product) of two rational numbers will always be a rational number.]

WRITING ADVANCED Talk about the difference between specific cases and general cases. Have students answer the following questions in their math journals.

Q: Why can't you make a conclusion after testing a few specific cases?
[There could be a case you do not think of that disproves your conclusion.]

Q: How does the use of variables show the general case and help to establish a solid conclusion?
[The variables are defined as integers and they show that no matter what integer is substituted for the variable, the result will follow the same pattern.]

Next, in Step 2: Understand & Apply, check for understanding using Examples, Try It! exercises, and Additional Examples.

Notice the support notes in your Teacher's Edition that can help you differentiate instruction for English language learners, advanced students, and struggling students.

Use the Do You Understand? and Do You Know How? as formative assessment opportunities to help you decide how much and what type of practice to assign students in Step 3.

Step 3: Practice & Problem Solving

The screenshot shows a math problem-solving interface. At the top, there is a navigation bar with a back arrow and the text "1-1: MathXL for School: Practice and Problem Solving". Below this, the problem ID "1.1.10" is displayed. The main content area contains the text: "Think About the Process Apply the Distributive Property first to solve the equation below. What operation would you need to use last? instead, you divide first to solve the equation what operation would you need to use last?". Below the text is the equation $8\left(\frac{d}{2} - 8\right) = 80$. A question follows: "If you apply the Distributive Property first, what operation will you need to use last?". There are four radio button options: Multiplication, Subtraction, Division, and Addition. A red box highlights a "Question Help" menu on the right side of the problem area. The menu includes the following options: "Help Me Solve This", "View an Example", "Video", "Textbook", "Glossary", "Math Tools", and "Print". Below the problem area, there is a message: "Exercises are auto-scored and have built-in learning aids". At the bottom, there is a progress bar showing "1 part remaining", a "Clear All" button, and a "Check Answer" button. The bottom navigation bar includes "Review progress", "Question 1 of 36", "Go", "Back", and "Next" buttons.

Then, in Step 3: Practice & Problem Solving, assign differentiated practice to solidify student understanding. Use the Assignment Guide and Item Analysis to choose the amount and difficulty level of practice for groups of students.

Alternatively, you can assign the online version of Practice and Problem Solving to differentiate instruction. These exercises are auto-scored and have built-in learning aids to provide support to students.

Quick Tip

The screenshot shows the Savvas Realize interface for enVision Algebra 1 2018. The left sidebar lists various resources for Topic 1: Solving Equations and Inequalities. The main content area is titled "Step 3: Practice & Problem-Solving" and lists three assignment options, each with an "Assign" button:

- 1-1: MathXL for School: Practice and Problem-Solving
- 1-1: MathXL for School: Mixed Review
- 1-1: Savvy Adaptive Practice

A blue callout box with white text is overlaid on the right side of the assignment list, stating: "You can also assign Mixed Review practice powered by MathXL® for School or Savvy Adaptive Practice. Both of these assignments are differentiated practice options that you can assign during Step 3 or Step 4." The two lower assignment options are highlighted with a red rectangular border.

Below the assignment list is "Step 4: Assess & Differentiate", which includes a "1-1: Lesson Quiz" assignment with a "Quick Tip" icon. The "Lesson Quiz" section lists teacher resources: "1-1: Lesson Quiz (PDF)", "1-1: Lesson Quiz (Editable)", and "1-1: Lesson Quiz: Answer Key".

Step 4: Assess & Differentiate

The screenshot shows the Savvas Realize interface for enVision Algebra 1 2018. The left sidebar lists resources for Topic 1: Solving Equations and Inequalities, with '1-1: Operations on Real Numbers' highlighted in blue. The main content area displays a list of differentiated assignments, each with an 'Assign' button. The assignment '1-1: Virtual Nerd™: What's an Irrational Number?' is highlighted with a red box. Below this, there is a section for 'Lesson Spanish Content' with two additional assignments.

Resource Icon	Resource Title	Action
MathXL for School	1-1: MathXL for School: Additional Practice	Assign
Apple PDF	1-1: Additional Practice (PDF)	Assign
MathXL for School	1-1: MathXL for School: Enrichment	Assign
Apple PDF	1-1: Enrichment (PDF)	Assign
Apple PDF	1-1: Mathematical Literacy and Vocabulary (PDF)	Assign
Virtual Nerd	1-1: Virtual Nerd™: What's an Irrational Number?	Assign
Lesson Spanish Content		
MathXL for School	1-1: MathXL for School en español: Práctica Y Resolución de Problemas 1-1 MathXL for School: Practice & Problem Solving	Assign
Lesson Quiz	1-1: Prueba de la lección 1-1: Lesson Quiz (PDF)	Assign

Finally, in Step 4: Assess & Differentiate, administer the Lesson Quiz and then provide differentiation based on the results. Use the Item Analysis and Rtl information to prescribe differentiated assignments.

You'll find a library of resources on Savvas Realize.

You'll also find digital differentiated assignments powered by MathXL® for School and video tutorials powered by Virtual Nerd.

Quick Tip



You can assign the digital Lesson Quiz and have the system create differentiated assignments. The online version of the quiz is auto-scored, and you can choose to have the system provide auto-assigned intervention or enrichment activities for students based on their results.

STEP 4 Assess & Differentiate

LESSON QUIZ
Use the Lesson Quiz to assess students' understanding of the mathematics in the lesson.
Students can take the Lesson Quiz online or you can download a printable copy from [PearsonEducation.com](https://www.pearsoned.com). The Lesson Quiz is also available in the *Assessment Resources* book.

Item Analysis

Item	DOK
1	1
2	2
3	1
4	2

ALL Use the student scores on the Lesson Quiz to prescribe differentiated assignments.
If students take the Lesson Quiz online, it will be automatically scored and appropriate differentiated practice will be assigned based on student performance.

Level	Points	Activities
I Intervention	0-3 points	<ul style="list-style-type: none"> Reteach to Build Understanding Mathematical Literacy and Vocabulary Additional Practice
C On-Level	4 points	<ul style="list-style-type: none"> Mathematical Literacy and Vocabulary Additional Practice Enrichment
A Advanced	5 points	<ul style="list-style-type: none"> Enrichment

AVAILABLE ONLINE

1. In which subset of the real number system does the number $\sqrt{3}$ belong?
 rational numbers
 natural numbers
 real numbers
 irrational numbers

Lesson Quiz
Directions: Do all questions.

1. In which subset of the real number system does the number $\sqrt{3}$ belong?
 rational numbers
 natural numbers
 real numbers
 irrational numbers

2. Which of the following could be a rational number?
 sum of two irrational numbers
 quotient of two irrational numbers
 sum of a rational number and an irrational number
 quotient of a rational number and an irrational number

3. The numbers 9, 16, 25, 36, 49 are elements of both which two number sets?
 integers
 real numbers
 rational numbers
 natural numbers

4. The number $\sqrt{2}$ is greater than
 $\frac{1}{2}$
 $\frac{1}{3}$
 $\frac{1}{4}$
 $\frac{1}{5}$

5. Which inequality determines which of the following represent a rational number. Select all that apply.
 $\frac{1}{2}$
 $\frac{1}{\sqrt{2}}$
 $\frac{1}{3}$
 $\frac{1}{\sqrt{3}}$

enVision A|G|A Assessment Resources

TOPIC 1 | 10A | LESSON 1

Closing

A promotional graphic for enVision A|G|A. At the top, the text "enVision™ A|G|A" is displayed in a large, stylized font against a blue background with white stars. Below this, a white box contains the text "Thank You!". Underneath the box, there is a message: "Keep exploring MySavvasTraining.com for more information about enVision A|G|A and Savvas Realize." followed by "my SAVVAS Training" in a bold, sans-serif font. On the right side of the graphic, a woman with brown hair, wearing a light blue button-down shirt with a bow at the neck, is smiling and holding a tablet. The tablet screen shows the MySavvasTraining.com interface, which includes a navigation menu with icons for Home, MySavvas, MySavvas, and MySavvas, and a main content area with various educational resources and a search bar.

enVision™ A|G|A

Thank You!

Keep exploring MySavvasTraining.com for more information about **enVision A|G|A** and Savvas Realize.

my **SAVVAS** Training

Thanks for discovering how **enVision A|G|A** resources can help you differentiate instruction and provide targeted support to all your students.