A new vision for High School Mathematics

enVision™ Algebra 1, Geometry, Algebra 2

Pearson
enVision A|G|A ©2018 is a brand-new high school mathematics program designed to help students look at math in new ways, with engaging, relevant, and adaptive content.

**Personalized by Design**
*Pages 4-11*
Mathematics takes on new meaning and becomes personal through relevance, engagement, and individualized learning pathways.

**Learning for What’s Next**
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Mathematics becomes a lifelong tool when curriculum balances conceptual understanding, procedural fluency, and application.

**Harness the Possibilities**
*Pages 16-19*
Unlimited possibilities for the way you teach.

**Authors**
The enVision A|G|A authorship team powerfully combines practical classroom experience with deep expertise in the latest mathematical research to create a new vision for high school mathematics. Our team includes authors from enVisionmath2.0 Grades 6-8 and more advanced titles to ensure vertical alignment.

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**A Program for Any Classroom:**
Blended, Print, or Digital

**PearsonSchool.com/envisionAGA**
Anytime Interactive Learning

enVision A|G|A provides a groundbreaking digital experience built for today’s student with anytime online and offline access to instructional content. Interactive and highly visual examples powered by Desmos support active learning by students.

Anytime Interactive Learning

enVision A|G|A instructional content is available to interact with offline or online via Pearson’s next-generation Realize Reader:

- Complete and submit lesson launches and formative assessments
- Work through interactive examples
- Access embedded interactives powered by Desmos
- Available on a wide array of devices

Geometry Anytime interactive instruction available online or offline

Embedded Interactives Powered by Desmos

- Integrated at point of use in enVision A|G|A, interactive digital lessons save teachers time
- Ready-to-go embedded interactives for lesson launches and lesson instruction require no set-up work for teachers

Anytime, Anywhere Learning

Algebra 1 interactive experience embedded at point of use

Algebra 2 interactive Student Edition

Mathematics takes on new meaning and becomes personal through relevance, engagement, and individualized learning pathways.
Mathematical Modeling

enVision A|G|A makes mathematics relevant for students by emphasizing mathematical modeling in reality-based mathematics instruction.

- **Mathematical Modeling in 3 Acts** lessons are available for every topic and engage students in the complete modeling cycle.
- **Model & Discuss** lesson-opening explorations give students an opportunity to develop proficiency with aspects of the modeling process.

**Act 1: The Hook**

Students watch a video that prompts them to ask questions—in this case, “Will the shot go in?”
- Students actively generate the word problem they are going to solve.
- Provides an entry point for every student, no matter their level of mathematical proficiency.
- Creates an inclusive classroom for all students.

**Act 2: Model with Math**

In the second act, students determine the information they need to solve the problem and how to get that data. Here, students figure out how they can determine if the shot will go in the basket. Students:
- Apply mathematical concepts learned earlier in the chapter and select the appropriate tools to solve the problem they defined in the first act.
- Engage in reality-based mathematical modeling that is more challenging and closely mirrors the work of STEM professionals.

**Act 3: The Solution**

In the final act, the video reveals the answer to the problem.
- Students root for their conjectures and analyze their results, as they actively engage with the Standards for Mathematical Practice.
- A **Sequel** problem is provided to extend the learning.

**enVision STEM Project**

STEM Projects provide opportunities for students to explore situations that address real social, economic, and environmental issues that foster mathematical connections across topics.
Active Learning

enVision A/G/A engages students through a focus on different learning styles. The digital interactive experience powered by Desmos fosters conceptual understanding with a deep emphasis on visual learning and multiple representations. The student companion provides a worktext option that increases students’ ownership of their instruction.

Algebra 1 interactive experience embedded at point of use

Visual Learning

enVision A/G/A fosters conceptual understanding through the use of powerful visual learning. Visual learning in enVision A/G/A emphasizes multiple representations to deepen student understanding.

Student Companion

This optional worktext actively engages students in class:

- Fosters conceptual understanding with Habits of Mind questions.
- Solidifies understanding and increases students’ ownership with problems to try on their own.
- Helps consolidate students’ understanding with sections for note taking.
- Provides support for lesson explorations, example problems, formative assessment, and math modeling lessons.

Habits of Mind

enVision A/G/A emphasizes the development of students’ mathematical habits of mind. Probing questions throughout instruction require students to develop the thought processes and skills used by proficient mathematical thinkers.

The Realize Reader Interactive Student Edition provides all Student Companion questions in a seamless interactive digital experience.
enVision A|G|A offers every student a truly individualized learning pathway. Individual study plans fill in gaps on prerequisite knowledge and help students focus where they need to focus to experience success in high school mathematics. Unlimited digital practice and daily adaptive practice provide teachers with options to support struggling students.

**Individualized Learning Pathways**

Interactive digital intervention lesson example

- Available for every Topic
- Digital intervention lessons provide scaffolding to help students master prerequisite skills
- Interactive instruction with explicit examples
- Powerful learning aids in multiple modalities

**Individual Study Plans**

Interactive digital intervention lesson exercise

**Adaptive Practice Powered by Knewton**

- Focuses on progress to mastery
- Targets crucial prerequisite skills
- Delivers both instruction and practice
- Offers real-time snapshot of progress

**Powerful Learning Aids in MathXL® for School**

Personalized learning aids act as a 24/7, always available tutor. High school students pick the learning aid that helps them the most.

- **Help Me Solve This** walks students through how to solve a problem while providing feedback at every step of the problem.
- **View an Example** lets students view a similar worked-out solution with different numbers.
LEARNING FOR WHAT’S NEXT

Mathematics becomes a lifelong tool when curriculum balances conceptual understanding, procedural fluency, and application.

Explore

Lesson-opening explorations foster the development of conceptual understanding through a problem-solving experience. There are three types: Explore & Reason, Model & Discuss, and Critique & Explain.

Explore & Reason

Students explore a mathematical concept and use reasoning to draw conclusions.

Model & Discuss

Students develop proficiency with the full modeling cycle by focusing deeply on a smaller part of the modeling cycle.

Critique & Explain

Students are required to construct mathematical arguments. They may also be asked to evaluate examples of mathematical reasoning and correct the reasoning if necessary.

Understand and Apply

enVision A|G|A helps you teach mathematics through problem solving. Three types of examples support a balanced pedagogy: Conceptual Understanding, Skill, and Application.

Conceptual Understanding examples are designed to help students focus deeply on mathematical understanding of lesson content.

Proof examples require students to prove in enVision Geometry.

Skill examples help students build fluency with the lesson content.

Application examples show students how the lesson’s mathematical content can be applied to solve real-world problems.

Embedded Professional Development with Effective Teaching Practices

The enVision A|G|A Teacher’s Edition features embedded professional development. Probing questions are based on NCTM’s Effective Teaching Practices.

CRITIQUE & EXPLAIN

GOAL: To introduce how a translation affects the graph of a quadratic function.

Before

CONNECT REPRESENTATIONS

How does the vertex of Graph B compare to the vertex of Graph A?

[Graph A: The vertex of Graph A is (0, 0).]

[Graph B: The vertex of Graph B is (2, 1).]

After

The Concept Summary provides multiple representations to consolidate student understanding.

Additional Examples

More examples assist teachers in meeting their classroom needs and allow for additional explicit instruction.

Algebra 1 Teacher’s Edition support for lesson-opening exploration

Algebra 1 Student Edition lesson-opening exploration

Algebra 2 Explore & Reason lesson exploration

Algebra 1 Application example

Geometry Teacher’s Edition Additional Examples and instructional support

Algebra 1 Concept Summary Features of the Quadratic Function

Algebra 1 application example

The Concept Summary provides multiple representations to consolidate student understanding.
Practice & Problem Solving

enVision A|G|A features a uniquely balanced exercise set to ensure students have ample opportunity to develop conceptual understanding and procedural fluency, as well as apply math to solve problems.

**UNDERSTAND**

Develops conceptual understanding of lesson content by explaining reasoning, constructing arguments, and analyzing errors.

**APPLY**

Requires students to apply math to solve real-world problems.

**PRACTICE & PROBLEM SOLVING**

10. Write the ordered pairs that tell the story of the graph shown. Then write the function for the graph.

11. Boxes: To graph the function \( f(x) = x^2 \), a student translates the graph of the quadratic parent function right 2 units and down 10 units. Which of the following functions is the equation of the graph of \( f(x) = (x-2)^2 - 10 \)?

12. The graph of \( f(x) = 2x - 4 \) is translated 5 units left and 3 units down. What are the coordinates of the new vertex of the graph of \( f(x) = 2(x + 5) - 3 \)?

13. Mathematical Connections

**ASSESSMENT PRACTICE**

Includes:

- 1 next-gen practice item per lesson
- 1 ACT®/SAT® practice problem per lesson
- 1 performance task per lesson

**Virtual Nerd Tutorial Videos**

- Tutorial video for every lesson in the program
- Three different viewing windows let students review math concepts in the visual way that best helps them learn
- Students can easily drill down to another video to review prerequisite content
- Available with Spanish closed captioning!

Embedded MathXL® for School in Pearson Realize provides a seamless experience for students and teachers with powerful interactive learning aids and ready-to-go, auto-graded assignments, including:

- Daily Homework and Practice
- Mixed Review
- Differentiated Learning for remediation, additional practice, and enrichment

Robust Practice Powered by MathXL® for School

**Virtual Nerd Mobile Math app**

**Virtual Nerd Tutorial Video**

**MathXL® for School feedback**
Assess and Differentiate

enVision A|G|A provides a library of assessments including formative, summative, and next generation assessment items. Practice closely resembles the academic rigor and technology embedded in the newest high-stakes assessments.

**Assessment Suite**

A suite of ready-to-use diagnostic, formative, and summative assessments are provided:

- Course- and Topic-Level Diagnostic Assessments
- Lesson Checks and Quizzes
- Topic Assessments and Performance Tasks
- End-of-Course Assessment
- Next Generation Practice Assessment

**Build Your Own**

Build your own assignment or assessment based on standard or objective using thousands of items, including next generation assessment tasks.

**Functionality**

mimics what students will encounter on next generation digital assessments.

enVision A|G|A provides both a fully adaptive system for Response to Intervention and a library of resources for teachers in supporting a wide range of students.

**Adaptive RTI**

- Lesson Quizzes offer daily auto-assignment of differentiated support including Remediation, Additional Practice, or Enrichment.
- Adaptive Practice Powered by Knewton is a daily option to support students on prerequisite skills not yet mastered or to move advanced students through the skill more efficiently.
- Individualized Study Plans provide a personalized learning pathway based on the results of each Topic Readiness Assessment.

**Teacher-Driven Support**

A complete library of resources supports teachers in their Response to Intervention planning and in assisting English Language Learners. Resources for English learners include:

- Point-of-use differentiation support in the Teacher’s Edition
- Spanish closed captioning for video tutorials
- Multilingual Handbook
- English/Spanish Visual Glossary

Unlimited possibilities for the way you teach.
Customize Instruction

enVision A|G|A empowers teachers by providing the confidence of a coherent scope and sequence with the flexibility to customize the program at every level.

Customize Your Table of Contents

Pearson Realize allows you to rearrange your Table of Contents. A simple click saves your customized table of contents!

Customize a Lesson

Want to add a personal touch to a lesson? With Pearson Realize, you can easily customize a lesson and access it at any time. Upload content and add Web links directly to your lesson. Edit resources to meet the needs of your classroom.

Search by Standard

Pearson Realize lets you search by standard to find just the right instructional content. You can easily find all program content correlated to a specific standard.

Available in Print AND Digital Formats!

However you want to teach, enVision A|G|A has you covered. The program can be taught completely digitally, in print, or anywhere in between, and the program is designed to grow with you.

Digital Courseware

enVision A|G|A digital courseware allows teachers to easily assign ready-made tests with auto-assigned remediation and instant reports, including mastery by standards or skills.

- Robust suite of digital math tools powered by Desmos for the high school math classroom
- Author Professional Development videos with practical tips on implementing the program in a high school math classroom
- Interactive digital lessons – easily customized, easily projected
- Ready-to-go, easily customizable auto-scored MathXL® for School assignments for daily practice, mixed review, remediation, additional practice, and enrichment
- Wealth of reporting options
- Additional Examples for students in need of more instruction
- ExamView® desktop test generator software

- Robust MathXL® for School additional practice bank with thousands of questions for easy creation of customized practice
- Next-generation technology enhanced items throughout the program to prepare for new assessments
- Ready-made, auto-graded assessments and lesson quizzes with ready-to-go and auto-assigned remediation and enrichment
- Weath of reporting options
- Additional Examples for students in need of more instruction

- Math XL for School digital practice bank with thousands of questions for easy creation of customized practice
- Next-generation technology enhanced items throughout the program to prepare for new assessments
- Ready-made, auto-graded assessments and lesson quizzes with ready-to-go and auto-assigned remediation and enrichment
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