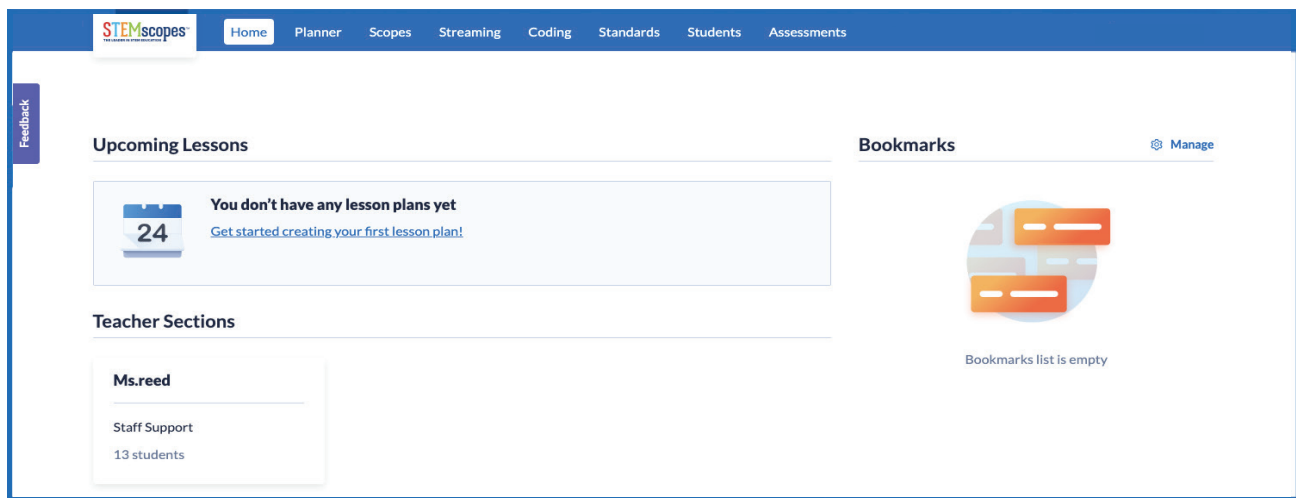




NEW TEACHER NAVIGATION GUIDE

STEMscopes is the national leader in STEM education, inspiring PreK/TK-12th grade STEM learning across the globe. Born in the lab at Rice University, STEMscopes was developed by teachers, for teachers. STEMscopes specializes in comprehensive STEM curriculum solutions customized to meet the requirements of state standards and NGSS, engineering, and math, as well as the unique needs of today's dynamic learners. Be more than a math teacher: be a STEM teacher. We're here to support you on every step of the journey.



Home & Main Navigation Bar

Find What You Need Fast

Your STEM adventure begins here, at Home. Serving as your one-stop dashboard, Home contains the upcoming lesson sequences you've set up through the Planner, your Bookmarked Scopes (lessons), your Student Data (e.g., assessment and annotation notes), and access to our library of Student Games. The main navigation page is shown above—explore what's under each tab below:

Home

- Your dashboard
- Access to Student Games (library of games)

Planner

- Create lesson plans
- Collaborate with fellow STEMscopes teachers

Scopes

- Tour all scopes (lessons) by grade, keyword & topic
- Access all lesson content available to you

Streaming

- A full media library of world-class footage, current events coverage, and integrated activities

Coding

- Powered by Bitsbox
- A whiz-bang system for teaching K-12 Computer Science

Standards

- Breakdown of the Math
- State Standards & Skills
- Jump to aligned lesson elements

Students

- Manage student accounts/resources
- Create class groups
- Monitor assignment progress and grades

Assessments

- Select from a wide variety of assessments, for use throughout the year
- Build your own assessment with a bank of available questions

Constructivist Approach

Using the CRA approach, we provide a powerful, interactive curriculum that encourages your students to rely on critical thinking, compelling reflection, and collaborative exploration within each scope.

Intentional Discourse

STEMscopes Math promotes collaboration, listening, and expression in a variety of modes through purposeful math discussions that broaden your students' mindsets and encourage educational growth.

5E + IA in Action

The 5E+IA learning model (Engage, Explore, Explain, Elaborate, Evaluate, plus Intervention, and Acceleration) is designed to enhance STEM education through math concepts found in our everyday world.

Real-World Exploration

Through open-ended and cross-dimensional tasks, we encourage your students to explore a wide range of mathematical approaches in various contexts.

STEMscopes Streaming

Explore phenomena in whole new way with STEMscopes Streaming, a full media library of world-class footage, current events coverage, and integrated activities for the classroom.

A Hidden Gem: The Teacher Toolbox

Additional Support Tools and Wraparound Resources

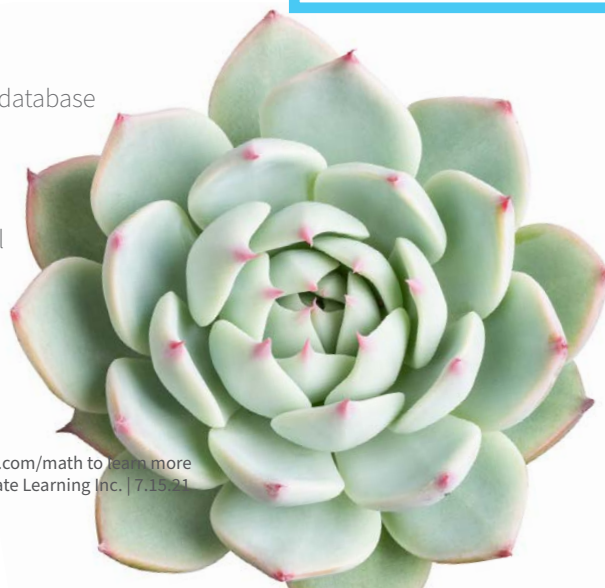
From Parent Letters to Process Skills Primer Activities to techniques for modeling best instructional practices, the Teacher Toolbox is a goldmine of instructional support. Before you begin using STEMscopes, we encourage you to explore the toolbox and briefly inventory the resources available to you.

Visual Glossary

Help students understand new terms with our extensive bilingual vocabulary database featuring both video and images.

STEMcoach In Action

Reach your full STEM-teaching potential with our self-serve database of professional development strategies.



HomePlannerScopesStreamingCodingStandard

Feedback

All ScopesRecently ViewedBookmarksMy Notes

FILTER

None

Save filter

Search ...

Grades

Topics

STEMscopes Streaming

Browse our collection of science videos

Access STEMscopes Streaming →

Teacher Toolbox

Access resources and strategies for getting the most out of STEMscopes

Use Teacher Toolbox →

Visual Glossary

Browse our collection of science instructional resources videos and images

Access Visual Glossary →

STEMcoach in Action

Professional development for STEM-centered classroom

Browse STEMcoach In Action →

SAMPLE



Teacher Toolbox

Teacher Toolbox

Teacher Toolbox

SAMPLE

SHIRT COLOR

RED	 
BLUE	   

Data Analysis

Measurement and Data

First Grade

SAMPLE

Arrays

Operations and Algebraic Thinking

Second Grade

SAMPLE

2,346

Math Scope Design

Standards

Every STEMscopes Math lesson is built to the state standard from the ground up. Chunking information into bite-size pieces, we make our units (called “scopes”) digestible and engaging. On average, a scope takes one to two weeks.

Home

Build your own content knowledge, analyze the state standards, and gain an understanding of everything the scope has to offer here in the Home section. This is where you will find all your lesson planning materials so you can facilitate fun, purposeful experiences for your students.

Engage

The Engage section is all about laying the foundation for learning. You begin this section by pre-assessing students and filling knowledge gaps. Then employ the Hook to lay out a storyline narrative and establish a purpose for learning that captures students’ attention with real-world connections.

Explore*

This is where students dig deeply into the meat of the content. The Explore section provides scaffolded hands-on activities that build toward mastery of the standards. Each Explore provides prompts for rich mathematical discourse and student reasoning, along with an Exit Ticket. Remember to use each Explore with a real-world independent practice (Show What You Know) before proceeding to the next Explore so that you can adjust instruction, if necessary, based on student misconceptions.

Explain*

Paired with Explore, the Explain section offers a variety of resources that help connect the experiences of the Explore activities to the academic content students need to know. These resources include illustrated vocabulary cards, independent practice, and journal prompts that can be used to support the Explore activities and solidify student learning.

Elaborate*

The Elaborate section makes differentiation a cinch with ready-made activities—digital and paper-based games, spiraled review, career connections, literacy connections, and more—perfect for rotations! These activities allow students to continue learning while you make time for small group interventions, reteaching, and independent projects to help both your struggling and advanced learners.

Evaluate

Get the data you need from the assessment tools provided in the Evaluate section. From STAAR-based assessments to an open-ended reasoning prompt, there’s an evaluation for every student’s learning style. You can also create your own assessments at any time using the Assessment builder tool.

Intervention

Useful during Elaborate or as an after-school support, Intervention contains a small hands-on activity designed to target students’ conceptual misunderstanding while building their math skills. Did we also mention this is a great re-teach and test prep tool?

Acceleration

Are your students ready to go above and beyond with what they’ve just learned? In the Acceleration section, students can engage in a design challenge or relate what they’re learning to current events around the world—activities that prompt them to think more deeply about the content and its applications.

** Instructional elements in STEMscopes Mathematics are intended to work together. The elements in the Explain and Elaborate sections can be used to support student learning and provide opportunities to practice while the students are exploring the concept.*



Inside a Scope: Addition and Subtraction (5th Grade)

Exploring the 5E + IA Lesson Organization

The 5E + IA is a learning model designed to engage students with hands-on exploration of mathematical concepts. The Home section (featured below) serves as your guide for each scope, with essentials such as content support and materials lists.

Scope Overview

Here we break down the 5E+IA model to show you how it will be properly utilized and executed in this particular lesson plan.

Content Unwrapped

Here we dissect the standards, breaking each one down by verb and noun. Student misconceptions and vertical alignment are highlighted for each standard.

Content Support

Ideal for teacher background and misconceptions, this support material reviews current scope content and coming attractions.

Materials List

Self-populating lists allow you to find out what you'll need to facilitate all hands-on STEMscopes activities. Lists of materials are separated into consumable and reusable items.

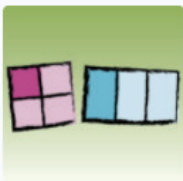
Parent Letter

We provide you with a prepared written statement that explains the lesson topic and what parents can expect their child to learn.

Feedback



Home Planner **Scopes** Streaming Coding Standards Students Assessments



← Add and Subtract Fractions SAMPLE

Bookmark Scope +

Grade Topics Curriculum Areas
[Fifth Grade](#)

< Home Engage Explore Explain Elaborate Evaluate Intervene > All

Student Expectation

Use equivalent fractions as a strategy to add and subtract fractions.



visit [stemscopes.com/math](https://www.stemscopes.com/math) to learn more
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Essentials

Scope Overview	T
Content Unwrapped	T
Content Support	T
Materials List	T
Parent Letter	T

Embedded Digital Features

Tools for 21st-Century STEM Teaching

The STEMscopes digital platform is filled with embedded tools to make your students' learning easier and more interactive. From digital notebooks that allow students to draw on-screen to advanced note-taking tools, STEMscopes digital features work across any device, on any browser, at any time. Explore a few of our favorite features found in each of our 5E+IA scope modules below:

Decrease and Increase Font Size

Adjust the size on the screen for easier reading.

Text-to-Speech—Hear it Aloud

Activate read-aloud functions to support ELLs with their language development and reading comprehension. You can also change the speed and highlight the words as they are read.

Embedded Dictionary

Use the integrated dictionary to decipher new academic terms and vocabulary.

Annotations and Highlighting

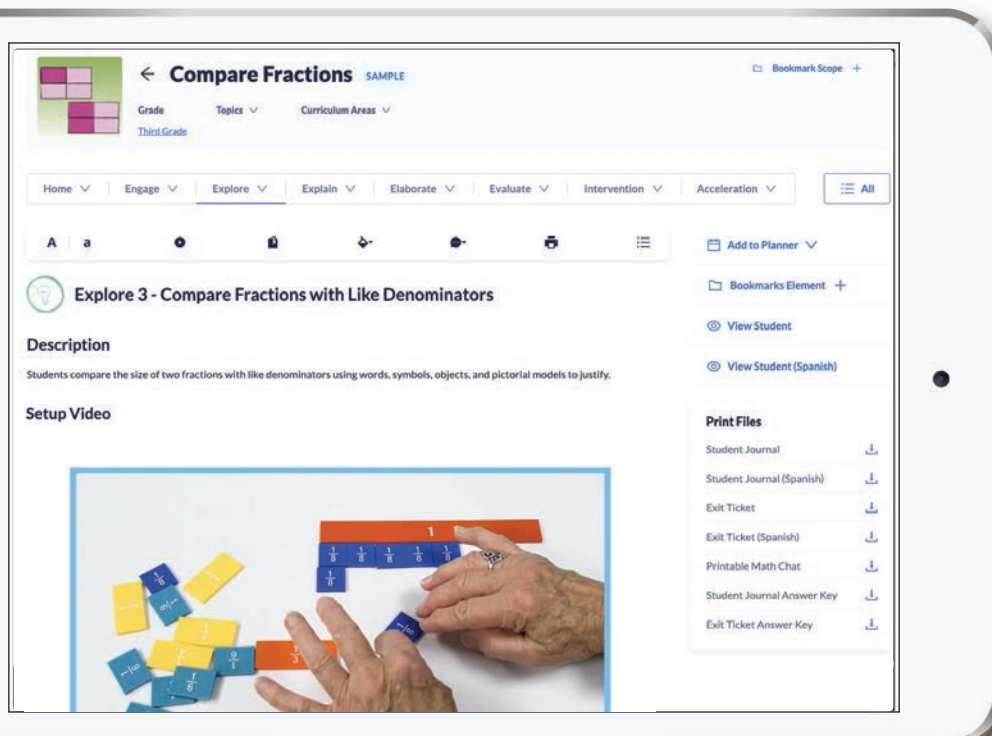
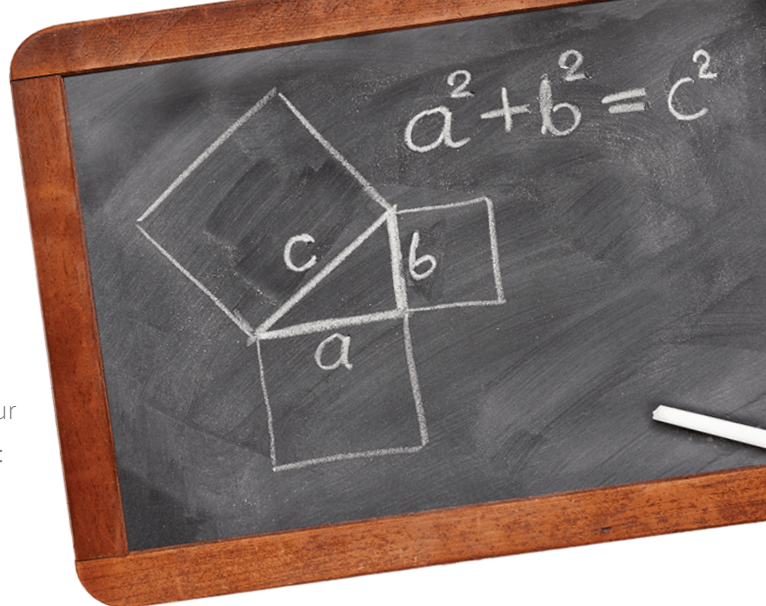
Students and teacher alike can add notes and highlighting to any on-screen text; teachers can see what students do.

Print Friendly Function

Instantly reformat on-screen text to streamline print, save on paper, and reduce ink volume.

Google Drive Integration and Editable Formats

Download editable versions of student and teacher resources in Spanish and English or push them to your Google Drive account for integration with Google Classroom.



www.stemscopes.com/math

Grade 4 Post-Assessment

Download Grades Edit View Class Results Archive

Submissions						Analytics	
Name	Submitted At	Time to Complete	Status	Quantile	Answers	Total	
Texas Math Student	Sep 6, 2019 10:04 am	2 minutes	Completed	240Q	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34	21	View Reset

Assessment Overview and Quantiles

For every grade level, STEMscopes Math includes unique pre-, post-, and progress monitoring assessments that correlate to a Quantile measurement for each student. Similar to Lexile reading levels but for math, this measurement can be used to determine a student's current level of proficiency and readiness for new content, and to help parents understand their child's learning progression.

In addition to these benchmark assessments, STEMscopes Math includes a wide variety of formative and summative assessments that can be used throughout the 5E+IA lesson cycle. An assessment bank is also available for custom test creation.

Assessments can be directly assigned to student accounts and completed on any device, tablet, or computer. Alternatively, teachers can print assessments on demand.

Underpinning all STEMscopes Math assessments is a robust student data system that allows you to group and organize students based on areas of content mastery, re-teaching needs, Quantile scores, and response to individual questions. Teachers can also provide individual feedback on each assessment question, view student annotations, and allow students to re-take assessments as needed.



Additional Assessment Available

- **Accessing Prior Knowledge**
Found in Engage
- **Math Story**
- **Interactive Practice**
Found in Elaborate
- **STAAR-Based Assessment**
- **Decide and Defend**
- **Skills Quiz**
Found in Evaluate

