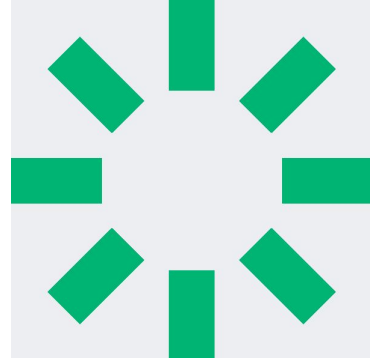


MATHia[®] + MATHstream[®]

Guidance for Educators



To Access MATHia & MATHstream

From your Carnegie Learning Portal

- Navigate to a class
- Click **View Materials**
- Select **The Clear Learning Center**

The screenshot displays the Carnegie Learning Portal for a High School Mathematics class. The interface includes a top navigation bar with the Carnegie Learning logo, the word 'Portal', and a user profile for a Teacher Supervisor. Below this, the 'High School' header is followed by a 'Mathematics' subject filter. A 'Classes' section shows one class, and a 'My Tools' section is visible. A search bar prompts the user to 'Search for a class...'. On the right, filters for 'Subject' (Mathematics) and 'Class Status' (Active) are shown. The main content area features a card for 'Algebra 1' by Bluebonnet Learning Secondary, with a 'View Materials' button. At the bottom, a 'MATERIAL LINKS' section contains two tiles: 'Clear Learning Center' (highlighted with a yellow box) and 'Digital Books'.

CARNEGIE LEARNING | Portal

Teacher Supervisor

High School

Mathematics

Classes 1 My Tools

Search for a class...

Filters: Subject Mathematics, ... Class Status Active

Algebra 1

Bluebonnet Learning Secondary
Mathematics Algebra 1

Teacher

View Materials

MATERIAL LINKS

CL Clear Learning Center
View courses and assignments

Digital Books
View and assign content

MATHia: Teacher Guidance

MATHia Scaffolds, Enrichment & Accommodations: Teacher Guidance

Scaffold & Enrichment opportunities are built into the structure of the program. Within each Topic, opportunities to re-engage with lesson content in MATHia are dispersed strategically between lessons. These opportunities provide students the time to complete the MATHia for each topic. Students who are ready can also work ahead in the topic or course.

Teachers can assign the workspaces at the topic-level or at the lesson-level.

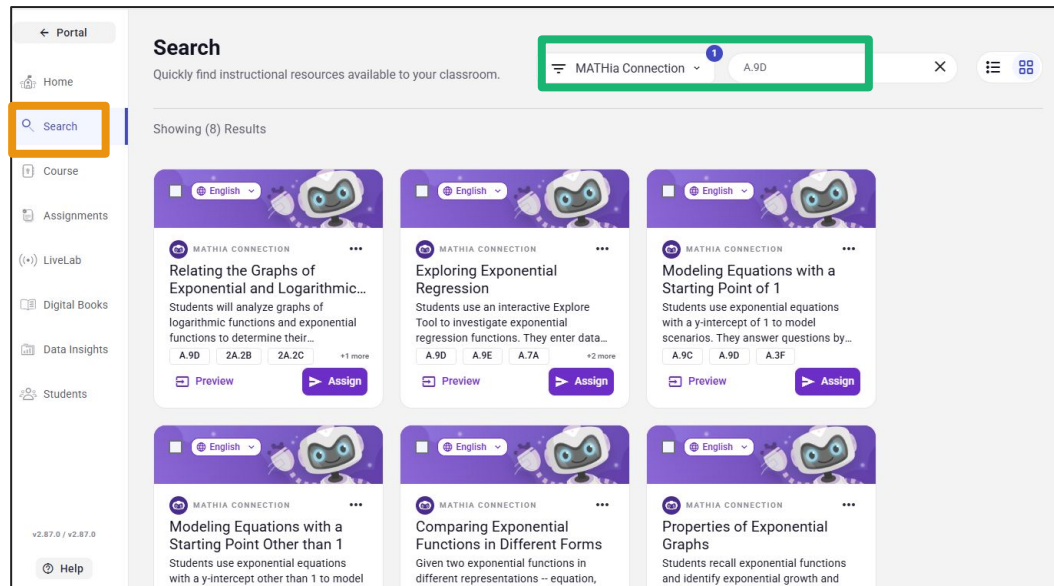
- To get started, select the desired **Module and Topic**
- To assign the MATHia workspaces for the entire topic, navigate to **Topic MATHia Adaptive Problem-Solving**
- To assign for smaller groups of lessons within the topic, select the **Re-Engaging with MATHia**
- Students can show both content flexibility and mastery of learning by responding to a range of question types in MATHia

Teachers can **Preview** the workspace before assigning.

The screenshot displays the Carnegie Learning MATHia interface. On the left is a navigation sidebar with options: Portal, Home, Search, Course (selected), Assignments, LiveLab, Digital Books, Data Insights, and Students. The main area is titled 'Course Overview' and shows a hierarchy: 'Module 1: Composing and Decomposing' (highlighted with a purple box), 'Module Planning Resources', 'Topic 1: Factors and Multiples' (highlighted with a purple box), and 'Topic Planning Resources'. Under 'Topic Planning Resources', 'Re-Engaging with MATHia 1' is highlighted with an orange box. Below this are lessons: 'Lesson 1: Writing Equivalent Expressions Using the...', 'Lesson 2: Identifying Common Factors and...', 'Lesson 3: Dividing a Whole into Fractional Parts', 'Lesson 4: Benchmark Fractions', 'Lesson 5: Multiplying Fractions', 'Lesson 6: Fraction by Fraction Division', and 'Re-Engaging with MATHia 2'. At the bottom of the main area, 'Topic MATHia Adaptive Problem-Solving' is highlighted with a blue box. On the right, a preview of the 'Topic MATHia Adaptive Problem-Solving' workspace is shown. It includes a header with 'Bluebonnet Learning Secondary Mathematics Grade 6 / Module 1: Composing and Decomposing', a 'STANDARDS COVERED' section with a Texas state flag and standards 6.7D, 6.8B, 6.7A, 5.4A, 6.3B, 7.3B, and 6.2E, and a 'Getting Started' section with a 'Preview' button (circled in black) and an 'Assign' button. Below this is another workspace preview titled 'Area of Triangles and Quadrilaterals' with a 'Preview' button (circled in black) and an 'Assign' button.

MATHia: Scaffolds & Enrichment

Using the **Search** feature, teachers can **search by keyword/standard** to identify MATHia workspaces and provide opportunities for students to extend learning in other courses and to provide necessary scaffolding for readiness skills.

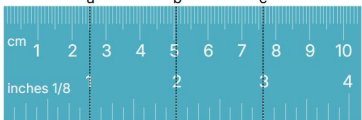


MATHia: Demonstration of Learning

Teachers can preview how students demonstrate flexibility in showing mastery through a variety of question types using different models and representations beyond multiple choice experiences.

Equivalent Ratios

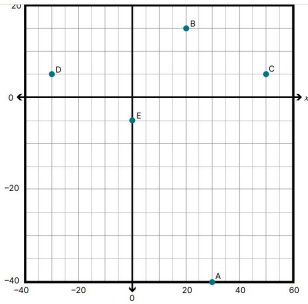
The ruler shows measures in centimeters, on top, and measures in inches, on bottom.



This ruler is an example of a double number line. A double number line is used to compare quantities by aligning the number lines at 0. The common ratio between the quantities is maintained throughout the double number line.

Preview Using Double Number Lines to Determine Equivalent Ratios

Preview Plotting Points



Point B (20 , 15)
Point C (50 , 5)
Point D (-30 , 5)
Point E (0 , -5)

Drag each point to identify the quadrant in which it lies.

Quadrant I
Point B Point C

Quadrant II
Point D

Quadrant III
Point E

Quadrant IV

Tools

inches : centimeter(s)


Divide both values by the number of inches at Segment c and rewrite the ratio.

Preview Exploring Box Plots

Exploring Box-and-Whisker Plots

Use this Explore Tool to investigate box-and-whisker plots.

This tool displays a box-and-whisker plot of a given data set. To use the tool, press up or down on the arrows to change the value of a data point. How does the box-and-whisker plot change when the value changes? Press Reset to return the box-and-whisker plot to its original state.

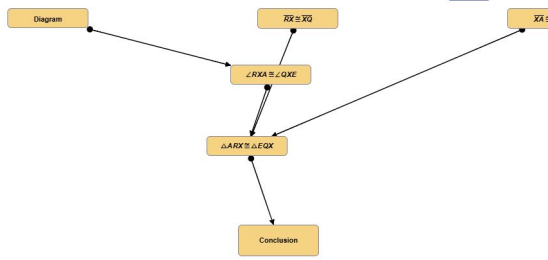


Minimum:
Q1:
Median:
Q3:
Maximum:

Investigate how the box-and-whisker plot changes when you change a value inside the box.

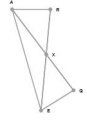
Change 60 to 66.

Diagram



Given the diagram below and the following statements:

- $RX \cong XQ$
- $\angle RXA \cong \angle QXE$
- Use the Side Angle Side (SAS) Congruence Theorem or the Side Side Side (SSS) Congruence Theorem to prove that $\triangle ARX \cong \triangle EQX$.



Arrange and connect the nodes to complete the flow chart proof. You can click the Organize button at any time to have the tutor automatically organize the nodes in the flow chart.

Then, create a two-column proof. Each node of the flow chart proof should appear as a row in the two-column proof.

Statement	Reason
$RX \cong XQ$	Given

MATHia: Self-Paced Learning

Students can track their progress in the problem and identify where they need support.

Skillometer

Skill Progress

Calculate the n th term of a sequence.

Classify a sequence.

Describe change in terms.

Enter symbolic pattern for first term.

Enter symbolic pattern for n th term.

Enter the term of a sequence.

Write an explicit formula for a sequence.

2 out of 7 skills mastered

CL

Writing Explicit Formulas

Consider the sequence whose first five terms are shown.

7, 7.2, 7.4, 7.6, 7.8, ...

Classify the sequence by completing the sentence.

Because the terms of the sequence (A) _____, the sequence is (B) _____.

(A)

- ☐ have a common difference
- ☐ have a common ratio
- ☐ are increasing
- ☐ are decreasing

(B)

- ☐ arithmetic
- ☐ geometric
- ☐ neither arithmetic nor geometric

Hints

Tools

Done

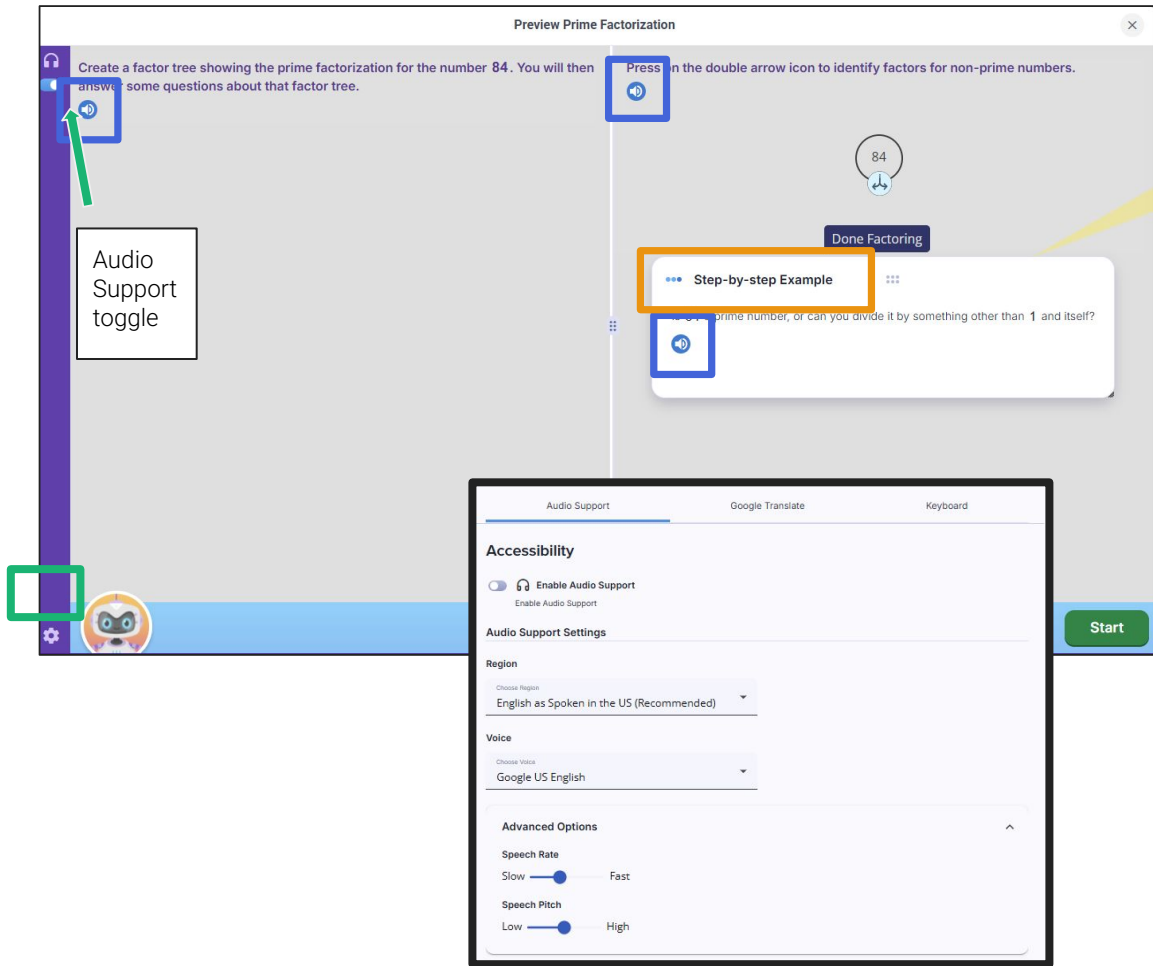
4 / 10.0.151 / 10.0.151

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MATHia: Student Preferences

These scaffolds are accessible to students in MATHia workspaces. Teacher can view them via the Teacher Workspace Preview:

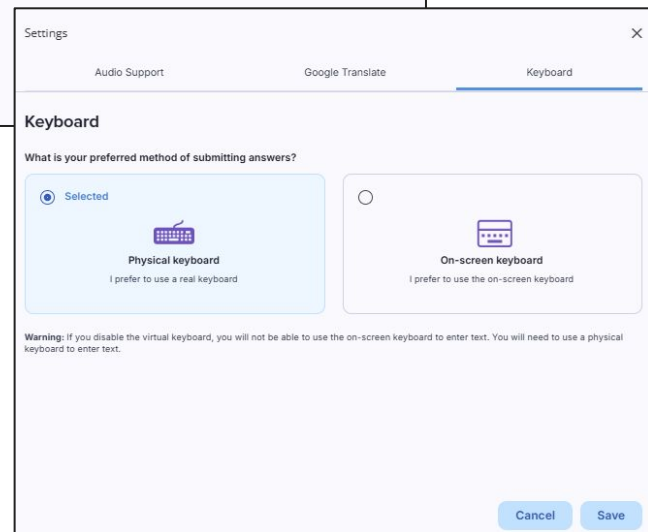
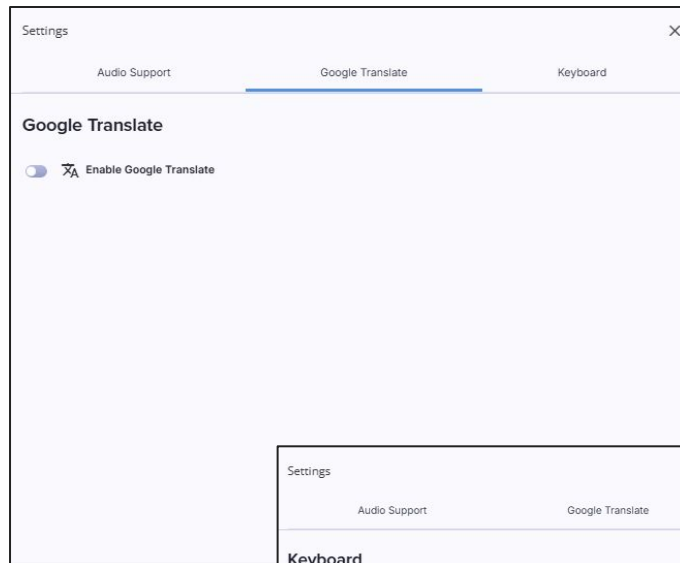
- **Step-by-step Examples** support students to connect key patterns, features, and relationships within the workspace.
- **Audio Support** provides text-to-speech functionality for students to make cross-linguistic connections through oral and written language. Additional Audio Support preferences can be enabled and adjusted via **Student Preferences**.



MATHia: Student Preferences

Within the Preferences menu, students can also:

- Enable **Google Translate** to make cross-linguistic connections and increase comprehension of academic vocabulary. These language supports meet the needs of individual students.
- Select between a physical or on-screen **Keyboard** to accommodate different student tools to meet their needs.



Previewing a Workspace: Student Scaffolds

These scaffolds are accessible to students in MATHia workspaces. Teachers can view them via the Teacher Workspace Preview. They can also project the MATHia workspace to the whole class to support academic vocabulary development and demonstrate the use of instructional scaffolds.

- Glossary**, which is available in Spanish and English and accessible at any time via Tools, supports students as they develop academic vocabulary, increasing comprehension and build background knowledge.
- Key Terms** are highlighted throughout workspaces and hyperlinked to the glossary at the point of use for students and teachers

The screenshot displays the MATHia workspace interface. On the left, a sidebar contains icons for navigation and tools. The main content area is titled "Reading a Double Number Line" and includes a problem about snowboarding. The problem text states: "You are snowboarding with your friends. To get to the top of the slope, you have to take a ski lift. The ski lift travels at a rate of 50 feet per second." The word "rate" is highlighted in orange, and an orange arrow points from it to the "rate" entry in the glossary. The glossary is a pop-up window titled "Glossary" with a search bar and a list of terms. The "rate" entry is selected, showing its definition: "A rate is a ratio in which the two quantities that are being compared are measured in different units." and an example: "A car uses 20 gallons of gasoline to drive 600 miles. The car's fuel consumption rate is $\frac{600 \text{ miles}}{20 \text{ gallons}} = \frac{30 \text{ miles}}{1 \text{ gallon}}$ or 30 miles per gallon." Below the glossary, a double number line is shown with two parallel horizontal lines. The top line is labeled "Distance (feet)" and has tick marks at 0, 25, 50, 100, 150, 200, 250, 300, and 350. The bottom line is labeled "Time (seconds)" and has tick marks at 0, 2, 4, 8, 12, 16, 20, 24, and 28. Vertical dashed lines connect the tick marks on the two lines. A green box highlights the "Glossary" button in the bottom right corner of the workspace. At the bottom of the workspace, there are buttons for "Hints", "Solve for me", "Tools", and "Done".

Previewing a Workspace: Student Scaffolds

These scaffolds are accessible to students in MATHia workspaces. Teachers can view them via the Teacher Workspace Preview.

- Videos** provide multiple means of representation and engagement. They included closed captioning to support students in making cross-linguistic connections as they watch and rewatch as often as needed.
- Hints** to support learners in selecting the most efficient approaches when solving problems. They provide explicit guidance for students as needed, either on demand or just-in-time.

Preview Multiplying by Fractions to Increase or Decrease Quantities

Multiplying to Increase and Decrease Whole Numbers

This animation shows how multiplying by a fraction can increase a quantity, decrease a quantity, or keep a quantity the same.

quantities greater than 0

0:00 / 1:10

As you answer each question, you can rewatch the video as many times as you need.

Watch the animation. Then describe the fraction needed to make each statement true.

$8 \times \text{[dropdown]} = 2$

$6 \times \text{[dropdown]} = 9$

$5 \times \text{[dropdown]} = 5$

Hint

Describe the fraction needed to make the statement $8 \times \text{fraction} = 2$ true.

Hint 1 of 3

Next →

Tools

Done

Solve for me

Hints

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Previewing a Workspace: Student Scaffolds

These scaffolds are accessible to students in MATHia workspaces. Teachers can view them via the Teacher Workspace Preview.

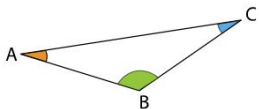
- **Auto Calculation Tool** is available inside the text field for certain problems. Students can use their keypad to enter an expression into the text field.
- **Expression Editor** is available for more complex problems by selecting the down arrow in the text field.

These scaffolds help advanced students identify patterns and support students who have not yet reached proficiency in prerequisite fluency skills engage in grade-level mathematics.

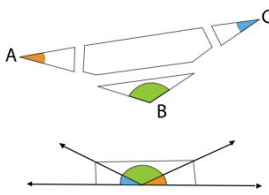
Preview Triangle Properties and Triangle Sum Theorem

Analyzing Angles of Triangles

The diagram shows $\triangle ABC$.



Now consider cutting off the corners of $\triangle ABC$ and arranging the angles of the triangle so that they are adjacent angles.



Analyze the diagram. Then complete each statement.

When the angles of $\triangle ABC$ are arranged as adjacent angles, the three angles form a **straight line**.

The angle measure of a straight line is 180° .

$m\angle A + m\angle B + m\angle C = 180$

The **Triangle Sum Theorem** states that the sum of the measures of the interior angles of a triangle is 180° .

Complete the equation to determine the measure of $\angle B$.


$m\angle B = 180^\circ - (m\angle A + m\angle C)$

If $m\angle A = 40^\circ$ and $m\angle C = 35^\circ$, what is $m\angle B$?

$m\angle B = 180 - 40 - 35$

Expression Editor

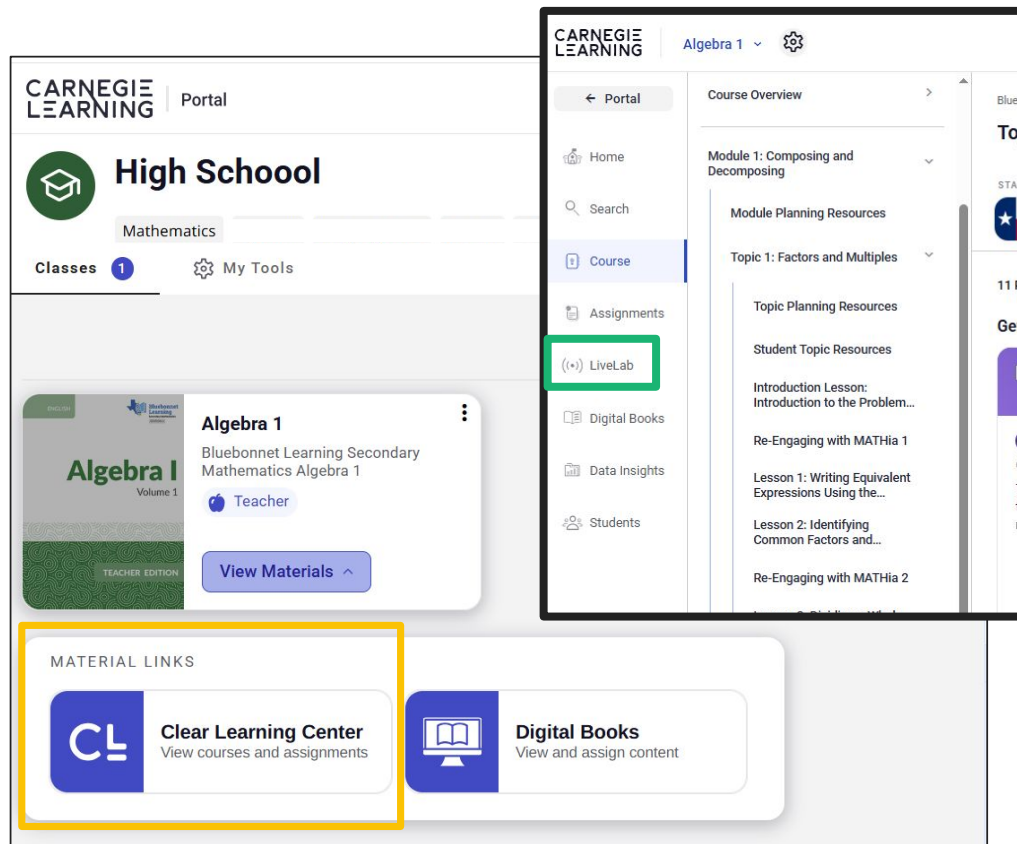
$\frac{x}{y}$	\sqrt{x}	$\sqrt[n]{x}$	x^2
(x)	π	$ x $	$\log(x)$
$\log(x/y)$	\leq	\geq	\div


Hints
Solve for me
Tools
Done

Using LiveLab to Support Learners: The Teacher's Guide

To access LiveLab from your Carnegie Learning Portal:

- Navigate to a class
- Click **View Materials**
- Select **Clear Learning Center**
- Select **LiveLab** from the left panel in the Clear Learning Center



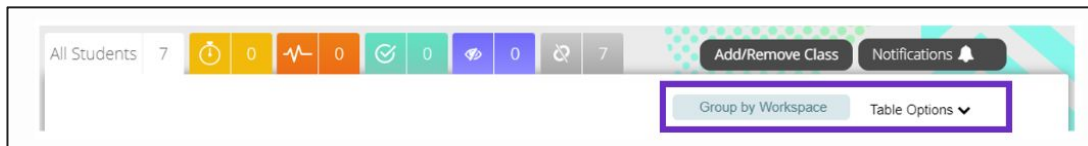
Using LiveLab to Support Learners: The Teacher's Guide

LiveLab is Carnegie Learning's live facilitation tool that empowers teachers with in-the-moment, actionable data. It is available after teachers have signed in while students are working in MATHia.

LiveLab notifications allow teachers to recognize students progressing through their content or help those who are unable to master specific skills or complete certain activities.

Clicking on Group by Workspace will arrange students by their current workspace, allowing you to easily support multiple students at a time.

Clicking on Table Options in the upper right corner of the LiveLab screen allows you to prioritize At-Risk Students.



Using LiveLab to Support Learners: The Teacher's Guide

Idle

Students who are signed in but have had zero activity in the last 5 minutes



Monitor

Students who are in need of teacher support, relative to the rest of the class



Working

Students who are actively working through assigned MATHia workspaces



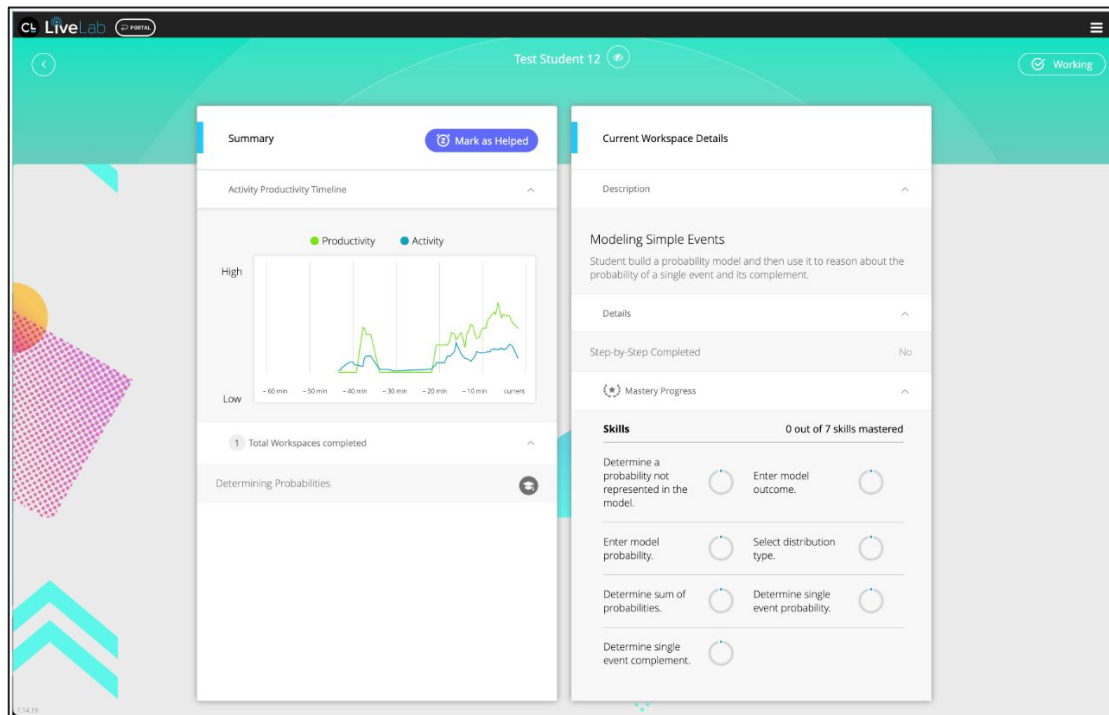
Offline

Students who are not currently logged in to MATHia



Using LiveLab to Support Learners: The Teacher's Guide

Click on any student's name to see a more detailed view of the work they've completed in MATHia during the session.



MATHstream: Teacher Guidance

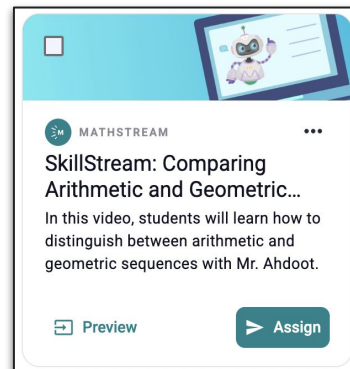
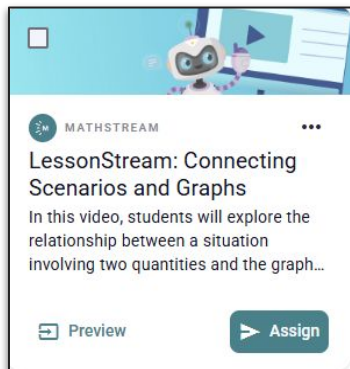
Initial Instruction vs. Re-Engagement

LessonStreams

- Initial Instruction
- Aligned to MATHbook Lessons/Activities (shares problems with textbook)
- **Best for:** Absent students, substitute days, or days when a math subject matter expert isn't in the classroom.
- **Located:** At the lesson level in the Course tree

SkillStreams

- Readiness and Re-Engagement
- Smaller chunks of content than LessonStreams
- **Best for:** Students needing support with readiness standards or re-engaging in content
- **Located:** In Intervention Resources at the Topic Level in the Digital Course



LessonStreams

Enrichment is built into the structure of the program and organized for convenient implementation. LessonStreams aligned to the lesson content are located at the lesson level.

- To get started, select the desired **Module and Topic**
- Navigate to and select the desired **Lesson**
- Within the lesson page, scroll down to **MATHstream Interactive Videos**

Teachers can **Preview** the LessonStream before assigning.

The screenshot displays the Carnegie Learning Algebra 1 interface. On the left is a sidebar with navigation options: Portal, Home, Search, Course (selected), Assignments, LiveLab, Digital Books, Data Insights, and Students. The main area is titled 'Course Navigator' and shows the course structure for 'Bluebonnet Learning Secondary Mathematics Algebra 1'. It includes sections for Program Overview, Course Overview, and Module 1: Searching For Patterns. Under Module 1, there are sections for Module Planning Resources, Topic 1: Quantities and Relationships, Topic Planning Resources, Student Topic Resources, and an Introduction Lesson. The 'Lesson 1: Understanding Quantities and Their...' is highlighted with a green box. Below this, there are sections for Re-Engaging with MATHia 1 and 2, and Lesson 2 and 3. At the bottom of the sidebar, there is a version number 'v2.83.7 / v2.83.1' and a 'Help' button. The right side of the interface shows the 'Lesson 1: Understanding Quantities and Their...' page. It includes a description of the lesson, a 'STANDARDS COVERED' section with a Texas state flag and codes A.9D, A.3C, A.7A, A.2A, 8.3A, and 8.8C, and a 'Preview' button. Below this is a 'MATHstream Interactive Videos' section with a video player and a 'Preview' button. At the bottom, there is a 'Skills Practice' section.

CARNEGIE LEARNING Algebra I

← Portal Course Navigator

Bluebonnet Learning Secondary Mathematics Algebra 1

Program Overview >

Course Overview >

Module 1: Searching For Patterns

Module Planning Resources

Topic 1: Quantities and Relationships

Topic Planning Resources

Student Topic Resources

Introduction Lesson: Introduction to the Problem...

Re-Engaging with MATHia 1

Lesson 1: Understanding Quantities and Their...

Re-Engaging with MATHia 2

Lesson 2: Analyzing and Sorting Graphs

Lesson 3: Recognizing

v2.83.7 / v2.83.1

Help

Bluebonnet Learning Secondary Mathematics Algebra 1 / Module 1: Searching For

Lesson 1: Understanding Quantities and Their

Students are presented with various scenarios and identify the independent and scale for the axes. Students make basic observations about the similarities and

STANDARDS COVERED

A.9D A.3C A.7A A.2A 8.3A 8.8C

A.9D A.3C A.7A A.3C A.2A

Preview Assign Preview

MATHstream Interactive Videos

LessonStream: Connecting Scenarios and Graphs

In this video, students will explore the relationship between a situation involving two quantities and the graph...

Preview Assign

Skills Practice

SkillStreams

SkillStreams focus on smaller chunks of content than LessonStreams. Teachers can use them for intervention and support with specific skills, providing students with support on readiness standards or in re-engaging with content.

- To get started, select the desired **Module and Topic**
- Scroll down to **MATHstream for Targeted Support**
- Select the desired **SkillStream**

Teachers can **Preview** the SkillStream before assigning.

The screenshot displays the Carnegie Learning Algebra I interface. On the left is a navigation sidebar with links to Portal, Home, Search, Course (highlighted), Assignments, LiveLab, Digital Books, Data Insights, and Students. The main content area is titled 'Module 1: Searching For Patterns'. A purple box highlights 'Module Planning Resources' and 'Topic 1: Quantities and Relationships'. Below this, a list of resources is shown, including 'Lesson 1: Understanding Quantities and Their...'. At the bottom of the sidebar, a green box highlights 'MATHstream for Targeted Support'. On the right, the 'MATHstream for Targeted Support' page is shown, featuring a Texas state flag and 'A.2A' standard. A list of 3 resources is displayed, with one resource titled 'SkillStream: Characteristics of a Graph in Context' highlighted by an orange box. This resource card includes a 'Preview' button (highlighted by a blue box) and an 'Assign' button.

Previewing a MATHstream: Student Scaffolds

These scaffolds are accessible to students in MATHstream. Teachers can view them via the Teacher MATHstream Preview.

- **English/Spanish Language Captions**
- Just in Time **TutorBot Hints**
- Recorded instructor-led explorations

The screenshot displays a MATHstream interface. On the left, a 'Tutorbot hints' panel shows a hint: 'Graphs can be a smooth curve or can be composed of one or more straight lines.' with a timestamp of 08:08. The main screen shows a Venn diagram with two overlapping circles. A teacher is pointing at the diagram. Text on the screen includes 'one or more straight lines' and 'passes through the origin'. A caption bar at the bottom reads 'right there.' and a language selection menu shows 'English', 'Spanish', and 'Off'.

MATHstream: Detailed View

Teachers can **View Details** for each MATHstream by clicking on the **three dots**. The details pop out provides:

- Full **Description** of the stream
- **Activity Type**: LessonStream or SkillStream
- **TEKS** addressed in the selected MATHstream

The image shows a screenshot of the MATHstream interface. On the left, a list of lesson cards is visible. The top card is titled "Lesson 3: Recognizing Functions and Families" and includes a "three dots" menu icon highlighted with an orange box. On the right, the detailed view of this lesson is shown. It features a header with the MATHstream logo and a close button. Below the header, the lesson title is repeated. The details are organized into sections: "DESCRIPTION" (highlighted with a green box), "ACTIVITY TYPE" (highlighted with a blue box), "TEXAS ESSENTIAL KNOWLEDGE AND SKILLS (TEKS)" (highlighted with a purple box), and "ATTRIBUTES" (highlighted with a light blue box). The "DESCRIPTION" section contains text about analyzing linear piecewise functions. The "ACTIVITY TYPE" section lists "LessonStream". The "TEKS" section lists "A.2A" and "A.12A". The "ATTRIBUTES" section lists "Auto Evaluate". At the bottom of the detailed view, there are "Preview" and "Assign" buttons.

Bluebonnet Learning Secondary Mathematics Algebra 1 / Module 1: Sequences

Lesson 3: Recognizing Functions and Families

The definitions function and function notation are introduced in this lesson. Students will learn how to connect equations written in function forms to their graphs and then identify the function from its graph.

STANDARDS COVERED ⓘ

A.9A A.9D A.3C A.6A A.2A

MATHstream Interactive Videos

MATHSTREAM

LessonStream: Recognizing Function Families and...

In this video, students will analyze linear piecewise functions and graph functions using given intercepts with Mr. Ahdoot.

A.2A A.12A

Preview Assign

MATHSTREAM

LessonStream: Recognizing Function Families and Graphing Functions Using Intercepts

DESCRIPTION

In this video, students will analyze linear piecewise functions and graph functions using given intercepts with Mr. Ahdoot.

ACTIVITY TYPE

LessonStream

TEXAS ESSENTIAL KNOWLEDGE AND SKILLS (TEKS)

A.2A A.12A

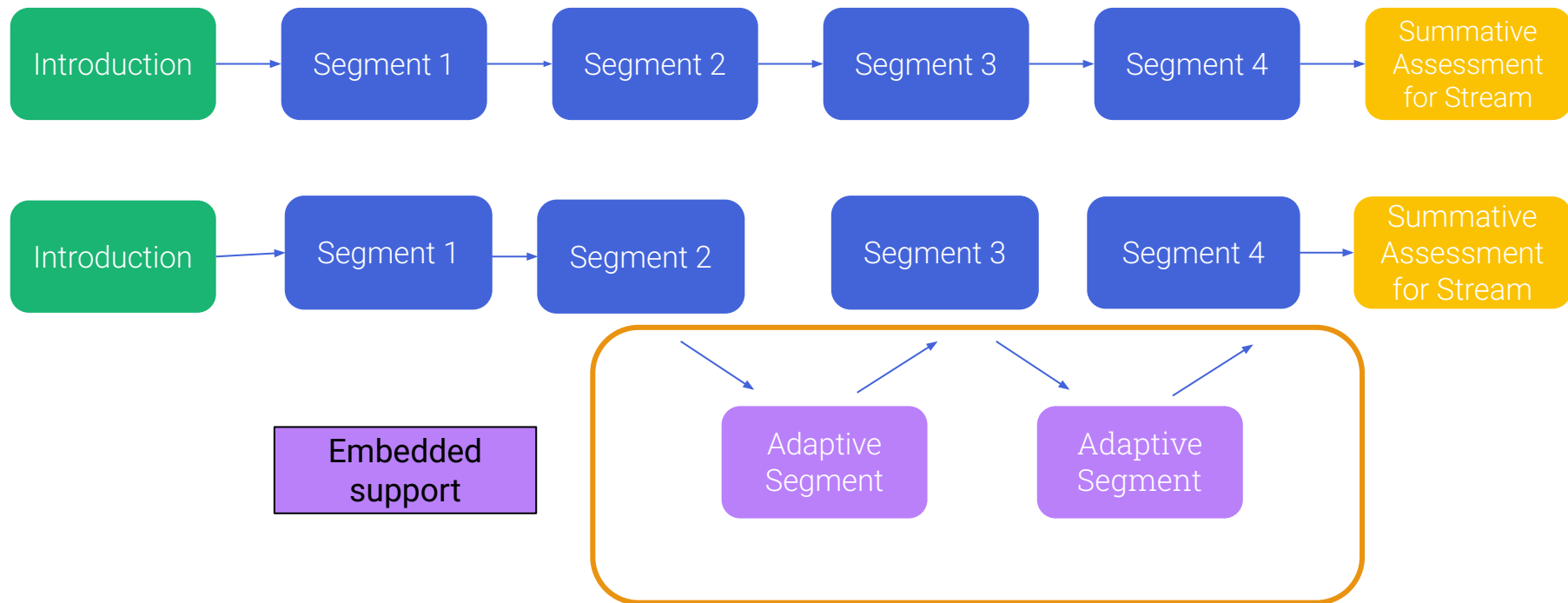
ATTRIBUTES

Auto Evaluate

Preview Assign

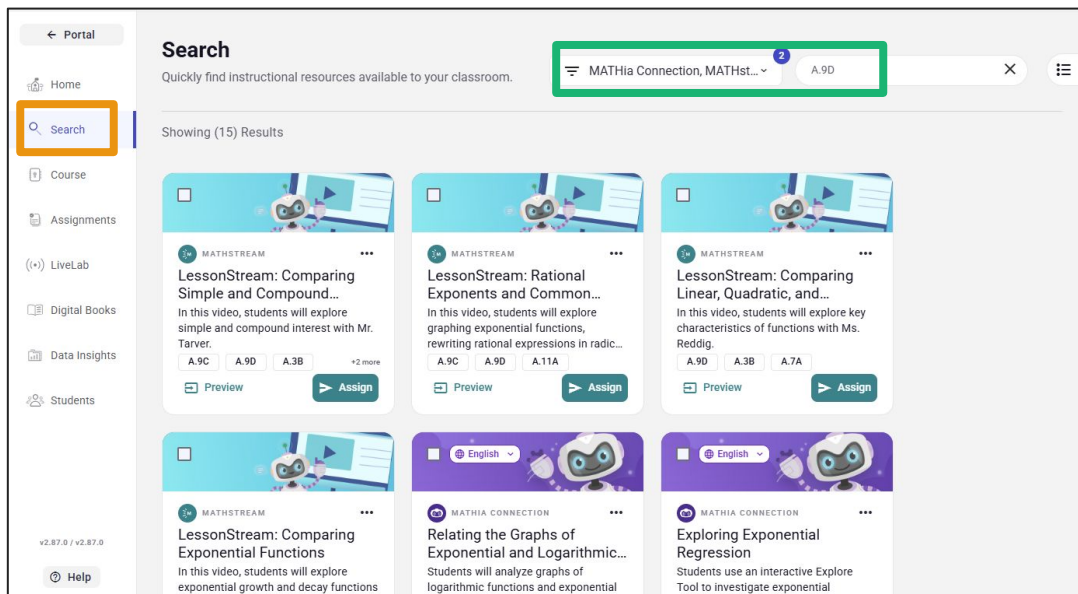
MATHstream Adaptation

Adaptation to students' needs is implemented automatically as needed:



MATHstream Scaffolds

Using the **Search** feature, teachers can **search by keyword/standard** to identify MATHstreams and provide necessary scaffolding for readiness skills.

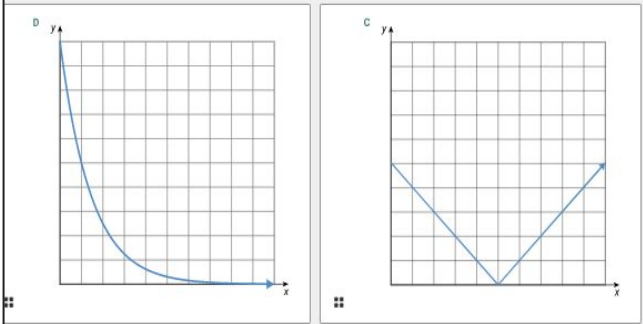


MATHstream Scaffolds

Hints support students in selecting the most efficient approaches when solving problems, providing explicit guidance for students.

aphs : 20 coins

graph.



eces and
s with a 20
f the halves
ss until he



n the air so
s gives her
ton when it



Question Hint



Begin by determining which quantity is the dependent quantity and which is the independent quantity. Then, think about how the dependent quantity changes as the independent quantity

Need another hint?

Yes, please

Previous hint