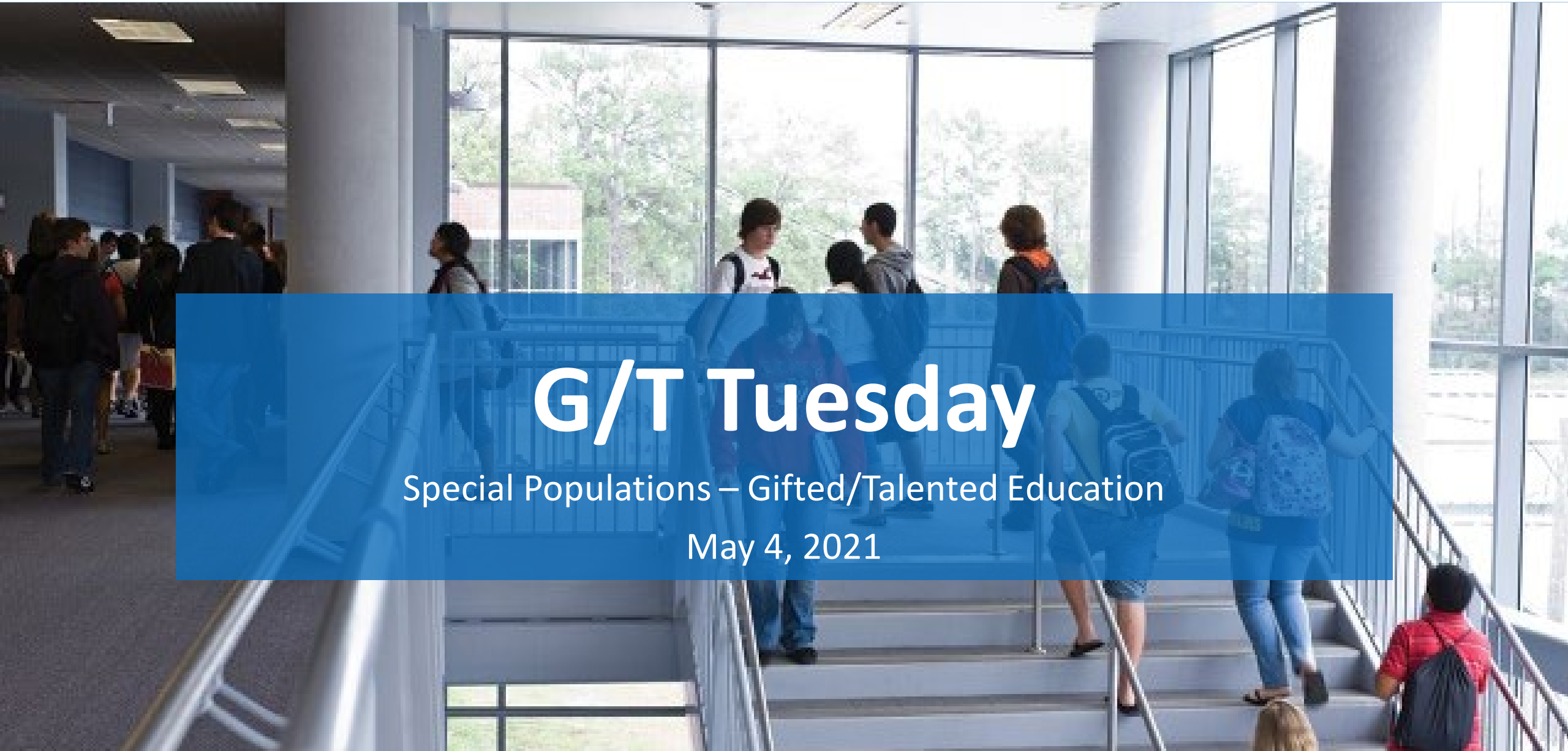

G/T Tuesday

Special Populations – Gifted/Talented Education

May 4, 2021

Agenda

- G/T Information
- Texas Home Learning
- COVID Recovery Instructional Materials Support Initiative
- Question/Answer

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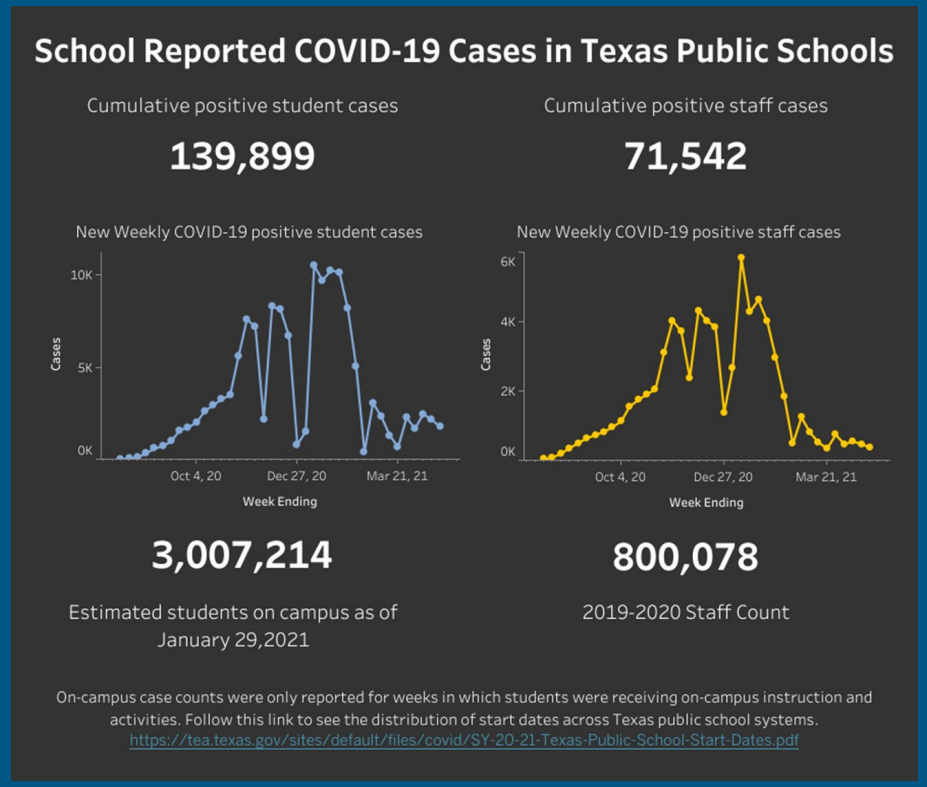
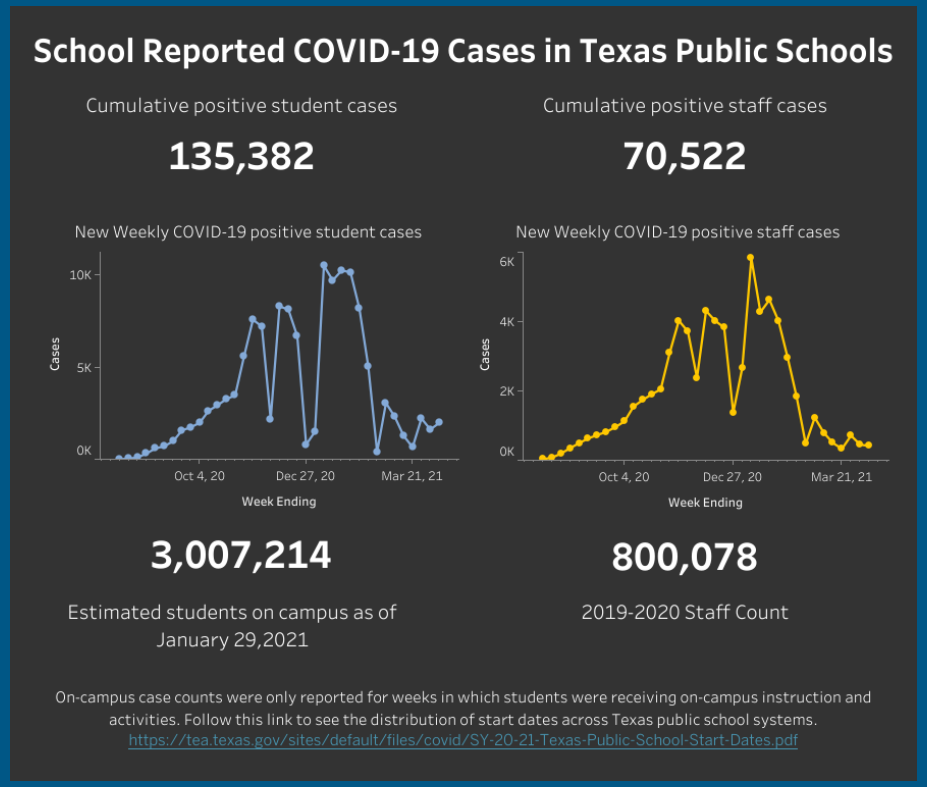
Texas Public Schools COVID-19 Data

5/4/2021



4/20/2021



https://dshs.texas.gov/coronavirus/schools/texas-education-agency/

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Wellness Check

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TEA - Coronavirus (COVID-19) - Guidance

Main Page

- https://tea.texas.gov/texas-schools/health-safety-discipline/coronavirus-covid-19-support-and-guidance

Instructional Continuity Planning

- https://tea.texas.gov/texas-schools/health-safety-discipline/instructional-continuity-planning

SPED and Special Populations

- https://tea.texas.gov/texas-schools/health-safety-discipline/special-education-and-special-populations

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Spring 2021 G/T Tuesday

- In 2021, participants must register in advance for the meetings. The links below are the Spring registration links for the G/T Tuesdays.

Morning Edition @ 9:00 am starting at 1/5/2021

- https://us02web.zoom.us/meeting/register/tZwsduChpz8jHdYl-0uCzYcOzmQV72ltl261

Afternoon Edition @ 1:00 pm starting at 1/19/2021

- https://us02web.zoom.us/meeting/register/tZckdeGppjwqHt0U1UHwtq3kcjkzVzwXd7tM

- After registering, you will receive a confirmation email containing information about joining the meeting.

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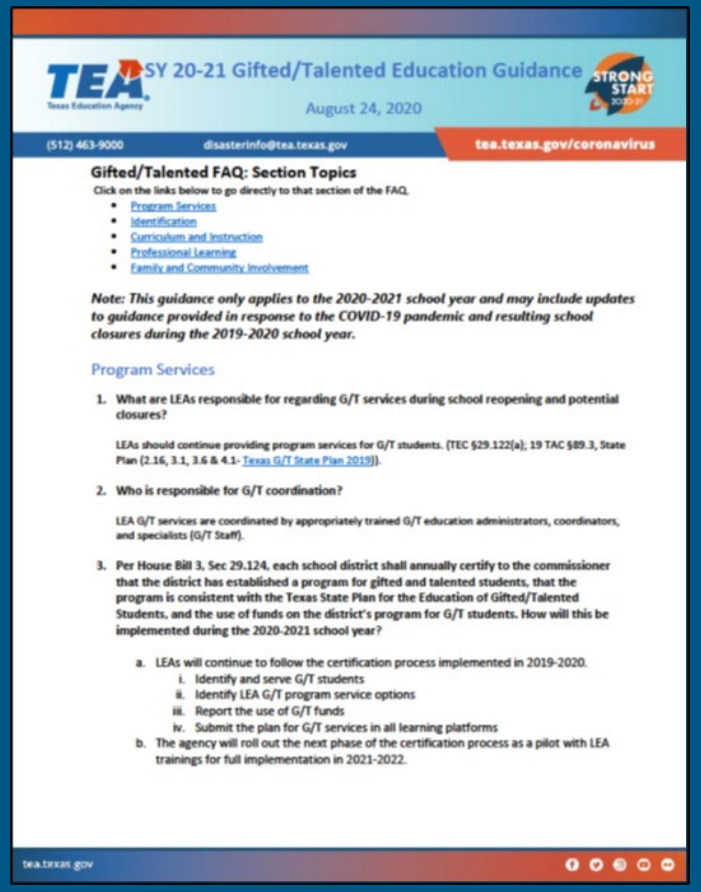
Gifted/Talented Guidance



TEA Texas Education Agency

SY 20-21 Gifted/Talented Education Guidance

August 24, 2020

STRONG START 2020-21

(512) 463-9000 disasterinfo@tea.texas.gov tea.texas.gov/coronavirus

Gifted/Talented FAQ: Section Topics

Click on the links below to go directly to that section of the FAQ.

- Program Services
- Identification
- Curriculum and Instruction
- Professional Learning
- Family and Community Involvement

Note: This guidance only applies to the 2020-2021 school year and may include updates to guidance provided in response to the COVID-19 pandemic and resulting school closures during the 2019-2020 school year.

Program Services

1. **What are LEAs responsible for regarding G/T services during school reopening and potential closures?**

   LEAs should continue providing program services for G/T students. (TEC §29.122(a); 19 TAC §89.3, State Plan (2.16, 3.1, 3.6 & 4.1- Texas G/T State Plan 2019)).

2. **Who is responsible for G/T coordination?**

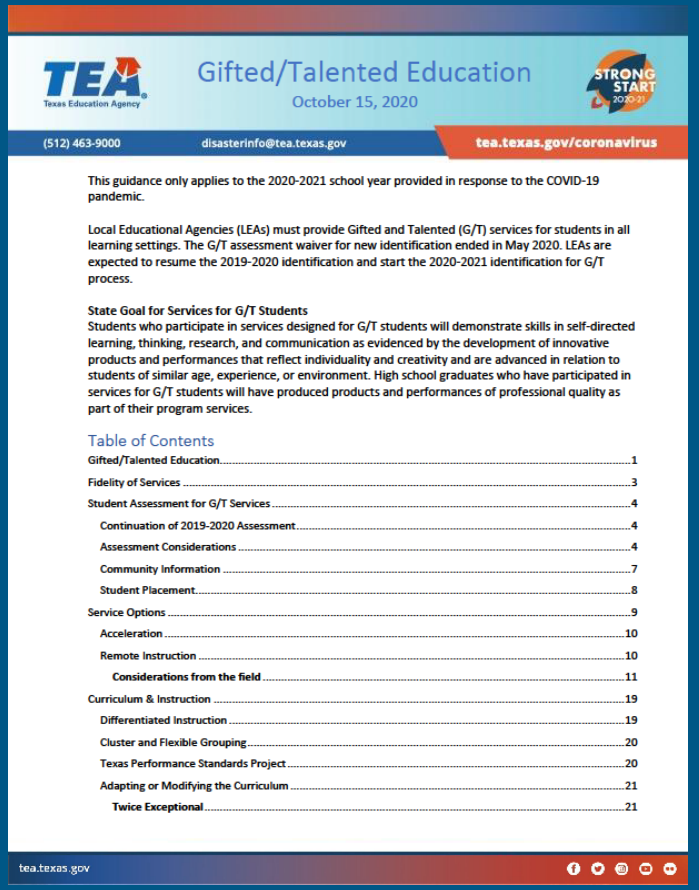
   LEA G/T services are coordinated by appropriately trained G/T education administrators, coordinators, and specialists (G/T Staff).

3. **Per House Bill 3, Sec 29.124, each school district shall annually certify to the commissioner that the district has established a program for gifted and talented students, that the program is consistent with the Texas State Plan for the Education of Gifted/Talented Students, and the use of funds on the district's program for G/T students. How will this be implemented during the 2020-2021 school year?**

   a. LEAs will continue to follow the certification process implemented in 2019-2020.
      i. Identify and serve G/T students
      ii. Identify LEA G/T program service options
      iii. Report the use of G/T funds
      iv. Submit the plan for G/T services in all learning platforms
   b. The agency will roll out the next phase of the certification process as a pilot with LEA trainings for full implementation in 2021-2022.

tea.texas.gov

If you have further questions, please submit them to disasterinfo@tea.Texas.gov and monica.brewer@tea.Texas.gov



TEA Texas Education Agency

Gifted/Talented Education

October 15, 2020

STRONG START 2020-21

(512) 463-9000 disasterinfo@tea.texas.gov tea.texas.gov/coronavirus

This guidance only applies to the 2020-2021 school year provided in response to the COVID-19 pandemic.

Local Educational Agencies (LEAs) must provide Gifted and Talented (G/T) services for students in all learning settings. The G/T assessment waiver for new identification ended in May 2020. LEAs are expected to resume the 2019-2020 identification and start the 2020-2021 identification for G/T process.

State Goal for Services for G/T Students
Students who participate in services designed for G/T students will demonstrate skills in self-directed learning, thinking, research, and communication as evidenced by the development of innovative products and performances that reflect individuality and creativity and are advanced in relation to students of similar age, experience, or environment. High school graduates who have participated in services for G/T students will have produced products and performances of professional quality as part of their program services.

Table of Contents

Gifted/Talented Education 1
Fidelity of Services 3
Student Assessment for G/T Services 4
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Differentiated Instruction 19
Cluster and Flexible Grouping 20
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Adapting or Modifying the Curriculum 21
Twice Exceptional 21

tea.texas.gov

https://tea.texas.gov/sites/default/files/covid/SY-20-21-GT-Guidance.pdf

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How to get announcements

https://public.govdelivery.com/accounts/TXTEA/subscriber/new

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State Definition

The State definition: "…gifted and talented students" means: a child or youth who performs at or shows the potential for performing at a remarkably high level of accomplishment when compared to others of the same age, experience, or environment and who:

- Exhibits high performance capability in an intellectual, creative, or artistic area,
- Possess an unusual capacity for leadership, or
- Excels in a specific academic field.

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State Goal for Gifted/Talented

Students who participate in services designed for gifted/talented students will demonstrate skills in self-directed learning, thinking, research and communication as evidenced by the development of innovative products and performances that reflect individuality and creativity and are advanced in relation to students of similar age, experience, or environment. High school graduates who have participated in services for gifted/talented students will have produced products and performances of professional quality as part of their program services.

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Curriculum and Instruction

Districts meet the needs of gifted/talented students by modifying the depth, complexity, and pacing of the curriculum and instruction ordinarily provided by the school.

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Texas Home Learning

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GETTING STARTED WITH CARNEGIE LEARNING TEXAS MATH SOLUTION

May 5, 2021

Agenda

- THL 3.0 Instructional Materials
- Carnegie Learning Texas Math Solution
  - Comprehensive Blended Math Solution
  - Module 1 Walkthrough
  - MATHia
- Integration
- Get Started Today
- Q & A

Reminder: THL 3.0 is an optional, aligned suite of resources that educators can use fully or in-part in the new learning environment

Texas Home Learning 3.0

INSTRUCTIONAL MATERIALS

PreK-12 digitized, standards-aligned curricular content customized for Texas and the current learning environment

TECHNOLOGY

Suite of technology tools including a learning management system to support student engagement and instructional collaboration

PROFESSIONAL DEVELOPMENT

Content and technology focused professional development to support educators with implementation both in classroom and remote settings

Districts may optionally adopt none, part, or all of any of the three components above

Why focus on instructional materials?

A growing body of research demonstrates student achievement increases when students are provided with high quality instructional materials that:

- Provide consistent opportunities to work on assignments aligned to grade-level standards
- Support strong instruction to ensure students are deeply engaged with what they are learning
- Include guidance to help teachers meaningfully differentiate for all students, including those with unfinished learning
- Help teachers set high expectations for students to meet grade-level standards

Reminder: Carnegie Learning is the THL 6-12 Math Product

TEXAS MATH SOLUTION

Included in THL Carnegie Learning Texas 6 – 12 Math Solution

Includes all Components:

Unit plans and daily **lesson plans aligned to Texas standards**

- Daily teacher lesson plans, student materials, and assessments, with guidance for remote learning

Teacher, **student**, and **family** supports

- Family guides
- Teacher implementation supports

Digital format with **printing** capability

- Instructional materials available digitally and in print
- MATHia software

Accessibility supports for **all learners**

- Student-facing materials in Spanish
- Text-to-Speech
- Just-in-Time Hints

Formative & **summative** unit assessments

- Built-in daily formative assessments in MATHia
- Lesson level quizzes

Built in **progress monitoring**

- Mid-topic assessments for longer units to support progress monitoring
- Real-time feedback from MATHia through teacher dashboard

Overview of THL Implementation Webinar Series

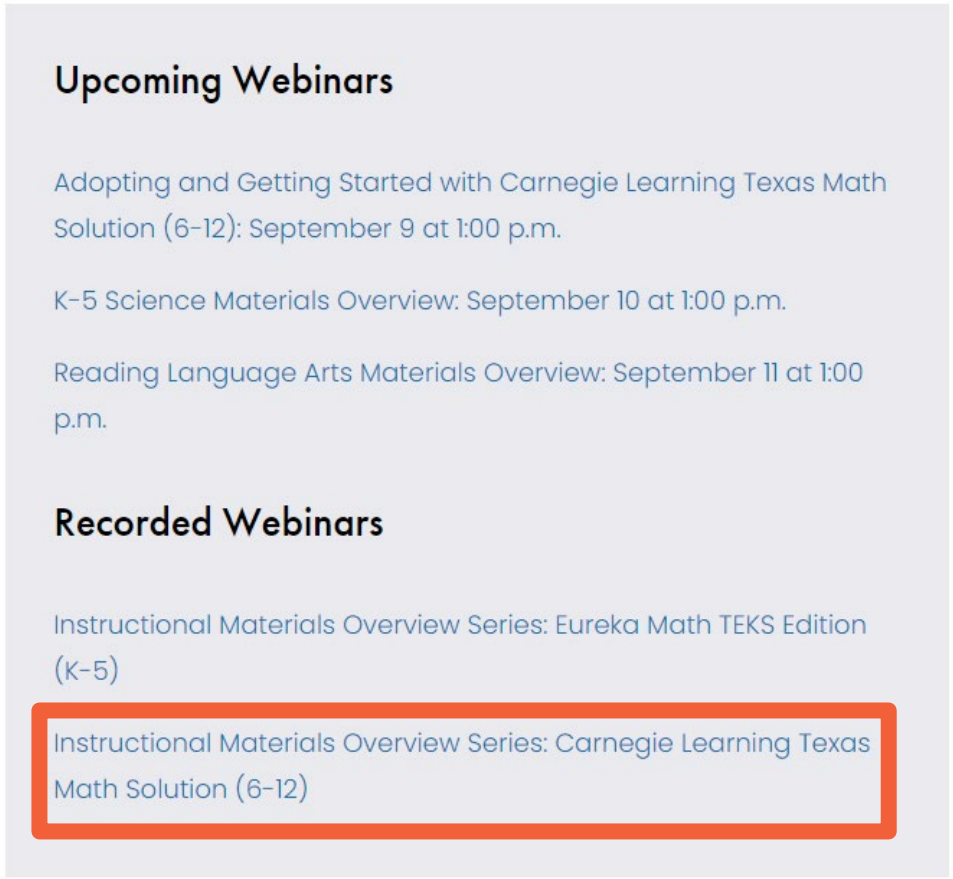
Onboarding Training Series

Adapt/Adopt Remote Curriculum	Product Specific Adoption	Product & Stakeholder Specific Onboarding	Technology Supports
• Webinar series completed • Materials available on the TEA website Strong Start Page	• Product information to provide districts with information to support product specific adoption decisions.	• **WE ARE HERE!** • Additional product information will be provided for different users interested in adopting each product	• Additional product information will be provided to help users understand how technology supports can enhance each product

TEA is developing the following four webinar series to support implementation of THL resources.

Existing Resources

www.texashomelearning.org



Upcoming Webinars

Adopting and Getting Started with Carnegie Learning Texas Math Solution (6-12): September 9 at 1:00 p.m.

K-5 Science Materials Overview: September 10 at 1:00 p.m.

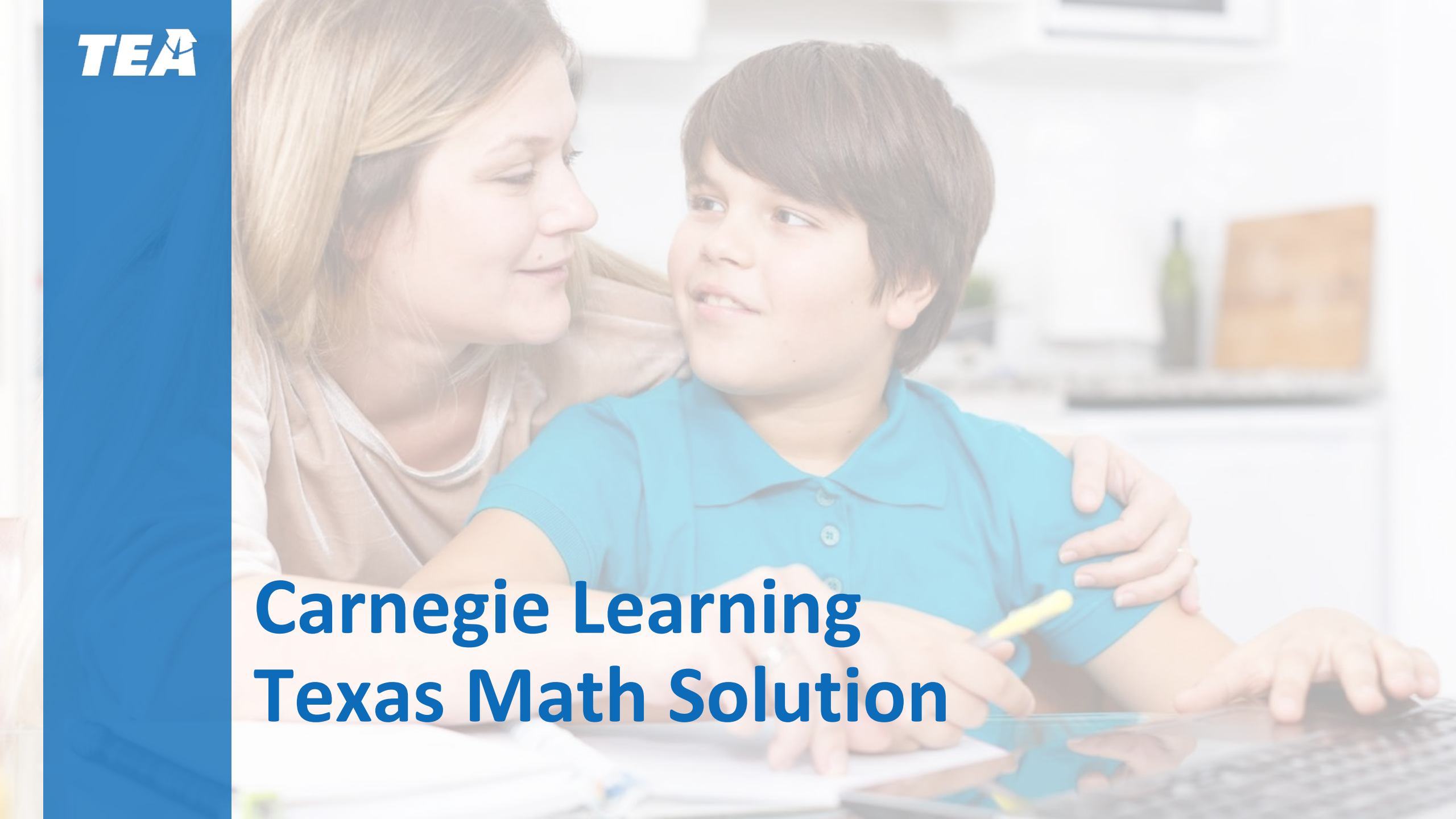
Reading Language Arts Materials Overview: September 11 at 1:00 p.m.

Recorded Webinars

Instructional Materials Overview Series: Eureka Math TEKS Edition (K-5)

Instructional Materials Overview Series: Carnegie Learning Texas Math Solution (6-12)

- August 25th webinar recording can be accessed via the Texas Home Learning site
- This webinar provided:
  - Materials release timeline
  - Answers to Frequently Asked Questions
  - Introduction to Carnegie Learning and the Carnegie Learning Texas Math Solution
    - Student Materials
    - Teacher Materials
    - Accessibility
    - Home Supports
  - Best practices for effective implementations



Carnegie Learning Texas Math Solution

Carnegie Learning Texas Math Solution

Accessibility for All Learners

- Grades 6-8, Algebra I, Algebra II, Geometry
- Accelerated Middle School Pathways
  - **Acc Grade 6** to address 6th and 7th grade standards
  - **Acc Grade 7** to address 7th and 8th grade standards
- Digital and printable formats
- Student-facing resources in English and Spanish

High-quality, Rigorous Lesson Design

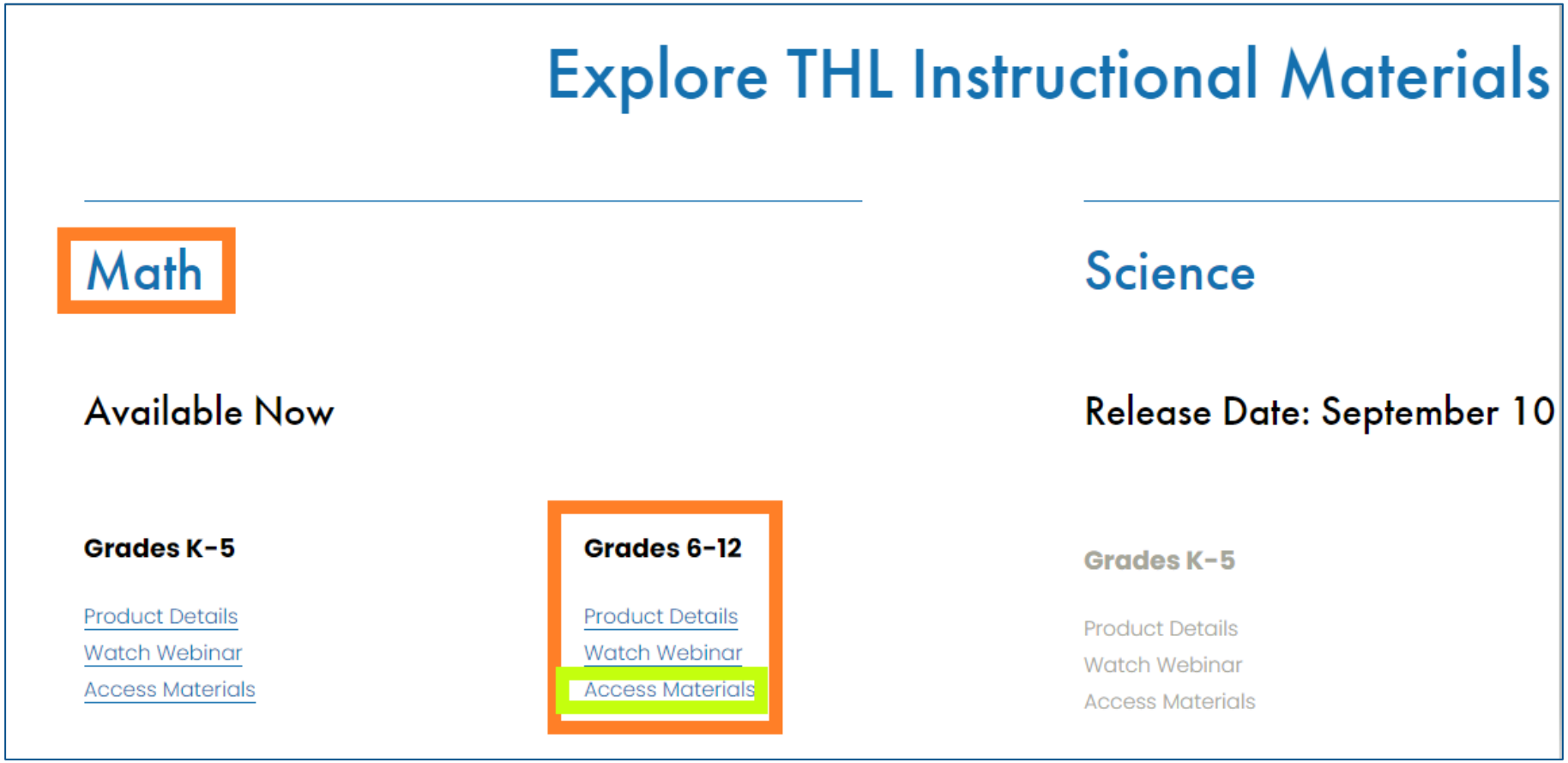
- TEKS-aligned
- 36 weeks of instruction
- MATHia software with TEKS-aligned sequences

Data-Driven

- Built-in daily formative assessments in lessons and MATHia
- Summative, End-of-Unit Assessments

Published Materials

www.texashomelearning.org/instructional-materials-thl



Published Materials

discover.carnegielearning.com/THL3.html

Texas Math Solution

Course Level Instructional Materials

CARNEGIE LEARNING

Course Front Matter
TIG*
Student Edition

Course Pacing Guide
Teacher Edition

Getting Started: Adapted Virtual Lesson 0
Student Edition

Module 1 Overview | Module 2 Overview | Module 3 Overview | Module 4 Overview | Module 5 Overview

Topic Level Instructional Materials

Topic Overview
Teacher Guide

Topic Pacing Guide
Teacher Guide

Topic Summary
Student Edition

Topic Family Guide
Family Edition

End-of-Topic Assessment
Student Edition (text & digital)
Teacher Answer Key

Mid-Topic Assessment**
Student Edition (text & digital)
Teacher Answer Key

Lesson Level Instructional Materials

Textbook Lesson
TIG*
Student Edition

Adapted Virtual Lesson
TIG*
Student Edition

Lesson Video(s)
Student Edition

Assignment
Student Edition
Teacher Answer Key

***Mid-Topic Assessments are only provided for Topics that extend for more than four instructional weeks*
**TIG: Teacher's Implementation Guide*

Course Materials

- **Course Overview and Pacing**
  - Course Pacing Guide
  - Teacher's Implementation Guide (TIG): Front Matter
  - Student Edition: Front Matter
- **Topic Instructional Materials**
  - Topic Pacing Guide
  - Module and Topic Overviews
  - Lesson Materials
    - Teacher Lesson Plan
    - Student Lesson
    - Student Assignment
    - Assignment Answer Key
  - Assessment
  - Family Guide

Sample Materials

- Available for 8 courses
  - MS: Grades 6-8, Accelerated 6 & 7
  - HS: Alg 1, Geo, Alg 2
- Course Overview and Pacing Resources, along with Instructional Materials, available for Topic 1

Course Overview and Pacing: Course Pacing Guide

Grade 7

MODULE 1: THINKING PROPORTIONALLY				
TOPIC 1: Circles and Ratios				
LESSON #	**LESSON TITLE**	**LESSON SUBTITLE**	**TEKS**	**PACING*** (days)
1	**Pi: The Ultimate Ratio**	*Exploring the Ratio of Circle Circumference to Diameter*	7.5B 7.8C 7.9B	2
2	**That's a Spicy Pizza**	*Area of Circles*	7.4B 7.8C 7.9B	2
MATHia				1
3	**Circular Reasoning**	*Solving Area and Circumference Problems*	7.9B 7.9C	2
MATHia				1
End of Topic Assessment				

*1 Day = 45 minute session

Course Overview and Pacing: Course Pacing Guide

MODULE 1: THINKING PROPORTIONALLY				
TOPIC 1: Circles and Ratios				
LESSON #	**LESSON TITLE**	**LESSON SUBTITLE**	**TEKS**	**PACING*** (days)
1	**Pi: The Ultimate Ratio**	***Exploring the Ratio of Circle Circumference to Diameter***	7.5B 7.8C 7.9B	**2**
2	**That's a Spicy Pizza**	***Area of Circles***	7.4B 7.8C 7.9B	**2**
MATHia				1
3	**Circular Reasoning**	***Solving Area and Circumference Problems***	7.9B 7.9C	**2**
MATHia				
End of Topic Assessment				

*1 Day = 45-minute session

Guides contain pacing recommendations based on 45-minute sessions; pacing can be adjusted to fit block and alternate schedules.

Course Overview and Pacing: Course Pacing Guide

MODULE 1: THINKING PROPORTIONALLY				
TOPIC 1: Circles and Ratios				
LESSON #	**LESSON TITLE**	**LESSON SUBTITLE**	**TEKS**	**PACING*** (days)
1	**Pi: The Ultimate Ratio**	***Exploring the Ratio of Circle Circumference to Diameter***	**7.5B 7.8C 7.9B**	2
2	**That's a Spicy Pizza**	***Area of Circles***	**7.4B 7.8C 7.9B**	2
MATHia				1
3	**Circular Reasoning**	***Solving Area and Circumference Problems***	**7.9B 7.9C**	2
MATHia				
End of Topic Assessment				

*1 Day = 45-minute session

Guides indicate TEKS alignment at the lesson level.

Course Overview and Pacing: Course Pacing Guide

MODULE 1: THINKING PROPORTIONALLY				
TOPIC 1: Circles and Ratios				
LESSON #	**LESSON TITLE**	**LESSON SUBTITLE**	**TEKS**	**PACING*** (days)
1	Pi: The Ultimate Ratio	*Exploring the Ratio of Circle Circumference to Diameter*	7.5B 7.8C 7.9B	2
2	That's a Spicy Pizza	*Area of Circles*	7.4B 7.8C 7.9B	2
MATHia				**1**
3	Circular Reasoning	*Solving Area*	9B 9C	2
MATHia				**1**
End of Topic Assessment				

Guidance is provided for intentional blending of the student instructional resources by indicating allotted student learning time with MATHia.

*1 Day = 45-minute session

Teacher Unit Plan: Grade 7

MODULE 1: THINKING PROPORTIONALLY				
TOPIC 1: Circles and Ratios				
LESSON #	**LESSON TITLE**	**LESSON SUBTITLE**	**TEKS**	**PACING*** (days)
1	Pi: The Ultimate Ratio	*Exploring the Ratio of Circle Circumference to Diameter*	7.5B 7.8C 7.9B	2
2	That's a Spicy Pizza	*Area of Circles*	7.4B 7.8C 7.9B	2
MATHia				1
3	Circular Reasoning	*Solving Area and Circumference*	)B)C	2
MATHia				1
End of Topic Assessment				

Assessment days are also built in to the pacing guides.

***1 Day = 45-minute session**

Course Overview and Pacing: Course Front Matter

7. Facilitation Notes by Activity

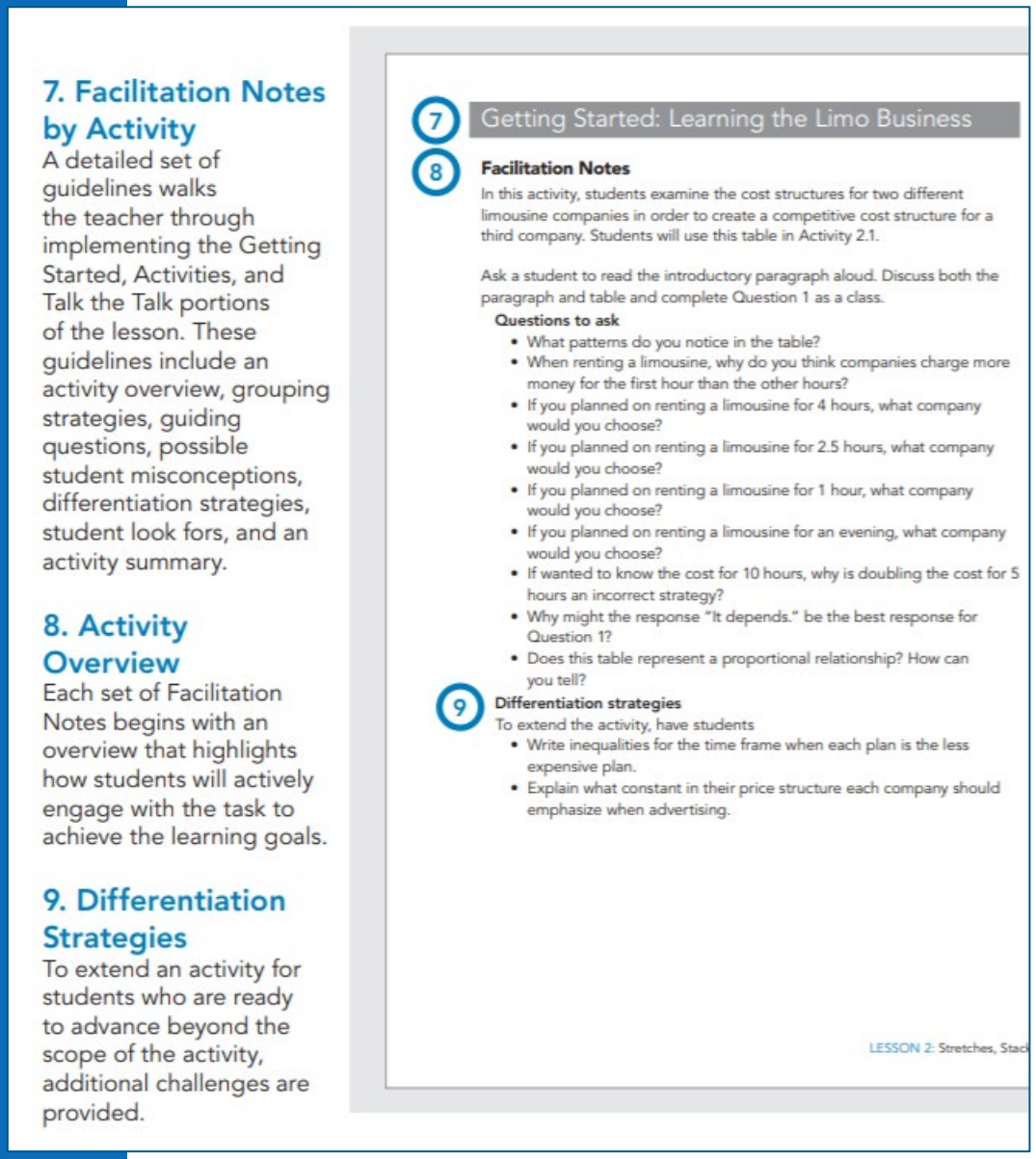
A detailed set of guidelines walks the teacher through implementing the Getting Started, Activities, and Talk the Talk portions of the lesson. These guidelines include an activity overview, grouping strategies, guiding questions, possible student misconceptions, differentiation strategies, student look fors, and an activity summary.

8. Activity Overview

Each set of Facilitation Notes begins with an overview that highlights how students will actively engage with the task to achieve the learning goals.

9. Differentiation Strategies

To extend an activity for students who are ready to advance beyond the scope of the activity, additional challenges are provided.



7 Getting Started: Learning the Limo Business

8 **Facilitation Notes**

In this activity, students examine the cost structures for two different limousine companies in order to create a competitive cost structure for a third company. Students will use this table in Activity 2.1.

Ask a student to read the introductory paragraph aloud. Discuss both the paragraph and table and complete Question 1 as a class.

Questions to ask

- What patterns do you notice in the table?
- When renting a limousine, why do you think companies charge more money for the first hour than the other hours?
- If you planned on renting a limousine for 4 hours, what company would you choose?
- If you planned on renting a limousine for 2.5 hours, what company would you choose?
- If you planned on renting a limousine for 1 hour, what company would you choose?
- If you planned on renting a limousine for an evening, what company would you choose?
- If wanted to know the cost for 10 hours, why is doubling the cost for 5 hours an incorrect strategy?
- Why might the response "It depends." be the best response for Question 1?
- Does this table represent a proportional relationship? How can you tell?

9 **Differentiation strategies**

To extend the activity, have students

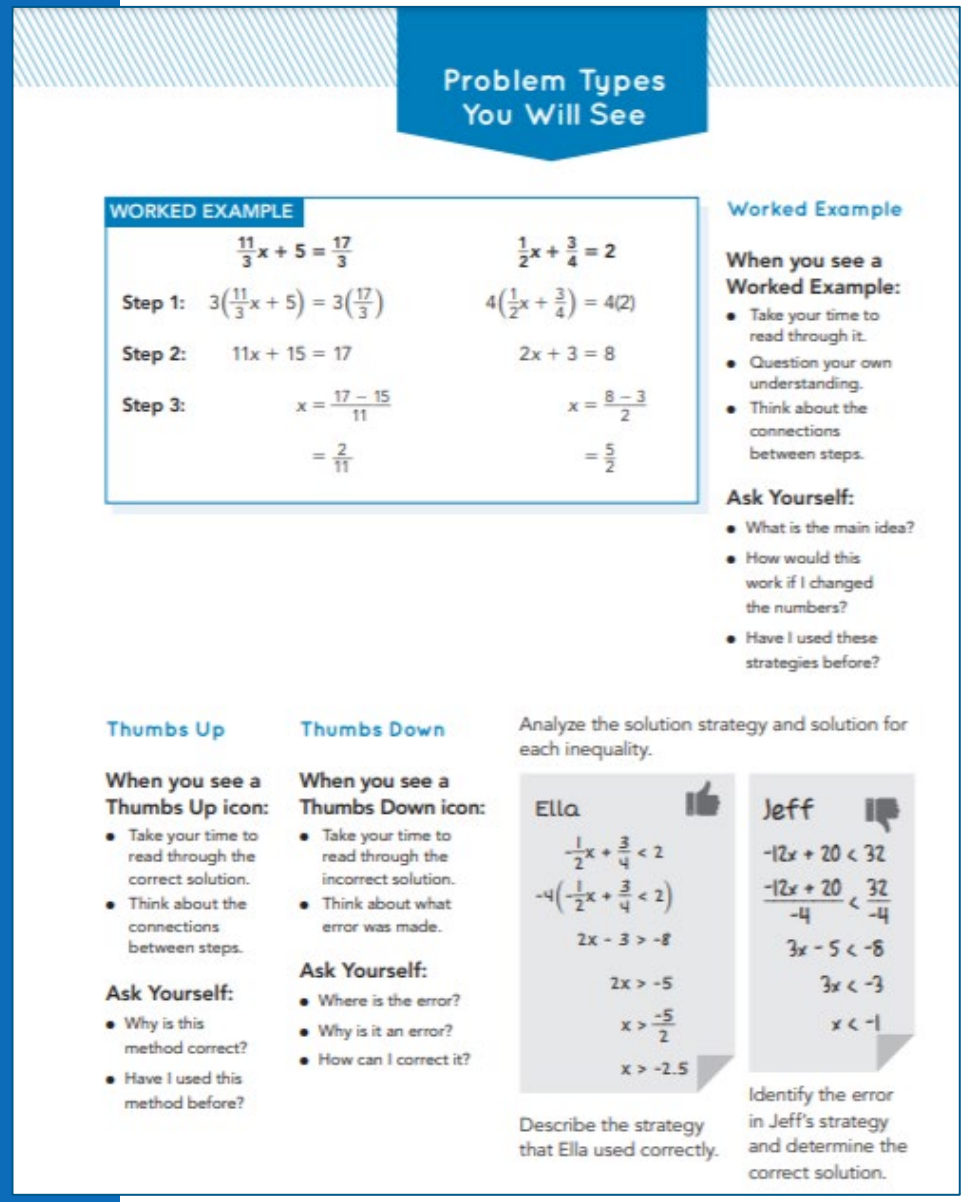
- Write inequalities for the time frame when each plan is the less expensive plan.
- Explain what constant in their price structure each company should emphasize when advertising.

LESSON 2: Stretches, Stack

Teacher Implementation Guide Front Matter Provides Overview of:

- Instructional Approach
- Blended Learning Model
- Mathematical Coherence
- Tools for Facilitating Student Learning
  - Lesson Structure
  - Problem Types
  - TX Math Process Standards
  - Instructional Strategies

Course Overview and Pacing: Course Front Matter



Problem Types You Will See

WORKED EXAMPLE

	$\frac{11}{3}x + 5 = \frac{17}{3}$	$\frac{1}{2}x + \frac{3}{4} = 2$
Step 1:	$3\left(\frac{11}{3}x + 5\right) = 3\left(\frac{17}{3}\right)$	$4\left(\frac{1}{2}x + \frac{3}{4}\right) = 4(2)$
Step 2:	$11x + 15 = 17$	$2x + 3 = 8$
Step 3:	$x = \frac{17 - 15}{11}$	$x = \frac{8 - 3}{2}$
	$= \frac{2}{11}$	$= \frac{5}{2}$

Worked Example

When you see a Worked Example:

- Take your time to read through it.
- Question your own understanding.
- Think about the connections between steps.

Ask Yourself:

- What is the main idea?
- How would this work if I changed the numbers?
- Have I used these strategies before?

Thumbs Up

When you see a Thumbs Up icon:

- Take your time to read through the correct solution.
- Think about the connections between steps.

Ask Yourself:

- Why is this method correct?
- Have I used this method before?

Thumbs Down

When you see a Thumbs Down icon:

- Take your time to read through the incorrect solution.
- Think about what error was made.

Ask Yourself:

- Where is the error?
- Why is it an error?
- How can I correct it?

Analyze the solution strategy and solution for each inequality.

Ella

$-\frac{1}{2}x + \frac{3}{4} < 2$

$-4\left(-\frac{1}{2}x + \frac{3}{4} < 2\right)$

$2x - 3 > -8$

$2x > -5$

$x > \frac{-5}{2}$

$x > -2.5$

Describe the strategy that Ella used correctly.

Jeff

$-12x + 20 < 32$

$\frac{-12x + 20}{-4} < \frac{32}{-4}$

$3x - 5 < -8$

$3x < -3$

$x < -1$

Identify the error in Jeff's strategy and determine the correct solution.

Student Edition

Front Matter Provides Overview of:

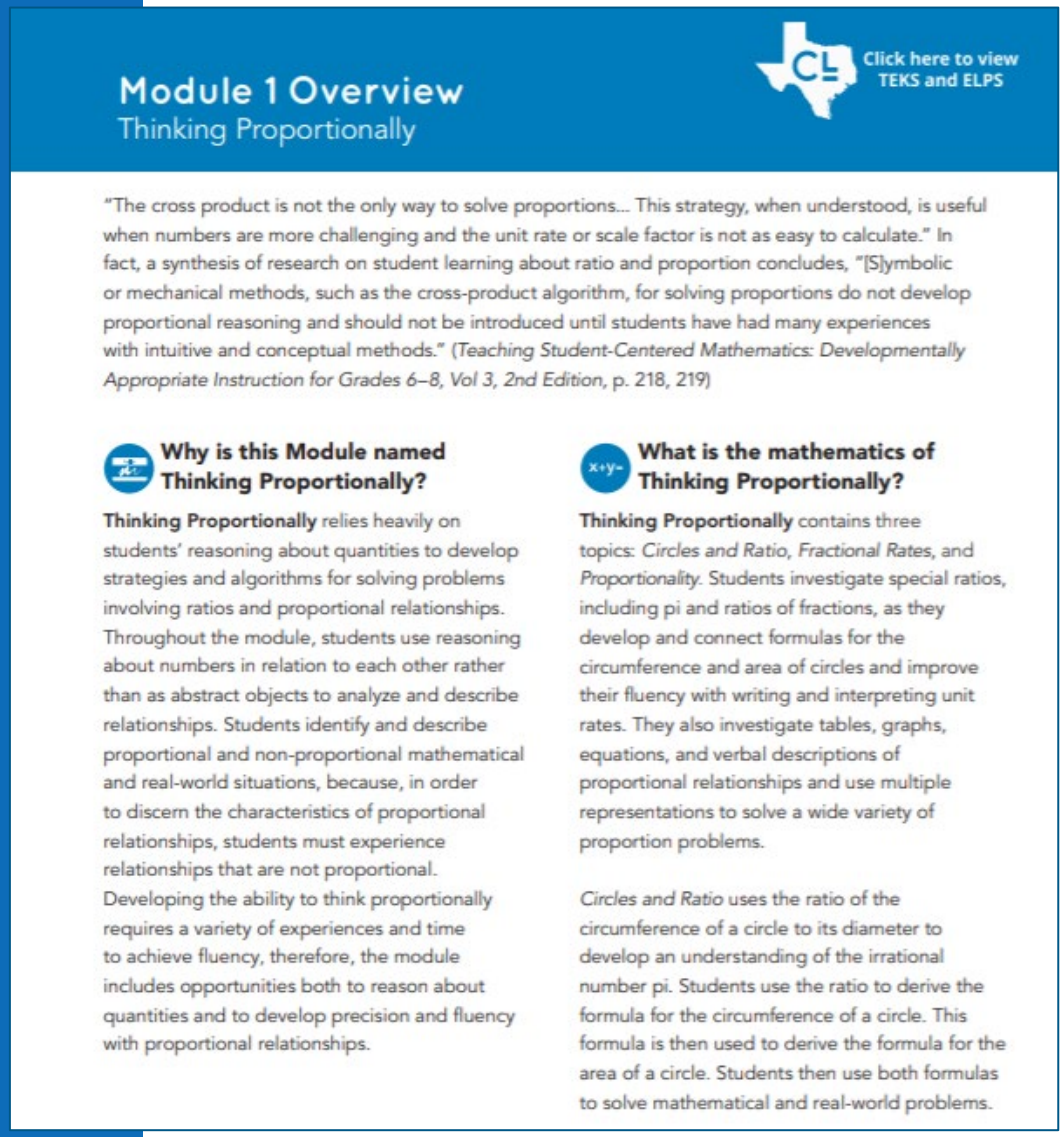
- Lesson Structure
  - Learning Goals
  - Getting Started
  - Activities
  - Talk the Talk
  - Assignment
- Problem Types
- TX Math Process Standards

Topic Instructional Materials: Topic Pacing Guide

MODULE 1: THINKING PROPORTIONALLY				
TOPIC 1: Circles and Ratios				
ELPS: 1.A, 1.C, 1.E, 1.F, 1.G, 2.C, 2.E, 2.I, 3.D, 3.E, 4.B, 4.C, 4.D, 4.J, 5.B, 5.F, 5.G				
LE	**[illegible]**	**LESSON SUBTITLE/MATHia WORKSPACE**	**TEKS**	**PACING*** (days)
		xploring the Ratio of Circle Circumference to Diameter	7.5B 7.8C 7.9B	2
2	**That's a Spicy Pizza**	*Area of Circles*	7.4B 7.8C 7.9B	2
MATHia				1
3	**Circular Reasoning**	*Solving Area and Circumference Problems*	7.9B 7.9C	2
MATHia				1
End of Topic Assessment				

Topic-level Pacing Guides include English Language Proficiency Standards addressed within the topic.

Topic Instructional Materials: Module Overview



Module 1 Overview
Thinking Proportionally

Click here to view TEKS and ELPS

"The cross product is not the only way to solve proportions... This strategy, when understood, is useful when numbers are more challenging and the unit rate or scale factor is not as easy to calculate." In fact, a synthesis of research on student learning about ratio and proportion concludes, "[S]ymbolic or mechanical methods, such as the cross-product algorithm, for solving proportions do not develop proportional reasoning and should not be introduced until students have had many experiences with intuitive and conceptual methods." (*Teaching Student-Centered Mathematics: Developmentally Appropriate Instruction for Grades 6–8, Vol 3, 2nd Edition*, p. 218, 219)

Why is this Module named Thinking Proportionally?

Thinking Proportionally relies heavily on students' reasoning about quantities to develop strategies and algorithms for solving problems involving ratios and proportional relationships. Throughout the module, students use reasoning about numbers in relation to each other rather than as abstract objects to analyze and describe relationships. Students identify and describe proportional and non-proportional mathematical and real-world situations, because, in order to discern the characteristics of proportional relationships, students must experience relationships that are not proportional. Developing the ability to think proportionally requires a variety of experiences and time to achieve fluency, therefore, the module includes opportunities both to reason about quantities and to develop precision and fluency with proportional relationships.

What is the mathematics of Thinking Proportionally?

Thinking Proportionally contains three topics: *Circles and Ratio*, *Fractional Rates*, and *Proportionality*. Students investigate special ratios, including pi and ratios of fractions, as they develop and connect formulas for the circumference and area of circles and improve their fluency with writing and interpreting unit rates. They also investigate tables, graphs, equations, and verbal descriptions of proportional relationships and use multiple representations to solve a wide variety of proportion problems.

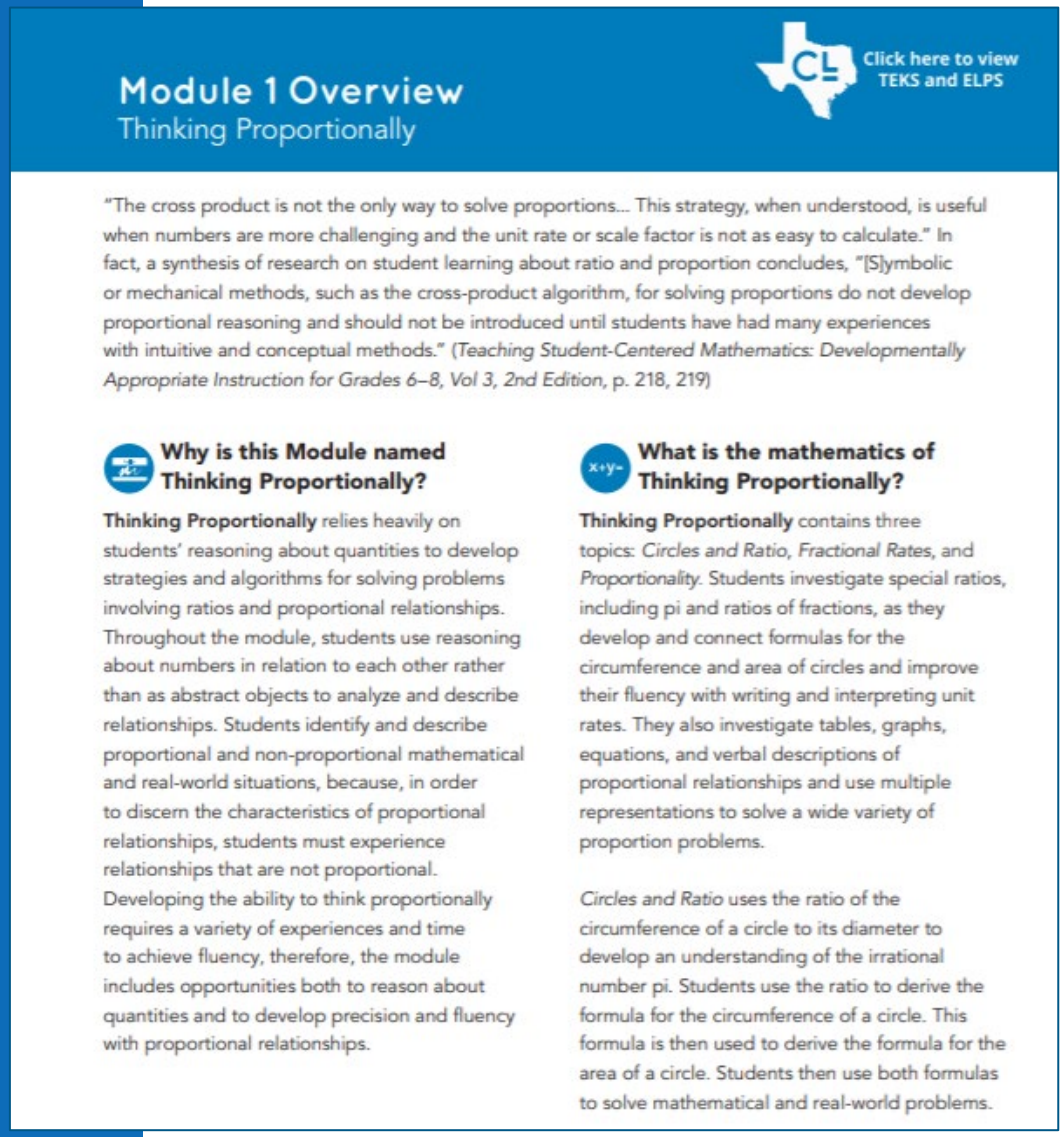
Circles and Ratio uses the ratio of the circumference of a circle to its diameter to develop an understanding of the irrational number pi. Students use the ratio to derive the formula for the circumference of a circle. This formula is then used to derive the formula for the area of a circle. Students then use both formulas to solve mathematical and real-world problems.

Teacher Implementation Guide

Module Overview Describes:

- Module name
- Mathematics being developed
- Connections to prior and future learning
- Pacing information

Topic Instructional Materials: Topic Overview



Module 1 Overview
Thinking Proportionally

Click here to view TEKS and ELPS

"The cross product is not the only way to solve proportions... This strategy, when understood, is useful when numbers are more challenging and the unit rate or scale factor is not as easy to calculate." In fact, a synthesis of research on student learning about ratio and proportion concludes, "[S]ymbolic or mechanical methods, such as the cross-product algorithm, for solving proportions do not develop proportional reasoning and should not be introduced until students have had many experiences with intuitive and conceptual methods." (*Teaching Student-Centered Mathematics: Developmentally Appropriate Instruction for Grades 6–8, Vol 3, 2nd Edition*, p. 218, 219)

Why is this Module named Thinking Proportionally?

Thinking Proportionally relies heavily on students' reasoning about quantities to develop strategies and algorithms for solving problems involving ratios and proportional relationships. Throughout the module, students use reasoning about numbers in relation to each other rather than as abstract objects to analyze and describe relationships. Students identify and describe proportional and non-proportional mathematical and real-world situations, because, in order to discern the characteristics of proportional relationships, students must experience relationships that are not proportional. Developing the ability to think proportionally requires a variety of experiences and time to achieve fluency, therefore, the module includes opportunities both to reason about quantities and to develop precision and fluency with proportional relationships.

What is the mathematics of Thinking Proportionally?

Thinking Proportionally contains three topics: *Circles and Ratio*, *Fractional Rates*, and *Proportionality*. Students investigate special ratios, including pi and ratios of fractions, as they develop and connect formulas for the circumference and area of circles and improve their fluency with writing and interpreting unit rates. They also investigate tables, graphs, equations, and verbal descriptions of proportional relationships and use multiple representations to solve a wide variety of proportion problems.

Circles and Ratio uses the ratio of the circumference of a circle to its diameter to develop an understanding of the irrational number pi. Students use the ratio to derive the formula for the circumference of a circle. This formula is then used to derive the formula for the area of a circle. Students then use both formulas to solve mathematical and real-world problems.

Teacher Implementation Guide

Topic Overview Describes:

- Topic organization
- Entry points
- Student understanding
- Practice standards
- Blended learning

Topic Instructional Materials: Topic Summary

Circles and Ratio Summary

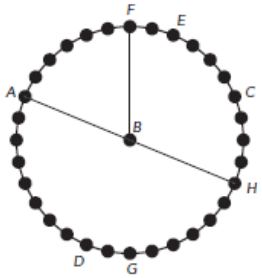
KEY TERMS

- congruent
- circle
- radius
- diameter
- circumference
- pi
- unit rate

LESSON 1 Pi: The Ultimate Ratio

A **circle** is a collection of points on the same plane equidistant from the same point. The center of a circle is the point from which all points on the circle are equidistant.

A **radius** of a circle is a line segment formed by connecting a point on the circle and the center of the circle. The distance across a circle through the center is a **diameter** of the circle. A diameter of a circle is a line segment formed by connecting two points on the circle such that the line segment passes through the center point.



Circles are named by their center point. For example, the circle shown is Circle *B*. A radius of Circle *B* is line segment *FB*. A diameter of Circle *B* is line segment *AH*.

The distance around a circle is called the **circumference** of the circle. The number **pi** (π) is the ratio of the circumference of a circle to its diameter. That is, pi $= \frac{\text{circumference of a circle}}{\text{diameter of a circle}}$, or $\pi = \frac{C}{d}$, where C is the circumference of the circle, and d is the diameter of the circle. The number π has an infinite number of decimal digits that never repeat. Some approximations used for the value π are 3.14 and $\frac{22}{7}$. You can use the ratio to write a formula for the circumference of a circle: $C = \pi d$.

Student Topic Summary Provides:

- Key terms
- Recap of mathematical concepts within each lesson

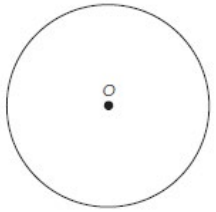
Topic Instructional Materials: Student Lesson

Printable, PDF format

Getting Started

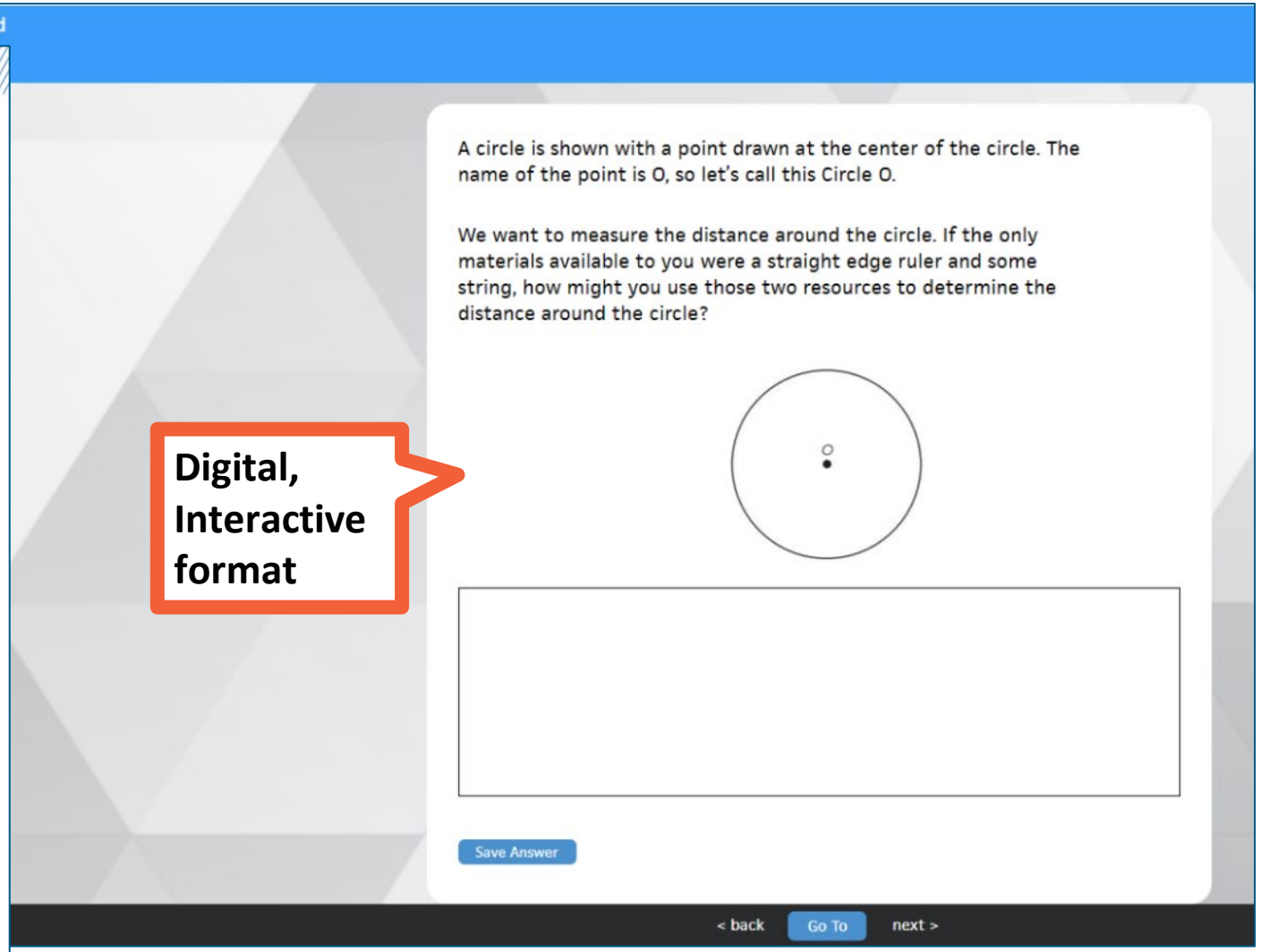
Across and Around

A circle is shown with a point drawn at the center of the circle. The name of the point is O, so let's call this Circle O.

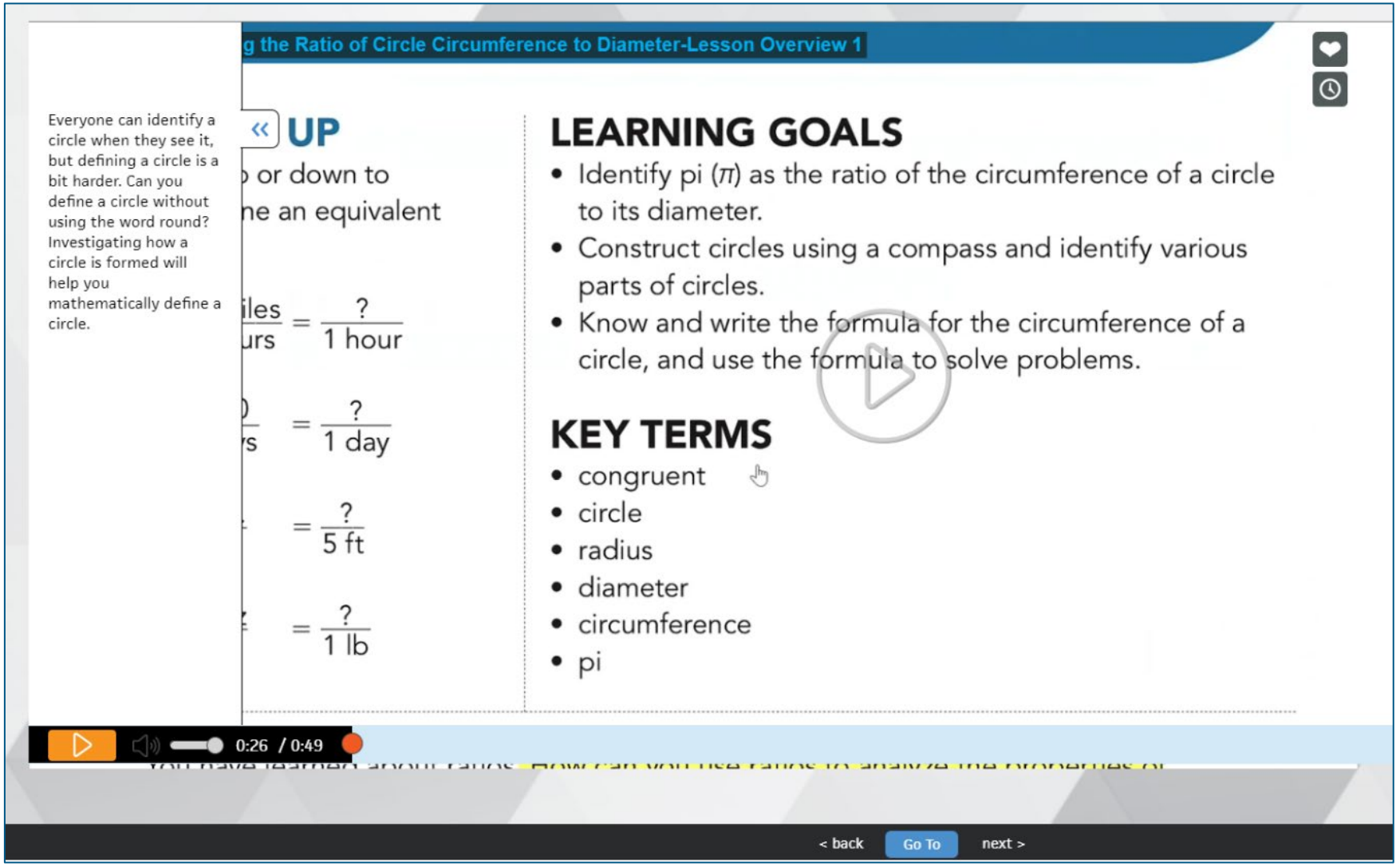


1. Analyze the distance around the circle.
   a. Use a string and a centimeter ruler to determine the distance around the circle.
   b. How does your measurement compare to your classmates' measurements? Summarize the similarities and differences.
2. Draw a line from a point on the circle to the center of the circle, point O.
   a. Measure your line using your centimeter ruler.
   b. How does your measurement compare to your classmates' measurements? Summarize the similarities and differences.

Digital, Interactive format



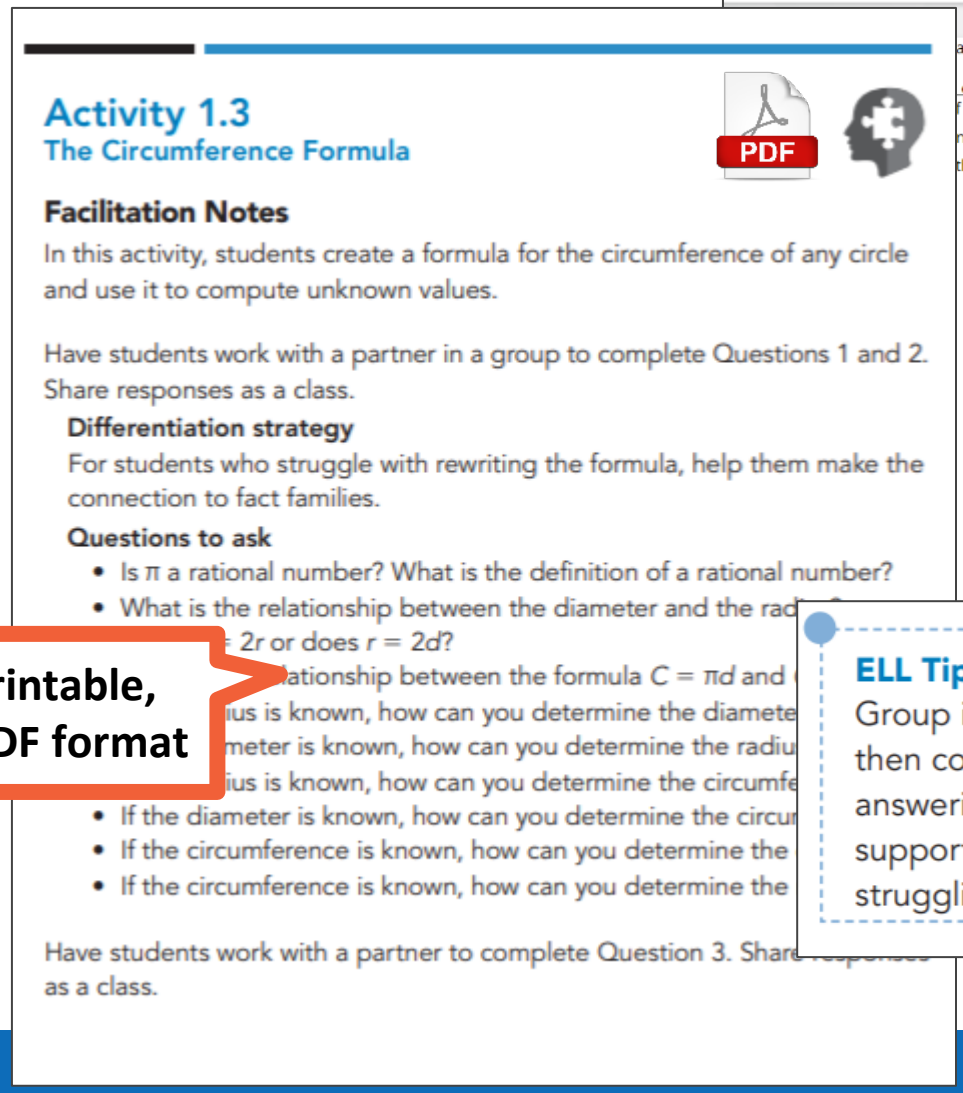
Topic Instructional Materials: Student Videos



Student-facing Videos

- Embedded at the point of use, as necessary, to support the development of key mathematics concepts in a virtual setting
- Additional videos are available for teacher assignment to provide intentional scaffolding and guidance

Topic Instructional Materials: Teacher Lesson



Activity 1.3
The Circumference Formula

Facilitation Notes

In this activity, students create a formula for the circumference of any circle and use it to compute unknown values.

Have students work with a partner in a group to complete Questions 1 and 2. Share responses as a class.

Differentiation strategy

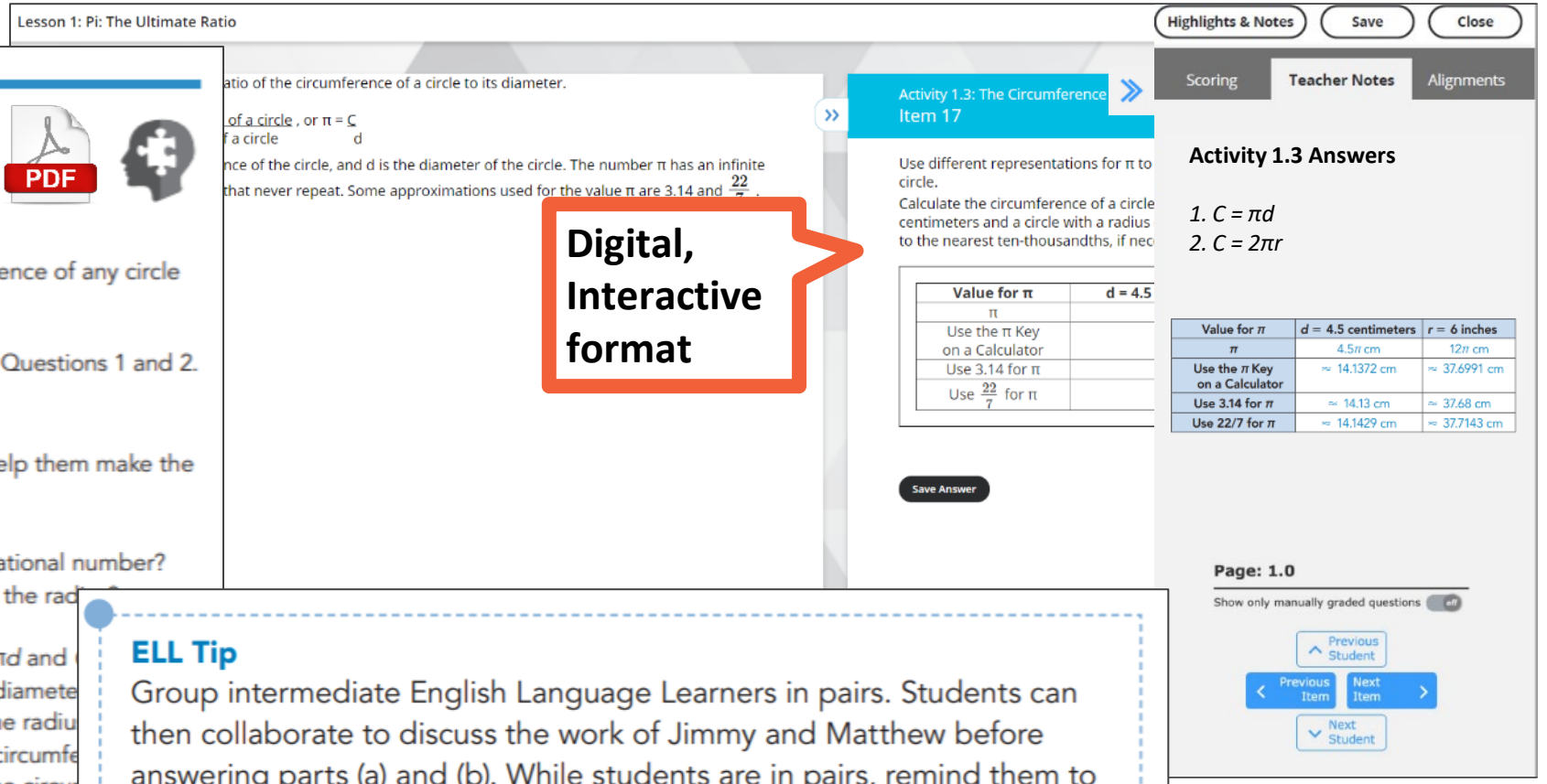
For students who struggle with rewriting the formula, help them make the connection to fact families.

Questions to ask

- Is π a rational number? What is the definition of a rational number?
- What is the relationship between the diameter and the rad
- $= 2r$ or does $r = 2d$?
- ationship between the formula $C = \pi d$ and
- ius is known, how can you determine the diamete
- meter is known, how can you determine the radiu
- ius is known, how can you determine the circumfe
- If the diameter is known, how can you determine the circu
- If the circumference is known, how can you determine the
- If the circumference is known, how can you determine the

Have students work with a partner to complete Question 3. Share responses as a class.

Printable, PDF format



Lesson 1: Pi: The Ultimate Ratio

Highlights & Notes | Save | Close

atio of the circumference of a circle to its diameter.

of a circle , or π = C/d

f a circle

nce of the circle, and d is the diameter of the circle. The number π has an infinite that never repeat. Some approximations used for the value π are 3.14 and $\frac{22}{7}$.

Digital, Interactive format

Activity 1.3: The Circumference
Item 17

Use different representations for π to
circle.
Calculate the circumference of a circle
centimeters and a circle with a radius
to the nearest ten-thousandths, if nec

Value for π	d = 4.5
π	
Use the π Key on a Calculator	
Use 3.14 for π	
Use $\frac{22}{7}$ for π	

Save Answer

Scoring | Teacher Notes | Alignments

Activity 1.3 Answers

1. C = πd
2. C = 2πr

Value for π	d = 4.5 centimeters	r = 6 inches
π	4.5π cm	12π cm
Use the π Key on a Calculator	≈ 14.1372 cm	≈ 37.6991 cm
Use 3.14 for π	≈ 14.13 cm	≈ 37.68 cm
Use 22/7 for π	≈ 14.1429 cm	≈ 37.7143 cm

Page: 1.0

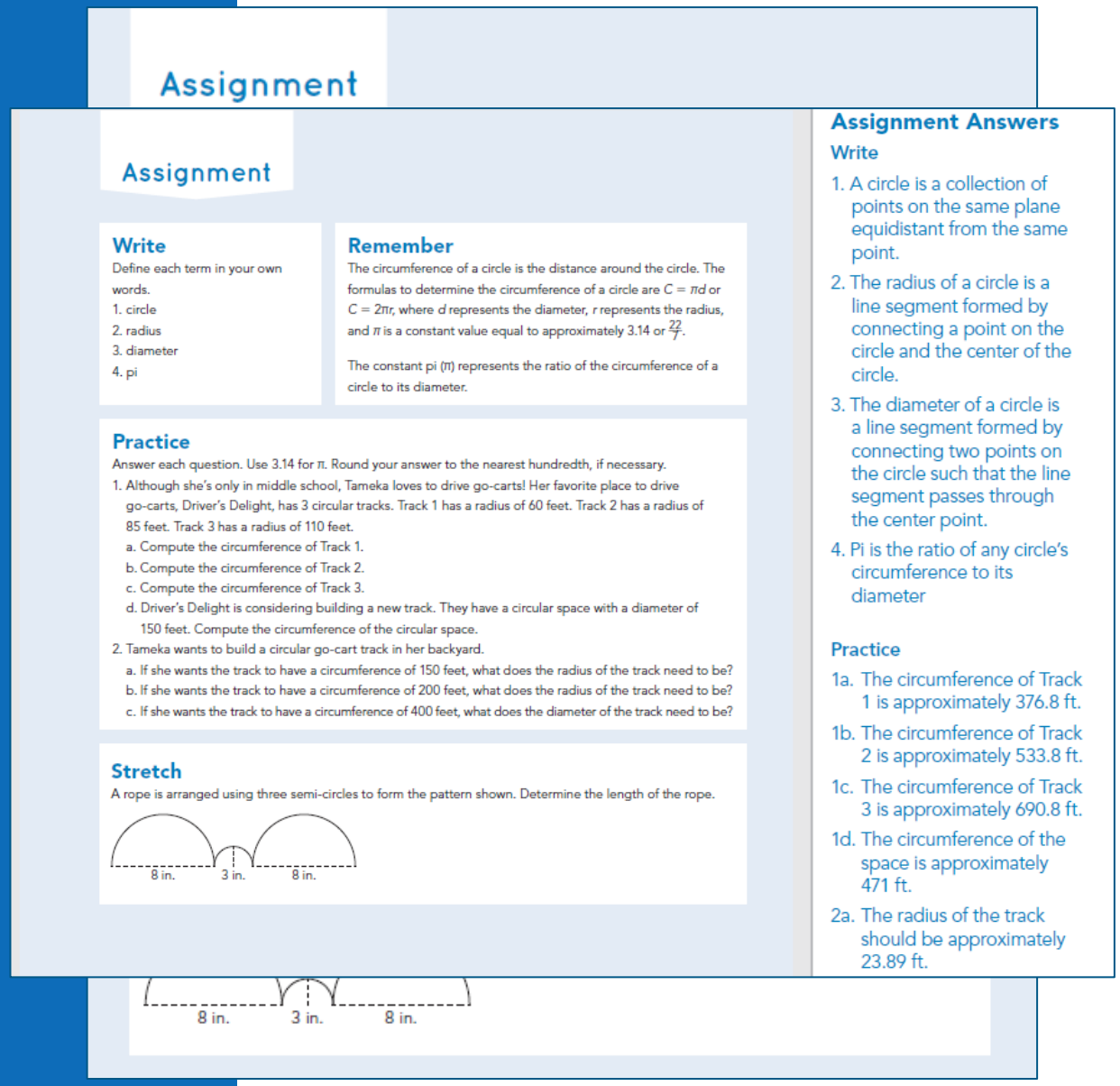
Show only manually graded questions

Previous Student
Previous Item | Next Item
Next Student

ELL Tip

Group intermediate English Language Learners in pairs. Students can then collaborate to discuss the work of Jimmy and Matthew before answering parts (a) and (b). While students are in pairs, remind them to support one another using math vocabulary accurately or if a peer is struggling to name a word.

Topic Instructional Materials: Assignment



Assignment

Assignment

Write

Define each term in your own words.

1. circle
2. radius
3. diameter
4. pi

Remember

The circumference of a circle is the distance around the circle. The formulas to determine the circumference of a circle are $C = \pi d$ or $C = 2\pi r$, where d represents the diameter, r represents the radius, and π is a constant value equal to approximately 3.14 or $\frac{22}{7}$.

The constant pi (π) represents the ratio of the circumference of a circle to its diameter.

Practice

Answer each question. Use 3.14 for π. Round your answer to the nearest hundredth, if necessary.

1. Although she's only in middle school, Tameka loves to drive go-carts! Her favorite place to drive go-carts, Driver's Delight, has 3 circular tracks. Track 1 has a radius of 60 feet. Track 2 has a radius of 85 feet. Track 3 has a radius of 110 feet.
   a. Compute the circumference of Track 1.
   b. Compute the circumference of Track 2.
   c. Compute the circumference of Track 3.
   d. Driver's Delight is considering building a new track. They have a circular space with a diameter of 150 feet. Compute the circumference of the circular space.
2. Tameka wants to build a circular go-cart track in her backyard.
   a. If she wants the track to have a circumference of 150 feet, what does the radius of the track need to be?
   b. If she wants the track to have a circumference of 200 feet, what does the radius of the track need to be?
   c. If she wants the track to have a circumference of 400 feet, what does the diameter of the track need to be?

Stretch

A rope is arranged using three semi-circles to form the pattern shown. Determine the length of the rope.

Assignment Answers

Write

1. A circle is a collection of points on the same plane equidistant from the same point.
2. The radius of a circle is a line segment formed by connecting a point on the circle and the center of the circle.
3. The diameter of a circle is a line segment formed by connecting two points on the circle such that the line segment passes through the center point.
4. Pi is the ratio of any circle's circumference to its diameter

Practice

1a. The circumference of Track 1 is approximately 376.8 ft.

1b. The circumference of Track 2 is approximately 533.8 ft.

1c. The circumference of Track 3 is approximately 690.8 ft.

1d. The circumference of the space is approximately 471 ft.

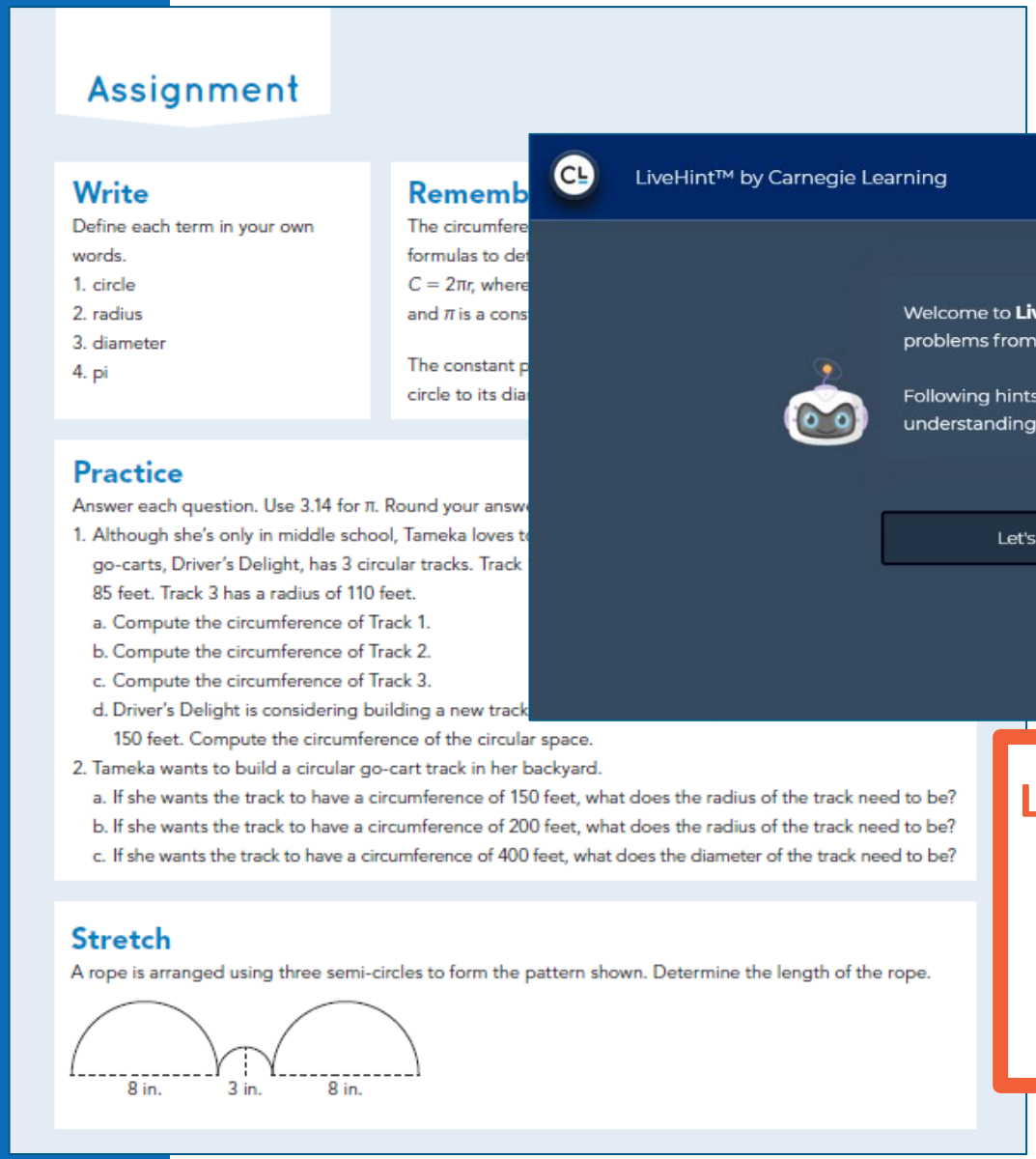
2a. The radius of the track should be approximately 23.89 ft.

8 in. 3 in. 8 in.

Lesson Assignment:

- One per Lesson
- Five Sections:
  - Write
  - Remember
  - Practice
  - Stretch
  - Review

Topic Instructional Materials: Assignment



Assignment

Write

Define each term in your own words.

1. circle
2. radius
3. diameter
4. pi

Practice

Answer each question. Use 3.14 for π. Round your answe

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Stretch

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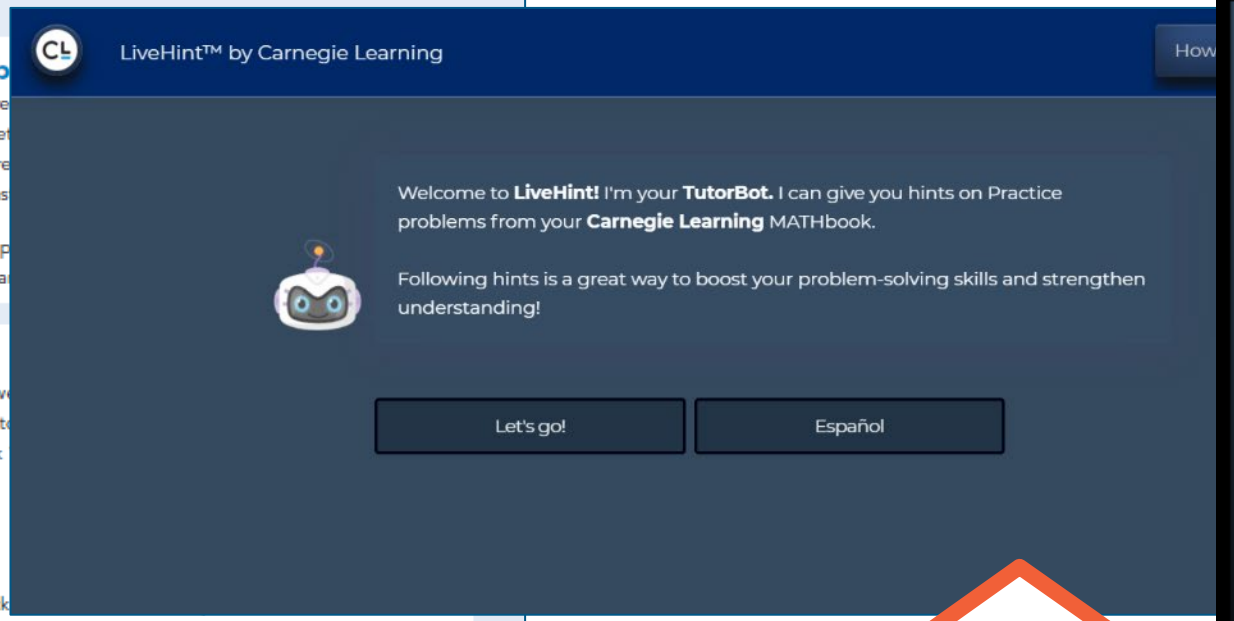
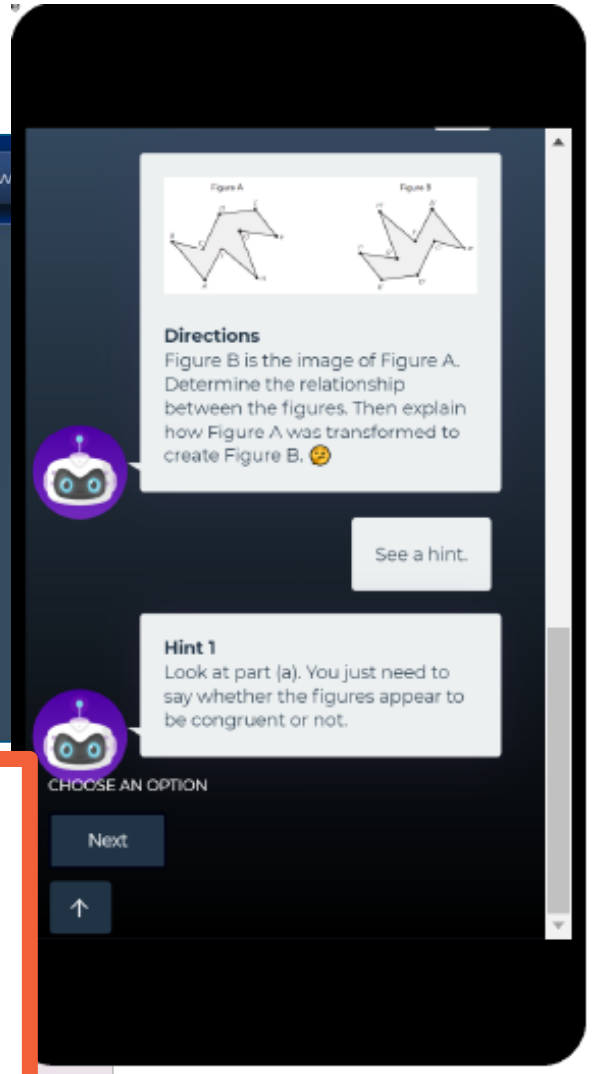
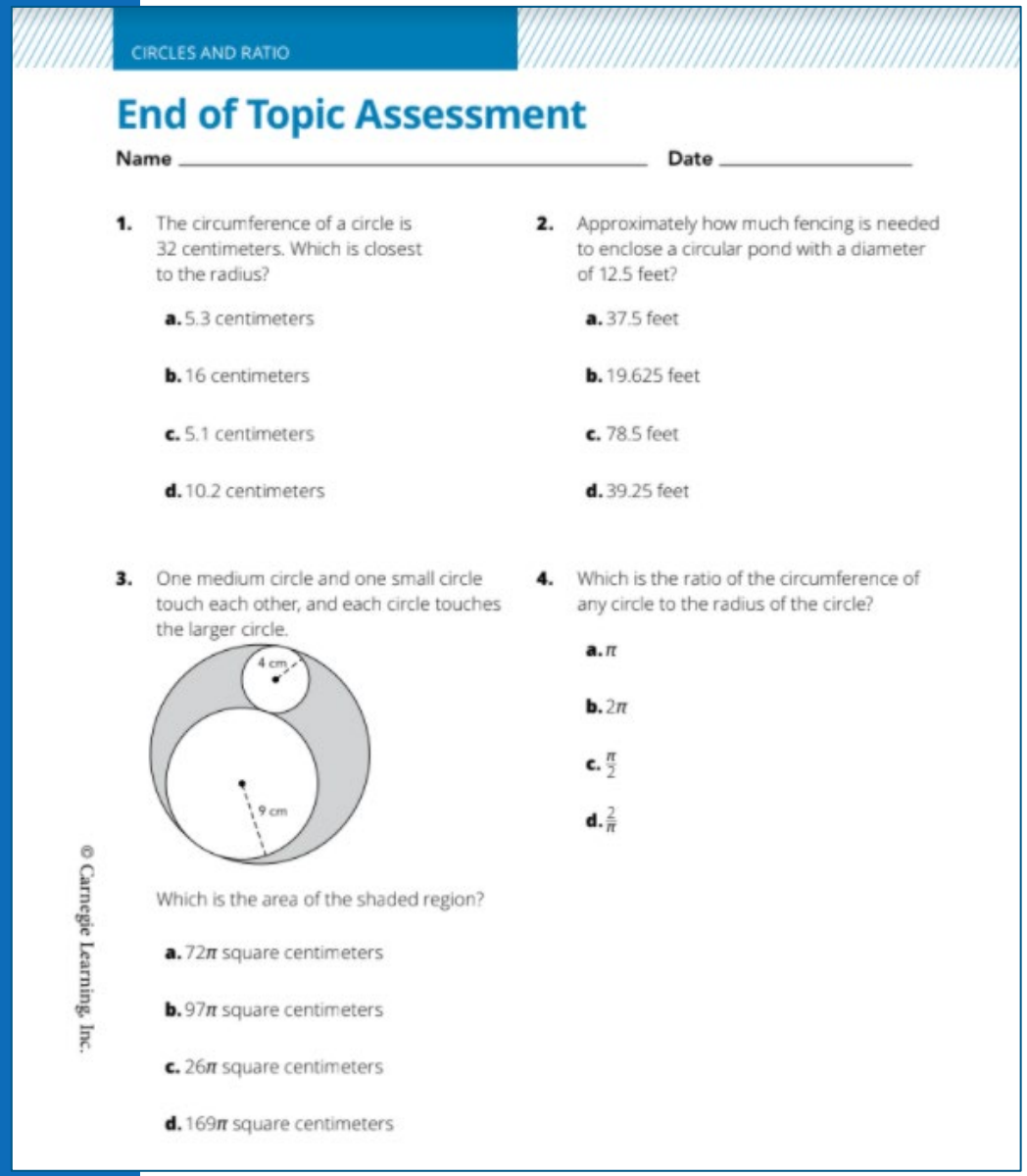




LiveHint

- Mobile (phone) first experience
- Real-time hints on Assignment Practice problems
- Supports remote learning

Topic Instructional Materials: Assessment



CIRCLES AND RATIO

End of Topic Assessment

Name _____ Date _____

1. The circumference of a circle is 32 centimeters. Which is closest to the radius?

a. 5.3 centimeters

b. 16 centimeters

c. 5.1 centimeters

d. 10.2 centimeters

2. Approximately how much fencing is needed to enclose a circular pond with a diameter of 12.5 feet?

a. 37.5 feet

b. 19.625 feet

c. 78.5 feet

d. 39.25 feet

3. One medium circle and one small circle touch each other, and each circle touches the larger circle.

Which is the area of the shaded region?

a. 72π square centimeters

b. 97π square centimeters

c. 26π square centimeters

d. 169π square centimeters

4. Which is the ratio of the circumference of any circle to the radius of the circle?

a. π

b. 2π

c. $\frac{\pi}{2}$

d. $\frac{2}{\pi}$

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End of Topic Assessments

- One assessment per topic
- Mid-topic assessments for topics spanning more than 4 weeks
- STAAR-like questions

Topic Instructional Materials: Family Guide

Carnegie Learning Family Guide — Grade 7

Module 1: Thinking Proportionally

TOPIC 1: CIRCLES AND RATIO

In this topic, students learn formulas for the circumference and area of circles and use those formulas to solve mathematical and real-world problems. To fully understand the formulas, students develop an understanding of the irrational number pi (π) as the ratio of a circle's circumference to its diameter. Throughout the topic, students practice applying the formulas for the circumference and area of a circle, often selecting the appropriate formula. Finally, students practice applying the formulas by using them to solve a variety of problems, including calculating the area of composite figures.

Where have we been?

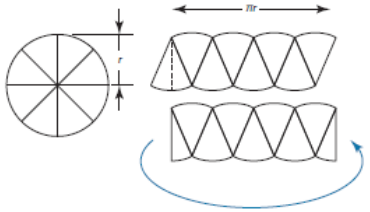
Throughout elementary school, students used and labeled circles and determined the perimeters of shapes formed with straight lines. In grade 6, students worked extensively with ratios and ratio reasoning. To begin this topic, students draw on these experiences as they use physical tools to investigate a constant ratio, pi.

Where are we going?

This early review of and experience with ratios prepares students for future lessons where they will move from concrete representations and reasoning about ratios and proportions to more abstract and symbolic work with solving proportions and representing proportional relationships. In future grades, students will use the circumference and area formulas of a circle to calculate surface areas and volumes of cylinders and composite three-dimensional shapes that include circles.

Modeling the Area of a Circle Using Wedges

Divide a circle into a large number of equal-sized wedges. Laying these wedges as shown, you can see that they approximate a rectangle with a length of πr and a height of r. The more wedges are added, the closer the figure will be to an exact rectangle. So, the rectangle of wedges, and thus, the circle, each has an area of πr^2.



Myth: "I don't have the math gene."

Let's be clear about something. There isn't ***a*** gene that controls the development of mathematical thinking. Instead, there are probably ***hundreds*** of genes that contribute to our ability to reason mathematically. Moreover, a recent study suggests that mathematical thinking arises from the ability to learn a language. Given the right input from the environment, children learn to speak without any formal instruction. They can learn number sense and pattern recognition the same way.

To further nurture your child's mathematical growth, attend to the learning environment. You ca think of it as providing a nutritious mathematical diet that includes discussing math in the real world, offering the right kind of encouragement, being available to answer questions, allowing your student to struggle with difficult concepts, and giving them space for plenty of practice.

#mathmythbusted

Talking Points

You can further support your student's learning by asking questions about the work they do in class or at home. Your student is learning to think flexibly about mathematical relationships involving multiplication, area, and number properties.

Questions to Ask

- How does this problem look like something you did in class?
- Can you show me the strategy you used to solve this problem? Do you know another way to solve it?
- Does your answer make sense? How do you know?
- Is there anything you don't understand? How can you use today's lesson to help?

Key Terms

radius
The radius of a circle is a line segment formed by connecting a point on the circle and the center of the circle.

diameter
The diameter of a circle is a line segment formed by connecting two points on the circle such that the line segment passes through the center point.

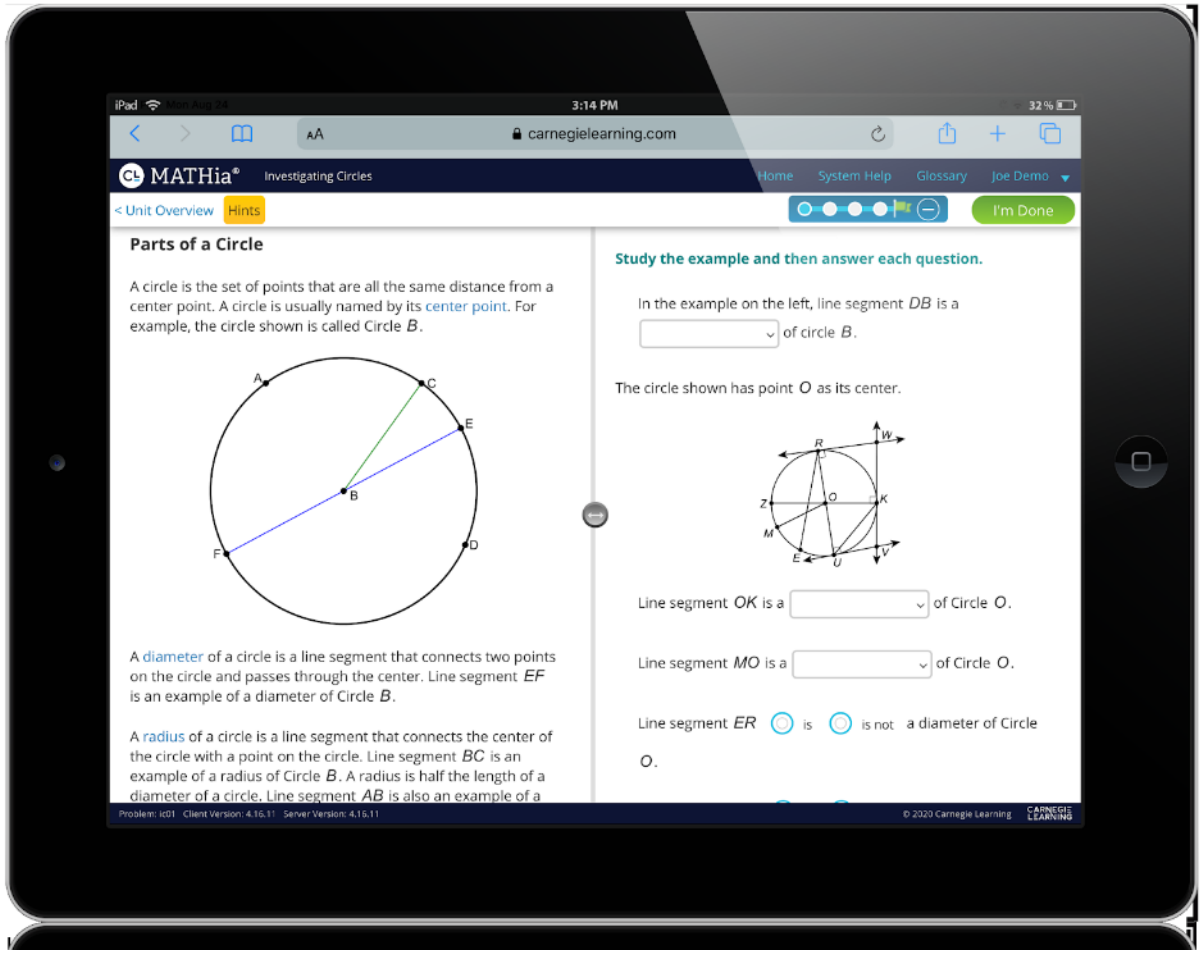
circumference
The circumference of a circle is the distance around the circle. The circumference is calculated using the formula $C = \pi d$.

pi
The number pi (π) is the ratio of the circumference of a circle to its diameter.

Family Guides

- One per topic
- Designed to support families as they talk to their students about what they are learning
- Provide
  - Overview of Mathematics and connections to prior and future learning
  - Real-world examples
  - Sample standardized test questions
  - Key terms

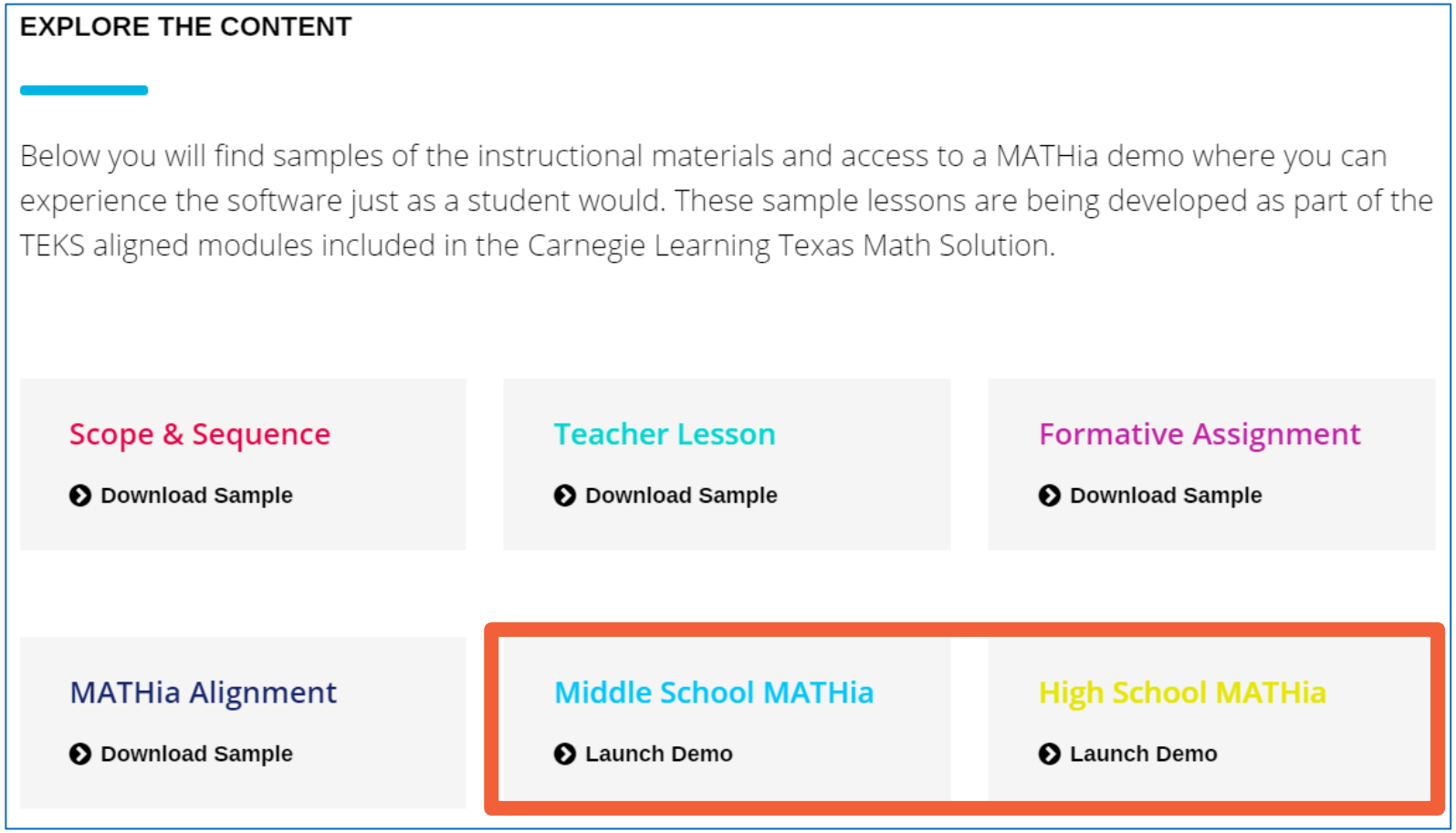
Blended Learning: MATHia



- Constructive guidance, from the start
- Thorough formative assessments that deliver true personalized learning every step of the way
- Ongoing customized, contextual hints and just-in-time feedback
- Skill-based approach ensures deep mastery of math

MATHia Demo

discover.carnegielearning.com/THL3.html



MATHia Reports and Data

MATHia® Predictive Analytics Report

- Full-year insight
- Predicts students' future performance on tasks and assessments (e.g., STAAR)

MATHia® TEKS Report

- Custom report to display proficiency for TEKS
- Shows the status of every standard for every student

MATHia® Skills Mastery Report

- Precisely identify mastered skills and focus attention to skills not mastered
- Individual student and class views

MATHia® Progress Report

- Monitors class-level and individual student progress and performance across the entire syllabus

Integration

Integration

- Getting Started Guides for seamless integration with existing Learning Management Systems and Single-Sign On solutions
- Manual Getting Started options ensure accessibility for all schools and students

TEXAS MATH SOLUTION

Schoology

INTEGRATION SYSTEMS HELP TO:

- Maintain central communication
- Ensure continuity between remote and in-school learning
- Provide a centralized, single sign-on destination for students, educators and parents for access to relevant resources and information

GET STARTED:

https://www.powerschool.com/texas/

- **Schoology LMS**
- **Free Two-Year License**

Getting Started

Explore the Materials

discover.carnegielearning.com/THL3.html

Course Materials

- **Course Overview and Pacing**
  - Course Pacing Guide
  - Teacher's Implementation Guide (TIG): Front Matter
  - Student Edition: Front Matter
- **Topic Instructional Materials**
  - Topic Pacing Guide
  - Module and Topic Overviews
  - Lesson Materials
    - Teacher Lesson Plan
    - Student Lesson
    - Student Assignment
    - Assignment Answer Key
  - Assessment
  - Family Guide

Sample Materials

- Available for 8 courses
  - MS: Grades 6-8, Accelerated 6 & 7
  - HS: Alg 1, Geo, Alg 2
- Course Overview and Pacing Resources, along with Instructional Materials, available for Topic 1

Webinars and Resources

Exploratory Webinars

Instructional Materials Release for K-12 Math

- August 25, 2020
- **Target Audience:** LEAs Mathematics Stakeholders

Adopting and Getting Started with Carnegie Learning Texas Math Solution

- September 9, 2020
- **Target Audience:** LEAs Mathematics Stakeholders

Getting Started

Implementation Workshop Series

- Cohort 1: September 23rd/24th
- Cohort 2: October 28th/29th
- **Target Audience:**
  - Implementing teachers
  - Implementing instructional leaders

Integration and Getting Started

- TBD: Coming Soon!
- **Target Audience:**
  - LEAs Mathematics Stakeholders
  - IT Team

On-Demand Support Modules

Onboarding and Program Support

- Coming Soon!
- **Target Audience:**
  - Implementing teachers
  - Implementing instructional leaders

Virtual Teaching Support

- Coming Soon!
- **Target Audience:**
  - Implementing teachers
  - Implementing instructional leaders

Live Implementation Workshop Series

This 4-session series is focused on equipping you with the knowledge and tools you need to successfully implement the Carnegie Learning Texas Math Solution. In these live, interactive sessions, you will:

- Learn how to effectively implement Carnegie Learning's Texas Math Solution on a day-to-day basis
- Plan for both synchronous and asynchronous student learning experiences
- Navigate the additional resources available to teachers, students, and families and the intent behind them
- Have a live Q&A with Carnegie Learning Master Math Practitioners

On-Demand Support Modules - Coming Soon!

Onboarding & Program Support

Designed to support you as you get started with the Carnegie Learning Texas Math Solutions

- Getting Started with Carnegie Learning's Texas Math Solution
- Our Instructional Approach: The Pedagogy Behind Our Lesson Design
- Transitioning from TRS to CL Texas Math Solutions
- Supporting Students with a Variety of Needs: DIfferentiation & ELL Support
- Using MATHia Data to Drive Instruction

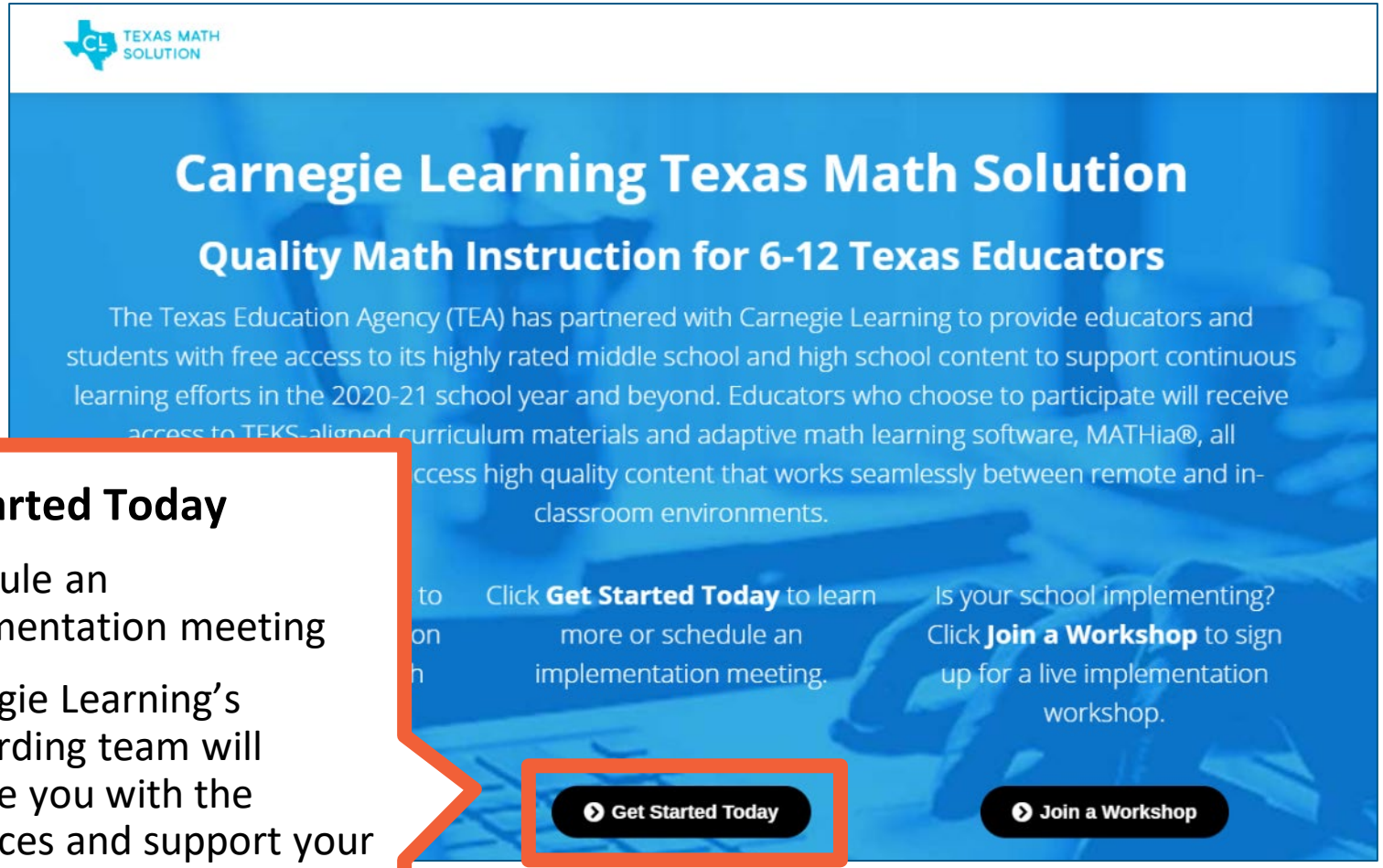
Virtual Teaching Support

Designed to support you as you design and facilitate virtual learning experiences

- Virtual & Hybrid Teaching Best Practices
- Facilitating Student Collaboration in the Virtual World
- Creating a Positive Class Culture Online
- Supporting Small Group Instruction & Differentiation
- Providing Feedback in the Virtual Classroom

Get Started Today

discover.carnegielearning.com/THL3.html



Get Started Today

- Schedule an implementation meeting
- Carnegie Learning's onboarding team will provide you with the resources and support your district needs to get started

Join a Workshop

discover.carnegielearning.com/THL3.html

Join a Workshop

- Access Carnegie Learning's Texas Professional Learning Center
- Sign-up for an Implementation Workshop Series
- Access On-Demand Support Modules

Question and Answer

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Shout Outs and Happenings

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