Get to Know ST Math Texas

Introduction

ST Math Texas is a visual instructional program that leverages the brain's innate spatial-temporal reasoning ability to solve mathematical problems. It's unique, patented approach provides all students access to standards-aligned learning through challenging puzzles, non-routine problem solving, and formative feedback.

This visual learning approach helps students solve unfamiliar math problems, recognize patterns, and develop conceptual understanding, regardless of skill level or language background.

In addition to solving puzzles independently, ST Math Texas utilizes Puzzle Talks. These teacher-facilitated mini-lessons use ST Math Texas puzzles in whole or small group settings to engage students in rich mathematical discourse.

Experience ST Math Texas

Use the links on the right to provide guidance in accessing, understanding, and navigating the ST Math Texas curriculum and Puzzle Talks.

Curriculum

- Get Started
- Objective Overview
- Games
- Student View
- Assessment and Standards

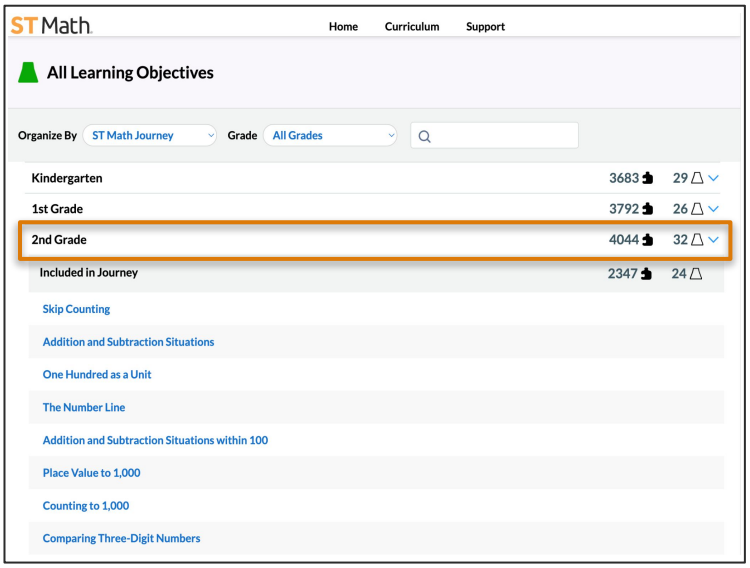
Puzzle Talks

- Get Started
- Overview Navigation
- Lesson Navigation and Tools

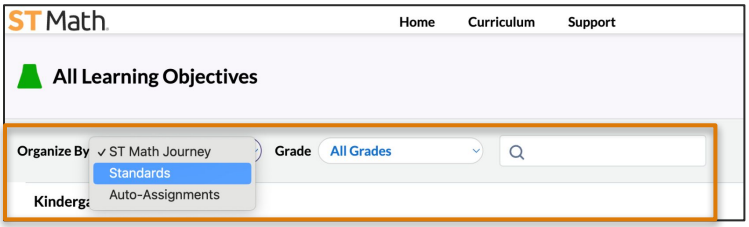
Curriculum - Get Started

STEP 1 - View All Learning Objectives

Click a grade level to expand it and view All Learning Objectives included with ST Math Texas.



Alternatively, use the Organize By, Grade, or search filters at the top to see objectives aligned to specific standards, grade, or topic.



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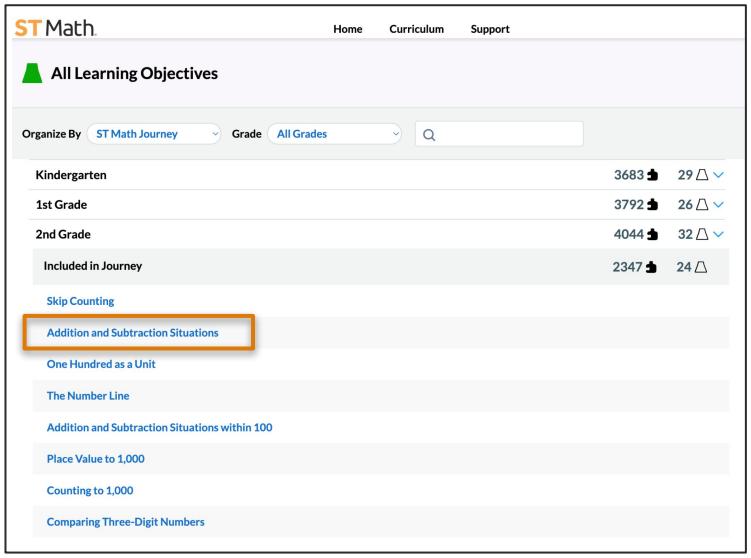
Curriculum - Objective Overview

ST Math Texas objectives progress students from a conceptual to a symbolic understanding of a math concept. In the student console, objectives are represented by islands, each containing a series of games students play.

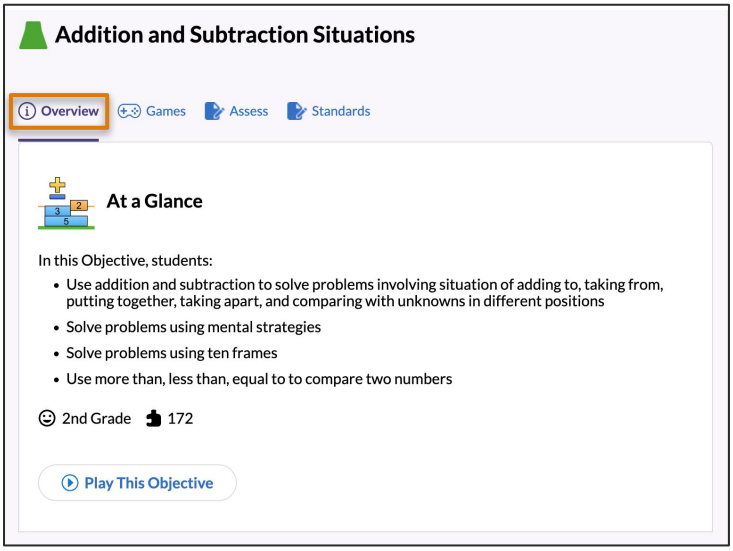
STEP 1 - Open an Objective

With the grade level expanded, click a blue objective name to open it.



STEP 2 - View the Objective Overview

From the Overview tab, you can view a summary of the objective content, the grade level, the number of puzzles in each, and play the objective.



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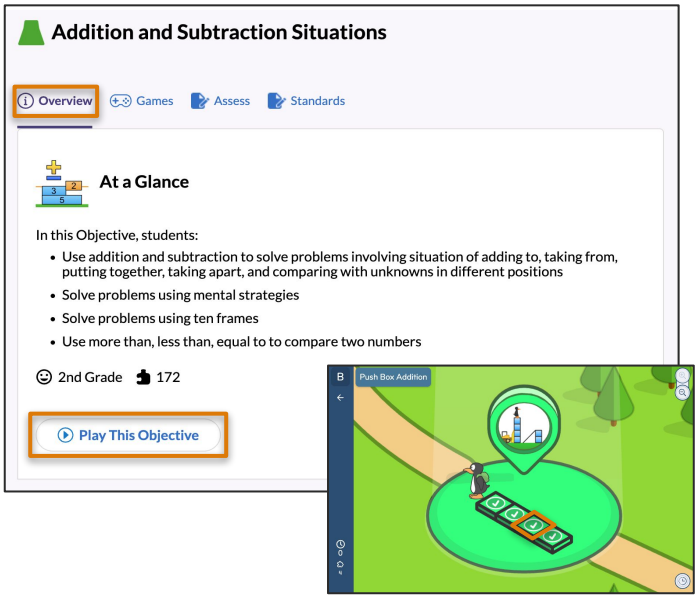
Curriculum - Games

Each ST Math Texas game has multiple levels that increase in complexity. In each level, students play a series of puzzles and collect a puzzle piece for each upon the completion of the level. ST Math Texas is mastery based, so students must solve a puzzle correctly in order to move the the subsequent puzzle.

STEP 1 - Open a game or game level

Option 1 - from the Objective Overview

At the bottom of the Objective Overview, select Play This Objective. A new tab will open, taking you to the first game at the beginning of the objective island. From here, click on any green check to go to a specific game level.

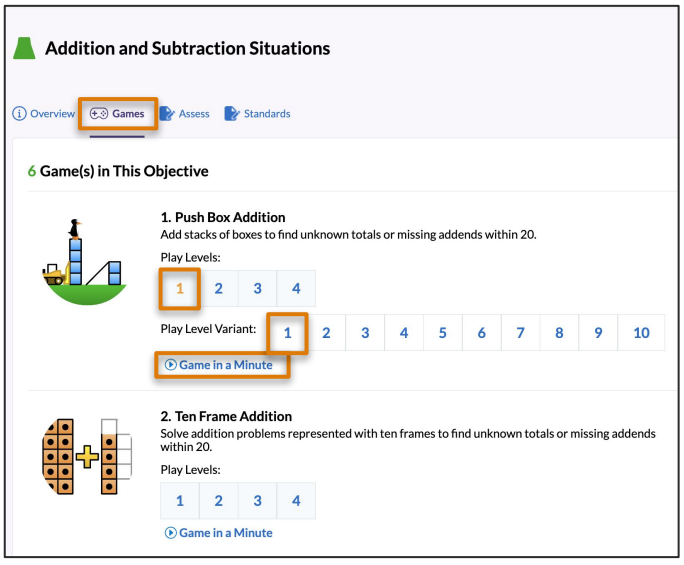


Option 2 - from the Games tab

Click the Games tab to the right of the Overview tab.

Here, you will see all games and corresponding levels within an Objective. Below the level numbers, you will find Game in a Minute videos. These videos provide quick tutorials for teachers.

To open and play through a level, click a level number. When you do, the Play Level Variant options appear. Each variant showcases a set of puzzles students could play within a given level. Click the first variant to begin.



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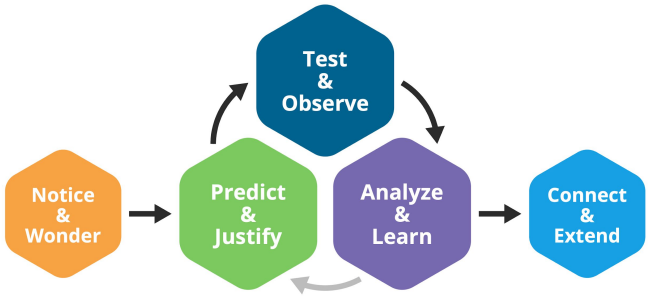
Curriculum - Games *cont.*

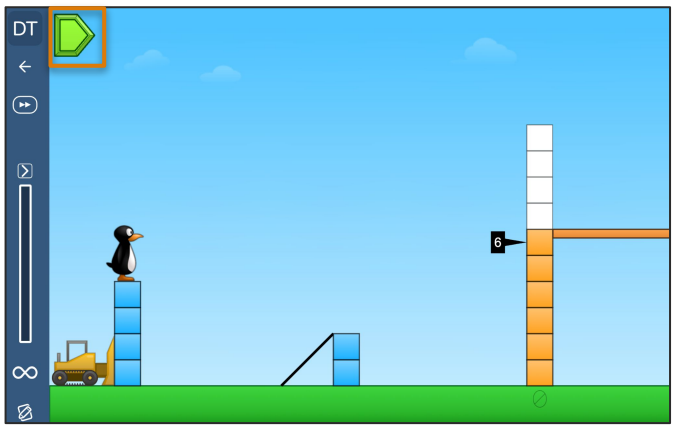
STEP 2 - Play a game

ST Math Texas games are designed without instructions so utilizing the Problem Solving Process is a helpful way to work through puzzles.



Start by noticing elements of the puzzle. What do you think you are supposed to do to solve it? What can you click on or move?

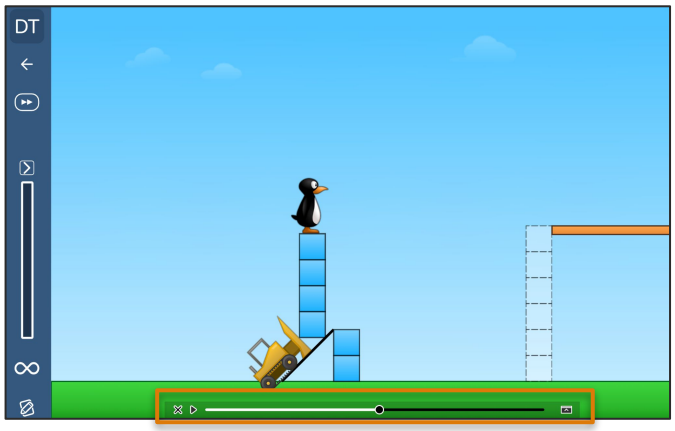
Once you make a prediction, adjust the puzzle accordingly and select the green button to test out your idea.



Analyze and learn from the animation that plays. It may take multiple attempts to answer the puzzle successfully. That's okay! Your brain is primed for learning when it encounters challenges.

Note: This experience allows for an infinite number of attempts to solve a puzzle. In the student experience, students have two tries to solve a puzzle. If both tries are unsuccessful, they will begin the level again.

Tip: If you need more time to process and learn from the animation, use the controls at the bottom of the screen that appear once it begins playing. Doing so will allow you to pause, play, and rewind to move at your own pace.



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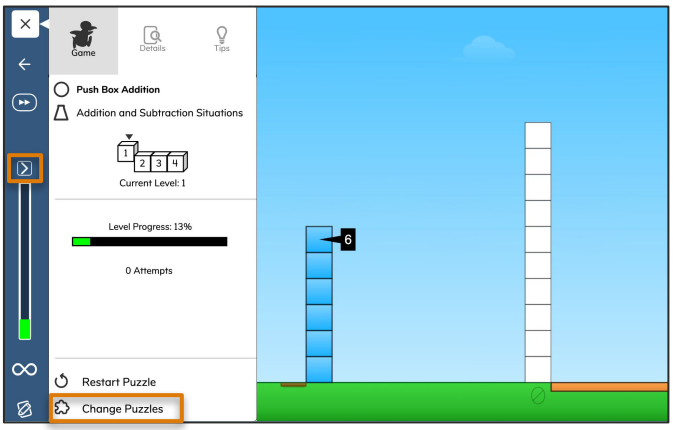
Curriculum - Games *cont.*

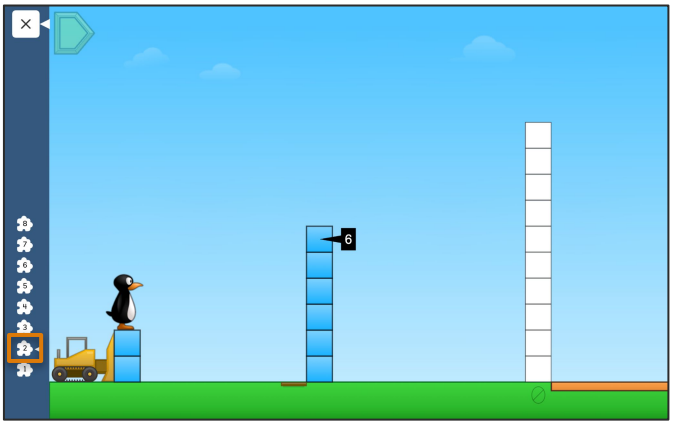
STEP 3 - Change puzzles within a level

To explore all the puzzles within a level variant, select the arrow just above the progress bar on the left side, then click Change Puzzles.



Click on any of the puzzle pieces on the left side to navigate to puzzles within a level without playing them.

Note: Students need to solve the puzzle correctly in order to progress; they do not have the ability to jump to any puzzle of their choosing.



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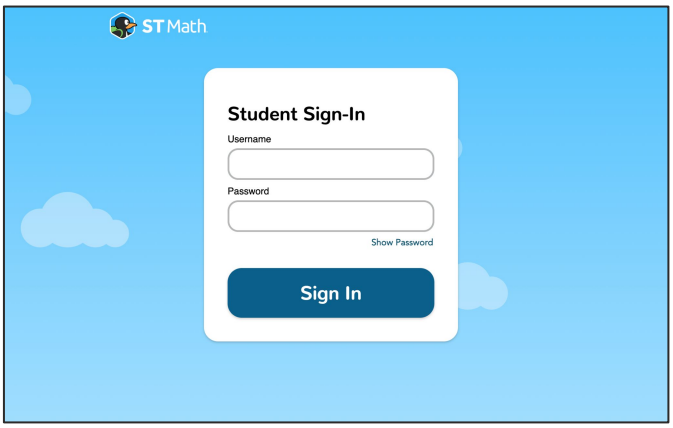
Curriculum - Student View

STEP 1 - Log in as a student

To explore ST Math Texas as a student, use the provided link, username, and password to log in.

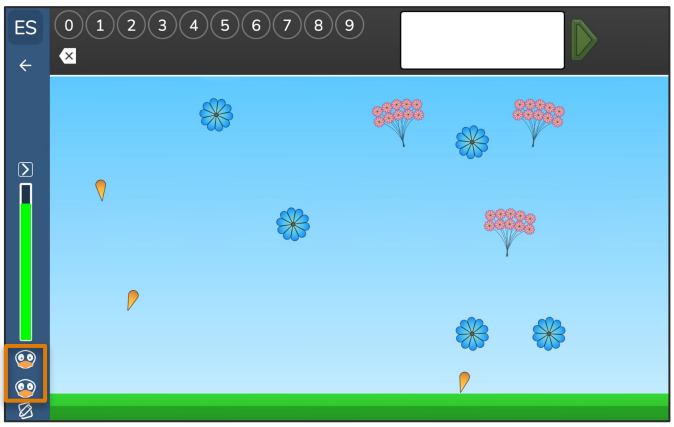


STEP 2 - Play a game level

Click the white game level tile where JiJi the penguin stands.

As you begin the level, you may start at the beginning or where another person left off.

On the bottom left, you will notice that there are two JiJi the penguin heads. These represent the number of attempts students have to make it through the level. If both attempts are used, students restart the level.



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Curriculum - Assessment and Standards

In 2nd grade and up, students take a short pre-quiz and post-quiz before and after each Objective. Post-quizzes are provided as a growth measure and help educators identify students who have strong conceptual models but may struggle to link the model to symbolic math.

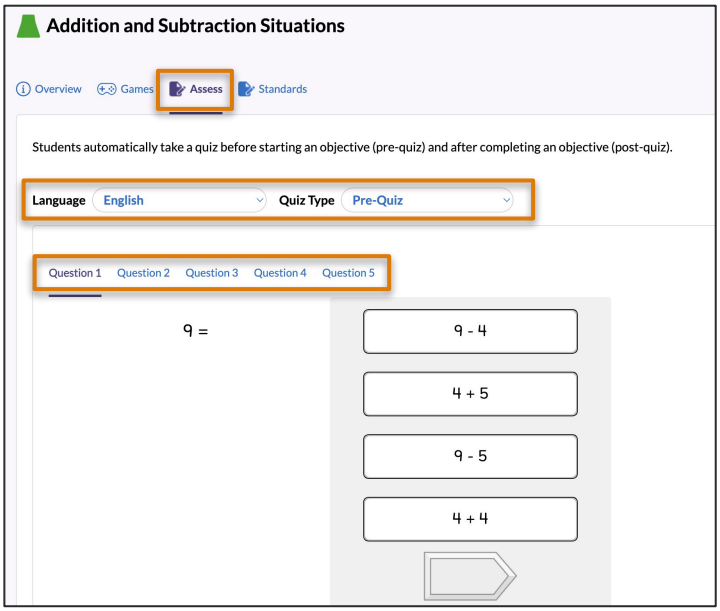
Each ST Math Texas Objective is labeled as recommended or related to given mathematics standards. Because of this, standards are grouped as Addressed and Partially Addressed.

STEP 1 - View quiz questions

From an Objective page, click on the Assess tab.

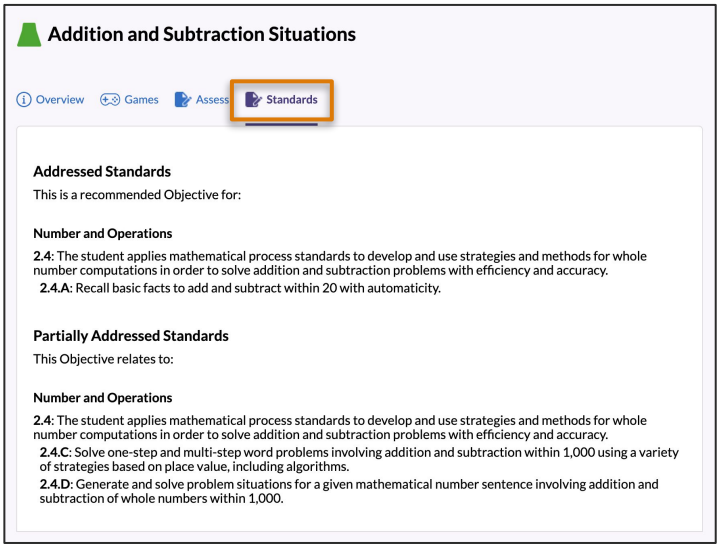
Use the Language or Quiz Type filters to adjust the questions accordingly.

Select the question number to change the question preview.



STEP 2 - View standards

Select the standards tab to view all standards addressed in the Objective.



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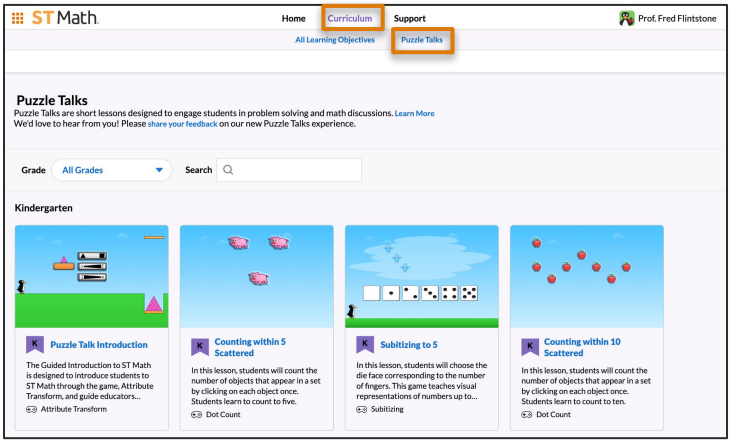
Puzzle Talks - Get Started

Puzzle Talks are teacher-facilitated mini-lessons that use ST Math Texas puzzles in whole or small groups to engage students in rich mathematical discourse. The Puzzle Talk platform is used to launch a projected lesson and guide students in discussion related to a series of scaffolded puzzles. Provided teacher notes, questions, and optional materials guide the conversation along the way.

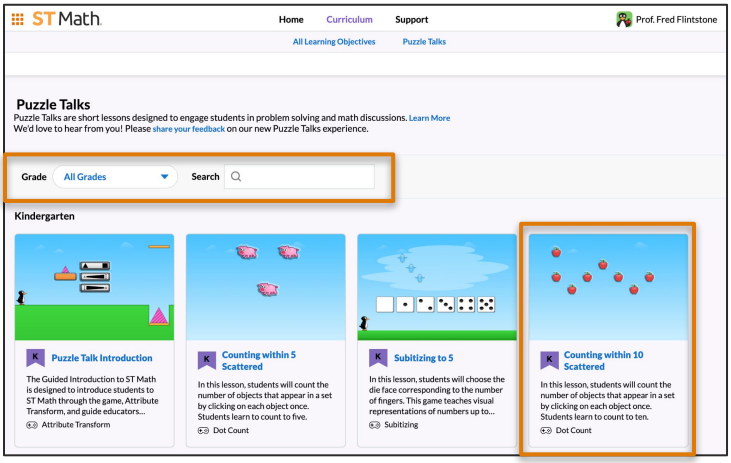
STEP 1 - Open Puzzle Talks

Select the Curriculum from the menu at the top of the page. Then select Puzzle Talks to begin your exploration.



STEP 2 - Select a Puzzle Talk

Scroll and click a Puzzle Talk tile of your choice, or use the Grade and Search filters at the top to narrow your options.



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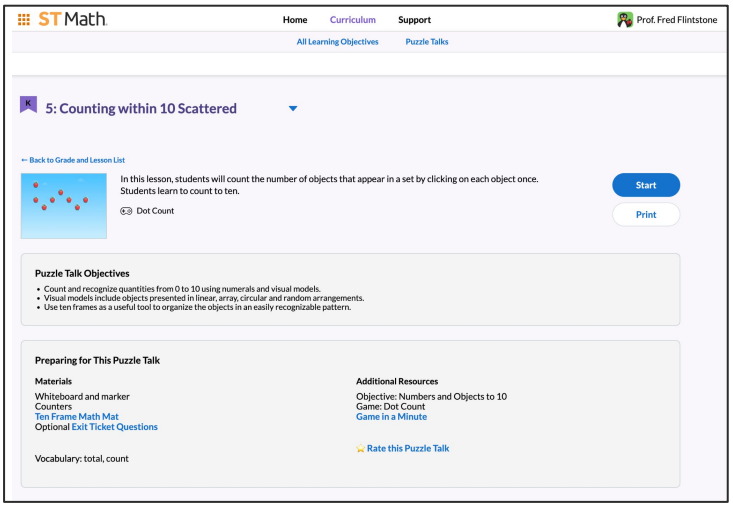
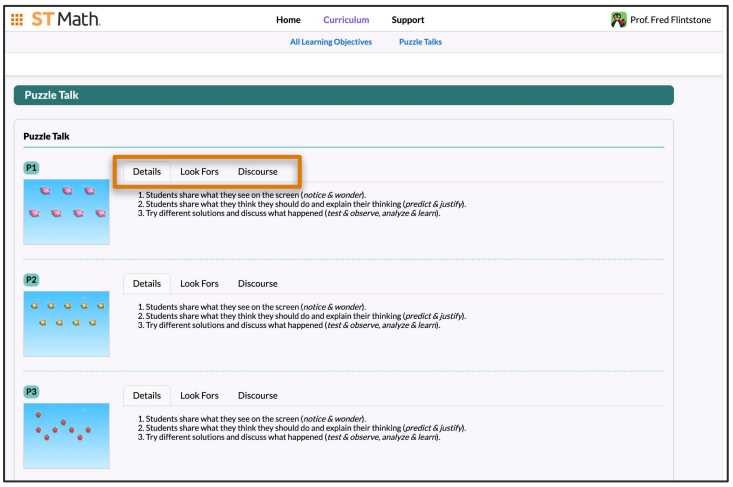
Puzzle Talks - Overview Navigation

STEP 1 - View the Overview page

The Puzzle Talk Overview page contains the mathematics objectives, optional materials, vocabulary, and lesson notes for each puzzle.

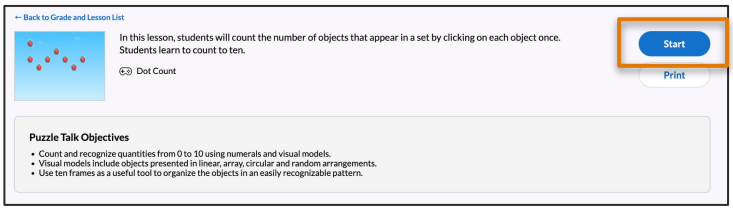


Scroll down to view the lesson notes. Here you will see an image of each puzzle and corresponding details, look fors, and discourse questions. Click the tabs for each to view the related content.



STEP 2 - Start a lesson

On the top right of the Overview page, click the blue Start button to begin the lesson.



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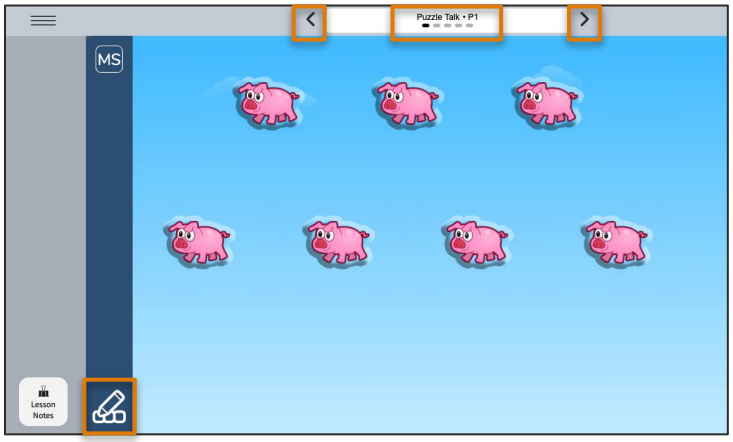
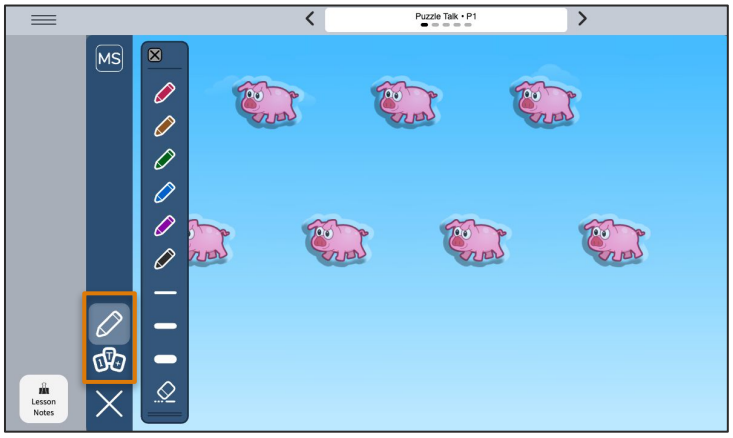
Puzzle Talks - Lesson Navigation and Tools

STEP 1 - Navigate lesson puzzles and tools

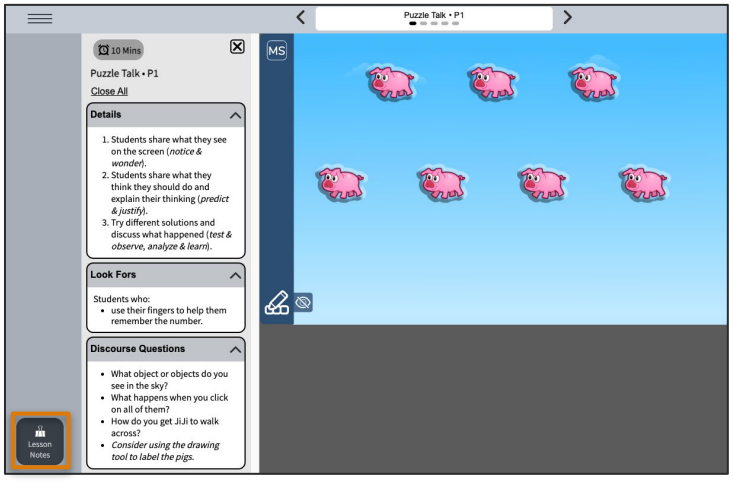
The lesson opens to a title slide. At the top of the lesson slide, use the navigation bar to move within a lesson. Use the left and right arrows or click the middle title to open the navigation panel and select a specific puzzle.



As you do so, notice the available drawing and expression tools on the left.



On the bottom left, click Lesson Notes to view details, look fors, and discourse questions that adjust to each slide.



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