



ST Math[®]
Immersion

Virtual Teacher Guide

Table of Contents

Table of Contents	2
What is ST Math Immersion?	2
About ST Math Immersion	3
Virtual Teacher Guide	3
Building Community	3
Assessments and Weekly Quizzes	4
Celebrating Students' Growth and Development	4
What makes ST Math Immersion unique?	6
The Science Behind the Learning	7
Perception-Action Cycle (PAC)	7
Academic Discourse	8
What is an Asset-Based Approach?	8
What are Puzzle Talks?	9
Facilitating In Action	9
Strategies for Engaging Students in Discourse in a Virtual Environment	10
What are Problem Solving Strategy Discussions?	16
Extending Student Discourse	16
Student Engagement	16
How do we monitor students' learning?	17
My Thinking Path	17
ST Math Puzzle Reflection	19

What is ST Math Immersion?

About ST Math Immersion



ST Math Immersion is an intensive program that combines ST Math with a math curriculum that creates a rich mathematical environment. The content addresses common areas students struggle in while providing opportunities for building their content knowledge, reasoning skills, and growth mindset. Grades K-2 are focused on operations and algebraic thinking and grades 3-5 are focused on fractions.

Virtual Teacher Guide

This guide is designed to support you as you teach ST Math Immersion - Virtual. It contains tips, ideas, and best practices for teaching in a virtual environment. Many thanks to the virtual teachers who shared their thoughts and insights with us as we created this guide.

Building Community

Building community is an important aspect of teaching in a virtual environment! While things might feel a little different, many routines and tools are effective regardless of the environment. ST Math Immersion's virtual program begins each class with an opening meeting. Use this time to build community and set the tone for the day's lesson.

Setting norms and routines help build community by setting clear expectations. When possible, allow students to brainstorm the expectations for the classroom. Ideas to highlight include:

Be curious!

- What do you notice? What are you wondering?

Be willing to try.

- Make a quick sketch to help you understand a problem.

Embrace mistakes.

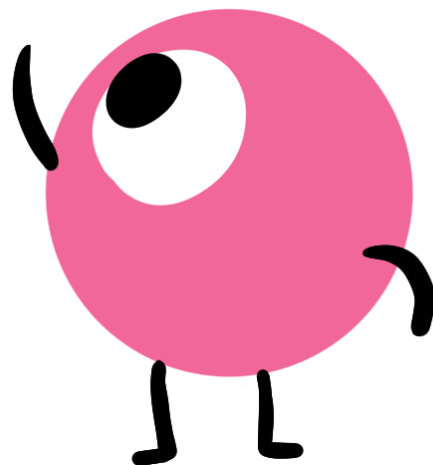
- What did you learn about what didn't work?

Engage in teamwork.

- Listen to understand what others are saying.

Adjust your thinking.

- As you hear ideas, how might you revise your thinking? Don't erase your previous work - tracking your thinking across time is one way to reflect on your problem solving.



Assessments and Weekly Quizzes

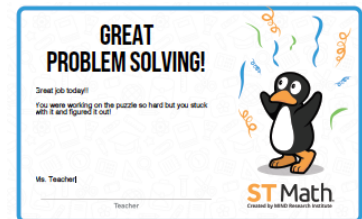
During the first week and last week of the program, an optional pre/post assessment is available. There are also optional weekly pre/post quizzes that could be administered on Day 1 and Day 5 of each week. The purpose of these assessments is to monitor the progress of your students and make instructional decisions based on their results. Your team should decide whether or not you will administer these assessments and how you will use the results.

Celebrating Students' Growth and Development

Motivating Learners

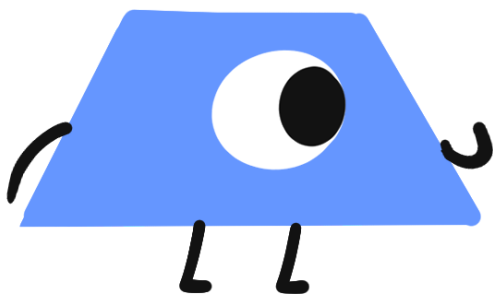
Throughout the ST Math Immersion, give students encouraging notes. Celebrating students' successes helps motivate learners to achieve more while continuing to develop a growth mindset. As students engage in ST Math, they are not only building mathematical knowledge but developing self-regulatory skills that are essential to success.

Check out our [Celebration Resources](#) page for more ideas. For more information on celebrating students, visit our [Focus On: Celebrating](#) page.



You can give students an encouraging note like the one above. We have some already designed. See our refillable [celebration notes](#).

Engaging Your Students



Welcome your students to your virtual class each day with an opening question or activity. This time can include an activity to build fluency. Pose an opening question that everyone can answer and have them type their answers into the chat or let them unmute and share. Focus on learning one another's names along with interesting information about one another!

Some questions you could ask include:

- What is your favorite flavor of ice cream?
- Where is the farthest place you've ever traveled?
- How many brothers and sisters do you have?
- What is your favorite color?
- If you could be any animal, what animal would you choose?
- What do you like about math?
- What is your favorite vegetable?
- What is your favorite snack?

Collect the data. You might collect data through Google Forms, Google Slides, Survey Monkey, Jamboard, or Virtual Whiteboard. Display the data and create different ways to represent the data (tallys, graphs, tables, etc.) Use the data to tell the “math story” of the class.

Building Community in a Virtual Classroom

Building community is an important aspect of teaching in a virtual environment! While things might feel a little different, many routines and tools are effective regardless of the environment. ST Math Immersion’s virtual program begins each class with an opening meeting. Use this time to build community and set the tone for the day’s lesson.

Class Meetings

Class meetings are important to build community, help students get set up for the day/week, and provide opportunity to put all student voices in the room. This could also be a great time to set and evaluate goals, explore math ideas, promote critical and creative thinking among students, and celebrate the brilliance of all students.

ST Math Immersion Virtual curriculum provides a customizable Class Meeting PowerPoint [[English](#)] [[Spanish](#)] for teacher use during the class meetings. The slide deck includes the following categories of activities to choose from.

ST Math Discussion

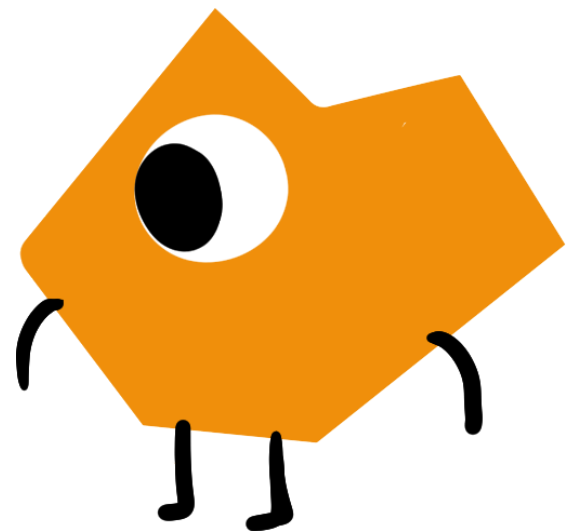
This is a great opportunity to remind students of the Problem Solving Process, have students share what they are learning in ST Math, discuss perseverance and how students are overcoming challenges they face in the puzzles. Use this time to connect math concepts with what students are learning and support them in building their schema.

Setting Goals

Students will use the ST Math Usage Tracker or ST Math Exit Journal to record their accomplishments during their time working on ST Math on their own. Use this time each week to discuss their goals, strategies to achieve their goals, and evaluate their progress toward their goals.

Students develop confidence and recognize their progress and growth by setting goals. Goal setting:

- Increases opportunities for student agency.
- Strengthens students’ ability to communicate what they have accomplished.
- Helps students identify areas for improvement.
- Teaches time management.
- Encourages focus on strategies to overcome challenges.



Engage students in goal setting conversations that help them to:

- Establish appropriate goals.
- Take action to achieve the goals.
- Build strategies for monitoring progress toward the goals.
- Adjust the goals based on quantitative and qualitative data to help them set future goals.

To support you in monitoring ST Math data visit our [Help Site](#). For more information read our blog on goal setting [Empowering Students Through Individual Goal Accountability](#).

Find Which One

Getting to know students and building relationships is an important part of the virtual environment. A great way to generate conversation is Christopher Danielson's Which One Doesn't Belong? In this routine, students choose one of the images that they believe does not fit with the others in the group.

The class meeting slide deck provides examples that can be used to promote whole class discussions. Students may select any one of the four choices as the one that doesn't belong as long as they can justify their reasoning. As you discuss with students, encourage them to ask questions to help clarify and advance their thinking.

Explore Numbers

Exploring numbers and their relationships supports students in developing a strong sense of numbers. The class meeting slide deck provides examples of numbers to explore. Show the students the numbers and have them tell you what they know about the numbers. You can do each number separate or you could have students do both numbers and make comparisons. You can also create your own numbers.

One way to engage students in exploring numbers is to use the same set of numbers for the week. Connect them to number lines, ten frames and see how many equations students can come up with to equal one of the numbers.

Celebrate Brilliance

One way to empower students and promote a positive mathematical identity is to celebrate their brilliance. The class meeting slides contain celebration certificates. Select one and celebrate the brilliance of students that you have noticed. Invite other students to share brilliance that they have felt themselves or seen in others. This is a great opportunity to call out those "soft skills" that students are developing in this program.



What makes ST Math Immersion unique?

The Science Behind the Learning

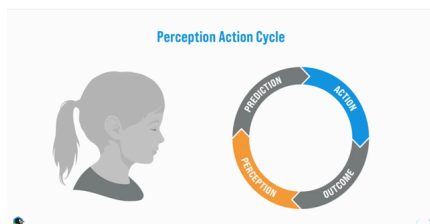
Building Schemas

Schemas are neural networks, our brain's way of organizing our thoughts and experiences. The way those networks get created and connected ends up defining your concept, or understanding of the topic. And when we talk about having a "deep conceptual understanding in math," we're talking about building schemas of mathematical concepts that give students the ability to solve problems they haven't seen before.

The puzzles, activities, problem solving, and discussions in the ST Math Immersion program support students in revising, extending, and building new schema around mathematics concepts.

Perception-Action Cycle (PAC)

Brain research tells us students learn by doing. They need to be given the opportunity to engage in meaningful content, make predictions, test those predictions, receive immediate, informative feedback as a result of their testing, and analyze that information to refine their thinking around the content.



The Cycle of Learning

This cycle of learning is known as the **perception-action cycle (PAC)** and it is the foundation of our award-winning ST Math program.

The perception-action cycle is this continuous flow of information and

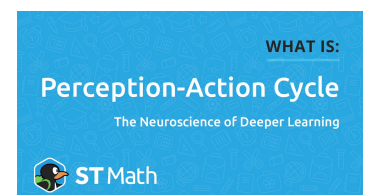
action between the brain and the world around it. On and on it goes: sense, predict, act, adjust. Sense, predict, act, adjust. This perception-action-cycle is embedded in our game-based learning design at MIND. ST Math puzzles take students through this cycle over and over, giving them a safe place to fail, providing new information through immediate and formative feedback, and inviting them to try again until they find the solution.



Check out this video to learn more about [schema](#).

Blogs on Schema:

- [Schemas are Key to Deep Conceptual Understanding](#)
- [Mathematical Coherence with ST Math](#)



Watch and learn more about [Perception Action Cycle](#).

Blogs on PAC:

- [What the Perception-Action Cycle Teaches us About How the Brain Learns](#)
- [Success and Failure: How Growth Mindset Can Change Education](#)

Academic Discourse

Effective Facilitation Strategies

Facilitation plays a pivotal role in creating a classroom rich with academic discourse. Effective facilitation promotes, deepens, and supports students' thinking as they grapple with concepts and build understanding. Students understand that they are accountable for their thinking, not just for writing correct answers. As teachers continue to engage students in focusing on what and how they are thinking, students will build confidence, increase their communication skills, and deepen their understanding of concepts.

Blogs on Effective Facilitation:

- [How ST Math's Problem Solving Process Develops Social Emotional Learning Skills](#)
- [Using the Art of Facilitation to Become a Better Math Teacher](#)



Problem Solving Process

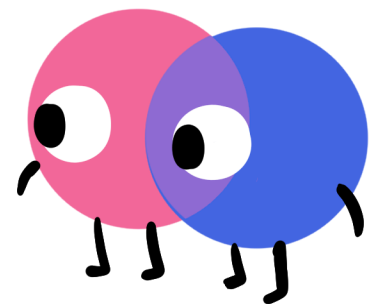
ST Math Immersion uses the Problem Solving Process designed to support teachers as facilitators and students as authors of their own ideas and sense-makers of mathematics. It is aligned with the **Perception-Action Cycle** and helps students develop skills that can be used outside of ST Math.

What is an Asset-Based Approach?

ST Math Immersion uses an asset-based approach to instruction through diversity, equity, and inclusion. An asset-based approach focuses on the student's strengths and talents instead of their deficits which is crucial to bringing equity in education. It supports students in seeing how they think about and engage in math. It is important that every student, teacher, administrator, family, and community see themselves in math. Math is from everywhere, in everything, and for everyone.

For too many students, math has been a hurdle to overcome. They are either identified or self-identify as people who can or can't do math. This identification follows students throughout their journey and impacts their learning experiences. One of the goals of ST Math Immersion is to help students build a positive math identity and instill confidence, joy, and wonder in their mathematics ability. It was designed to equip students with the agency to be a knower, doer, and sense maker of math.

The curriculum supports students in developing the understanding that they are capable and confident problem solvers. The lessons provide opportunities for student voices to be heard. Through the sharing of strategies, thoughts, and perspectives, students are positioned to see each other as mathematical resources and build on each other's ideas.



The teacher’s role in ST Math Immersion is to (1) facilitate student thinking; (2) position students as authors of their own learning; and (3) support students in developing the “soft” skills. Through this focus, teachers center student thinking and instead of teaching the puzzle, students learn that they can construct their own knowledge. They also learn that mistakes are not only okay, but they are expected and are part of the learning process. Having an asset-based approach helps students develop perseverance, resilience, growth mindset, and self-motivation. These are strengths that students can carry into the school year.

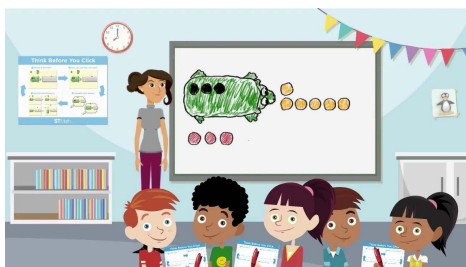
What are Puzzle Talks?

Facilitating In Action

Puzzle Talks

Puzzle Talks is a whole class time of facilitation and discussion which combines the ST Math Puzzles with the Problem Solving Process. Puzzle Talks are designed to extend, reinforce, connect, and build new mathematical schemas.

The facilitation of Puzzle Talks has been intentionally designed to develop students’ identity and agency as mathematics thinkers. Puzzle Talks are a way to get students thinking about and solving ST Math puzzles as a group and a key component of ST Math Immersion.



Puzzle Talks focus on **supporting student strategies and thinking about concepts presented in ST Math puzzles.**

The goal is **NOT** to teach the puzzle, but rather to uncover, discuss, and stretch the thinking of the students. The lessons in ST Math Immersion are built around Puzzle Talks. In the lesson plan overview, you will find the ST Math puzzles associated with the Puzzle Talks for the week.

Puzzle Talks promote rich discussions around math concepts and strategies. It is possible to extend a Puzzle Talk over several days as you discuss, compare, evaluate strategies and make connections. It is also one of the most flexible areas in the program which allows you to reduce or increase the amount of time to allow students to go through the problem solving process. In combination with the [Problem Solving Facilitation bookmark](#), we have included some engagement strategies that can be helpful during Puzzle Talks. Watch our video [Puzzle Talks in the Remote Classroom](#) to get a feel of what it looks like online.

Game in a Minute Videos located in ST Math Immersion site have been designed to give teachers an overview of the ST Math puzzles that will be used during the Puzzle Talks. These less than a



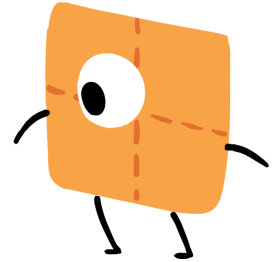
Watch this overview on [Puzzle Talks](#).

For more information on Puzzle Talks and how to do it remotely visit [Focus On: Using Puzzle Talks](#) on our Help Site.

minute videos also have a quick brief explanation of the puzzle’s objective and some facilitating questions at the end. Check out this Game in a Minute video on [Push Box Two Operations](#).

Strategies for Engaging Students in Discourse in a Virtual Environment

Facilitation plays a pivotal role in creating a classroom rich with academic discourse. It can be tricky to do in a virtual classroom, but it is important. Virtual discourse will take an additional amount of time as students share, read, type, and respond to their classmates. Below are some strategies for engaging students in a virtual environment. Encourage students to ask clarifying questions, evaluate their strategies and their thinking.



Chat Burst

Chat bursts allow for the whole class to share their thoughts at the same time rather than only a few students sharing either in the chat or on camera. Have students respond to a question or problem in the chat. Students WAIT to press “send” in the chat until the teacher gives the signal to share. When the teacher gives the signal, students send their response. Ask students to take a minute to read through the responses. Have students read the chat and select a response they want to discuss. Allow a few people to share and discuss the responses they selected from the chat. The teacher can highlight responses that are common or move forward the work of the lesson.

My Turn, Your Turn

When introducing a topic to the class, divide students in half for whole group conversation or pair them up in breakout groups. Have $\frac{1}{2}$ of the students tell you what they know about the topic while the others actively listen. You may want to set a timer. When time is up, have the other $\frac{1}{2}$ of the students tell you the questions they have about the topic while the rest actively listen. Once both groups have shared, discuss any further points on the topic.

#Hashtag Summary

Following a lesson or discussion have students reflect and come up with one to two words to summarize what they learned, a connection they made, or a key takeaway. Students will represent the word(s) as a hashtag.

Movie Title

Following a lesson or discussion have students summarize their learning in the name of a movie title.

Data Sign-In

Post a question in the chat at the beginning of class. Have students respond to the question as soon as they enter class. Discuss the question and make mathematical observations.

Popcorn Share

The teacher poses a question and calls on a student to unmute and share. That student answers and then picks another student to pass it to. That student answers and picks another and they continue popcorning around answering questions, adding thoughts, and responding to their classmates. This works well with short responses so the sharing is a quick burst like popcorn popping.

Think Pair Share

This popular discussion protocol works well in a virtual environment.

Think: Teacher asks questions and provides individual think time for students.

Pair: Students are paired to share their thinking on Google Slides with an assigned partner.

- Using the chat feature, the teacher can share the link to the Google Slides. Students open the slides and find the slide with their name. Be sure that the link is set so anyone with the link can edit.
- Students can type their responses while reading the response of their partner on the slide. Students can also include pictures of their work on the slide.
- This can also be done by placing students in breakout groups.

Share: Whole class sharing of ideas by returning to a class discussion. Another option is to use the “Comment” feature in Google Slides. Students can review the slides of other pairs and comment on their ideas. To prevent students from continuing to edit the work, the sharing privileges for the link can be changed from “Anyone can edit” to “Anyone can comment.”

Notice & Wonder

This discussion protocol is often used to begin a lesson and then used throughout the lesson as a framework for student-centered conversation.

Ask “What do you notice?” and “What do you wonder?” as open-ended questions. These questions allow students to share their thinking and the teacher has a window into students’ prior knowledge and

schema. It is important to honor students' thinking so accept all answers (even if they do not appear directly related to the way you are thinking about the problem). If possible, collect students' thoughts in a shared document.

As a community, determine the mathematical question you wish to explore. In this example, you might decide to explore which circles can be used to make $9/5$.

Clock Buddies

Give students a time schedule or an image of a clock. Have students write down a classmate's name for each time on the schedule/clock. Make sure each student writes one another's name on the same spot of their respective schedule/clocks. (i.e. If Carrie writes down Leo's name at 2:00, Leo should write down Carrie's name at 2:00). Assign students to private chat or go to a breakout room with their 4:00 Clock Buddy, etc.

I Wonder

Before learning a new topic or in the middle of a topic, put students in pairs or small groups in a breakout room. Have students discuss what they still wonder about/have questions about. Have groups share out in the big group and look for common misconceptions and questions.

Say Something

While students are working on a problem or assignment, suddenly say, "Say Something!" Ask students to unmute and comment on the problem, ask a question, etc. Have students get back to work and repeat after they work a little longer.

Write Something

While students are working on a problem or during a discussion where you want to hear from all students, suddenly say, "Write something!" Ask students to write into the chat a comment, question, or contribution to the conversation. Repeat periodically.

Turn & Talk

Students turn to talk in pairs by private chatting with an assigned classmate or discussing in small breakout groups. Another option is to have the students private chat with the teacher.

- They might share something they are wondering or an idea about how to begin the problem-solving process.

- In a virtual environment, you can use breakout rooms to provide students with time to turn & talk. Keep the time short while students are learning this routine - perhaps 90 seconds or less. This will keep students focused on the question you've asked them to answer.

This can be an opportunity to engage students in making connections and/or using reasoning & proof by asking them to justify their thinking to their partner.

Three Reads

Engage students in sense-making during problem-solving by reading the word problem or question three times in order to make sense of it.

- **First read:** Understand the context of the story. What is the big idea about what is happening?
- **Second read:** Identify the quantities that are given in the story.
- **Third read:** What mathematical questions could we explore? Or, what question is being asked? How might we work to find an answer?

Show Us How You Feel

Have students use the emojis available in the meeting platform to share their reaction to a question or statement.

Reaction Action

Give students a printout of a "!", a "?" and a speech bubble. Encourage students to hold up the appropriate card to react to the class conversation. The "!" indicates an "aha" moment, or something they hadn't thought of before. The "?" indicates they have a question. The speech bubble indicates they have something to say.

Word of the Day

Tell students before a lesson begins that when they hear the Word of the Day, they should make one of the chosen motions for everyone to see (i.e. jazz hands, round of applause, thumbs up, dance moves, etc.). Make the Word of the Day related to the vocabulary of the lesson.

Anticipation Guide

Pose a statement to students before class begins and ask them to write down whether they agree or disagree and why. Explain that they revisit the same statement at the end of class and see if their thinking has changed.



Our Google Docs

Open and share a Google Docs file with the class that students can add to during the discussion.



True or False

Pose different questions and have students simply type a “T” or “F” in the chat box. Use the students’ answers as a starting point for a discussion.



Show & Tell

Have students bring an object with them to the virtual class and display it so it can be seen by the other students. Occasionally, ask a student to unmute and tell about their object and why they chose to bring it to class.



Google Docs Review

Put students into small groups and have them look at the first Google Docs file, discuss the question and record their thinking. Then have groups move to the next Google Docs file. Read the response from the first group and discuss, and then add their group’s response to the Google Docs. Repeat with as many Google Docs files as needed to review a topic.



Chat & Chew

Invite students to bring their lunch to a scheduled discussion group. Post a question or problem on the screen as students arrive and encourage them to share their thoughts as they eat.



Bring a Buddy

Have younger students bring their favorite stuffed animal or action figure to class. Have students “Turn and Talk” to their buddy and then share their discussion with the class.



Scavenger Hunt

Set a timer and ask students to go and find objects that match a given clue or go with the topic you are teaching them (e.g. Bring back an object that is shaped like a cylinder! Bring back 5 small objects.).



Class Cheers

Teach students simple cheers that you can do together as a class to reward hard work and good thinking. Have students all unmute and do the cheer together to celebrate.



What's Your Strategy?

Have students solve a math problem and then create a short video to share their strategy. Have students watch the videos and choose their favorite strategy and explain why they like it.

What are Problem Solving Strategy Discussions?

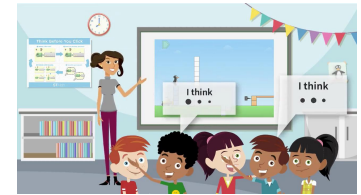
Extending Student Discourse

By focusing on the problem solving process, facilitation allows students and teachers to co-lead the learning. Students develop agency and accountability because they understand that their thinking is important. It is what will lead them to a deeper understanding. Facilitation is thinking-driven, not answer-driven.

Focus Discussion On

- Strategy sharing and exploration
- Visual to symbolic connections (including word problems)
- Making connections between and among concepts
- Vocabulary connections

Use engagement strategies to promote student-to-student discourse to create an atmosphere that fosters rich math conversations.



Problem Solving Resources

- [Problem Solving Strategy Discussions](#)
- [Problem Solving Facilitation Bookmark](#)

Student Engagement

Engaging students in discussions around problem solving activities is a great way to explore connections, expand perspectives, and have students check and challenge each other. Problem-solving activities provide a great opportunity to facilitate classroom discussions around student work. Whether you do a problem of the day or a math writing prompt, it is important to plan your goals and outcomes for the discussion prior to posing the problem to students.

Planning for the Discussion

Before students begin working on the problem solving activity, think about what your students might do to solve the problem and what mathematics you would want to point out and discuss.

Promoting Classroom Discussion Using student work

Prior to the class discussion, review the work that students have submitted. Order the work you selected to share from least sophisticated to most sophisticated. Include some work that has misconceptions and/or errors in reasoning.

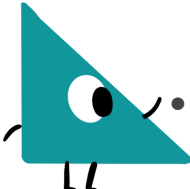
Ask students questions that engage them in discussions around both correct and incorrect reasoning. It is important for the teacher to remain in the role of facilitator and ask students questions to help them construct knowledge.

How do we monitor students' learning?

We have designed monitoring tools to help track the growth of student learning during ST Math Immersion. In the Problem Solving Journal, you will find My Thinking Path, ST Math Puzzle Reflection, and Exit Tickets. These graphic organizers encourage students to think about their own learning/schema so we are looking for similar evidence in each one. Problems of the Day and Math Writing Prompts can also be used to monitor students' learning by reviewing their answers.

My Thinking Path

What are things I already know about this topic?

Goal/Purpose	Support Student Thinking Prompts	Look For
<p>Students show they are beginning to unpack this new idea. They are engaging with the topic and trying to find connections to it. If they can find an access point to the topic, they will have more success understanding it.</p> 	<ul style="list-style-type: none"> • Could what we did yesterday help you with this topic? • Does this make you think of a game or activity you've done? • Are there math tools you think you could use to help you with this topic? • Where have you seen something like this outside of school? • What words/parts of this topic do you know and which are ones you don't? • Can you draw a picture of what this makes you think of? 	<ul style="list-style-type: none"> • Recall of previous day(s) lessons • Mathematical operations they may use • "It looks like when we did ___" • Real-world connections • Highlighting words that sounds familiar • "I think it has to do with ___ but I'm not sure" • Drawings of situations it could be used in or related math strategies • Examples using the topic

What are some questions I have about this topic?

Goal/Purpose	Support Student Thinking Prompts	Look For
<p>Students identify things they have questions about allowing them to address any confusion that comes up as they work through the topic. This also prepares students to be able to answer their own questions as they learn more about the topic.</p>	<ul style="list-style-type: none"> • Are there words here you have never heard? • Do you know when you would use this? • What about this topic seems confusing? 	<ul style="list-style-type: none"> • "Does it have to do with [previous topic]?" • "What does ___ mean?" • "Could this help me when I need to ___?" • Questions about how/when to use it

How are the puzzles connected to what I already know?

Goal/Purpose	Support Student Thinking Prompts	Look For
Students are practicing transferring concepts to new situations. They are accessing their schema to figure out ways to use previous skills in a new context.	<ul style="list-style-type: none"> Does this make you think of a game or activity you've done? Have you seen the images in these puzzles before? What math operations have you used before? 	<ul style="list-style-type: none"> Mathematical operations they may use "It looks like when we did ___" Real-world connections Other ST puzzles Math games they have played Math problems from previous lessons



What new things did I learn in playing the puzzles? Did the puzzles make me think of anything differently?


Goal/Purpose	Support Student Thinking Prompts	Look For
Encourage students to think metacognitively as they are solving ST math puzzles. Since they know they will be asked about what they learned, they will be thinking about it and aware of it as they play.	<ul style="list-style-type: none"> What was different in this puzzle from other ones you have played? Did you have to think about something in a new way from the other puzzles? What did you try that didn't work? What did you do instead? If you had to help someone else solve this puzzle, what might you tell them? 	<ul style="list-style-type: none"> Operations used in the lesson Terms for operations (joining, separating, taking away, fraction words) Example problems Tips they would give to help someone solve Situations/context the math could be used Organization/soft skills

What challenges am I having/questions I still have about this topic?

Goal/Purpose	Support Student Thinking Prompts	Look For
Build the idea that our learning doesn't end and there is always more to know. It is also important for students to be okay with having lingering questions and become comfortable with not fully understanding something. This is what pushes us to grow	<ul style="list-style-type: none"> What parts of the game still seemed hard on the last level? What questions do you think you need more practice with? What are you curious about? What do you want to know that the game/teacher didn't show you today? Did you get a question correct and you don't know why? Do you think there are other ways to solve these types of problems? Did your strategy today feel efficient? Do you want to try something new? 	<ul style="list-style-type: none"> Examples of problems they got stuck on/solved incorrectly "Where can I use this in the real world?" "Why was I correct when I did ___?" "I want someone to explain this part to me again: ___" A picture of a tricky part of the puzzle "What would I do if I was given this situation: ___?" "Could I also use a different strategy?" "How could I make this problem easier to solve?"

ST Math Puzzle Reflection

The ST Math Puzzle Reflection gives students the opportunity to have a 1:1 experience with the ST Math puzzles. It captures their ST Math quantitative data and qualitative data. It asks students to show what they learned while playing the ST Math puzzles. It is up to the teacher to decide the content they want students to engage in during Immersion.

	Goal/Purpose	Support Student Thinking Prompts	Look For
Top Data Points	<p>Students will be able to associate these numbers with their progress. This way they can hold themselves accountable as the numbers grow/decrease.</p> 	<ul style="list-style-type: none"> • What does [levels%/minutes/puzzles] tell us? • Why do you think we should write these numbers down each day? • How has it changed from last week? • What do you want to change next week? 	<ul style="list-style-type: none"> • Correct input of data • Understanding the difference between each piece of data • Recognizing this shows us how we are 'growing our brain' each day
Open-Ended Questions	<p>Reinforce student learning. Having them put new ideas into their own words or pictures will help the new understanding 'stick.' Students can also refer back to this when stuck on a problem in the future or to remind them of their growth and build their confidence.</p>	<ul style="list-style-type: none"> • Tell me about the problem we did together on the carpet. • What did you tell Jiji to do in the ST math puzzle? • What did you have to do to try and win the ST Math puzzle you played at your station? • When would you use the math we did today? • What other kinds of problems could it help with? • What did you do today that made solving math easier? • What part of today's lesson made you feel proud? • What part of the lesson was hard at first? 	<ul style="list-style-type: none"> • Operations used in the lesson • Terms for operations (joining, separating, taking away, fraction words) • Example problems • Situations/context the math could be used • Organization/soft skills 