ST Math (Middle School) Start-Up Guide Long Beach Unified 2015-2016

MIND Research Institute
A neuroscience and education social benefit organization

ST Math and Long Beach Unified Getting Started Guide 2015-2016 Implementation Process Middle School

Welcome to ST Math!

Contact Information/Resources:
(helpful tip: program this contact info into your Smartphone)

Vivian Doughty, Education Consultant
vdoughty@mindresearch.org (best)
cell or text: 562-760-2473

Technical Support: 888-491-6603 (6am to 5pm M-F)

Teacher Resource Site: trs.stmath.com
Training Manual: trs.stmath.com
new and interactive - yes! - it's gone green!!

Self-Guided Instruction: trs.stmath.com

Free Webinar Information: trs.stmath.com

Prior to Start-Up – Prepare:

Assure your login to stmath.com

- New Teachers/Admin will receive an email from MIND Research with login instructions. This includes teachers/admin who may have had ST Math accounts at a previous school site, but are new to their current site.
- Returning Teachers (to the same school site as last year) utilize previous login. Please don't hesitate to contact Vivian or Tech Support if you need assistance with your login. We are happy to help!

Assure your class roster is populated –

- Your students should be rostered/populated onto your stmath.com teacher console records prior to ST Math start-up. The first student rosters of 2015-16 have been run and should be aligned to your name. If a student does not appear on your roster, then the on-going rostering process is still being updated for that student. Plan alternate activities for student until name appears on your roster. Ass

- Being that the rostering process is ongoing throughout the school year, students transferring in/out of your class will typically be updated within a week. You will not have to do anything. LBUSD Synergy and MIND Engineers work on this rostering process together.

Be Aware of Student Login Changes to STMath –

- Inspired by LBUSD teacher, Arlena Gilmore(Starr-King), we've created a custom 'Ticket to JiJi' for all students. It is embedded below for your review/usage. It provides a step-by-step pictorial of student login, contains a place-holder for student name/username/ password and provides the process for students who forget their picture password. Photocopy enough copies (2-sided) for all your students.

- To our best knowledge, the portal (and all the steps) will remain unchanged. Be mindful there are a few extra steps upon first login.

Special Needs Populations

You may create a classroom for students who's IEP requires a different math grade level.
If you are unable to create the custom class, please contact Vivian for more assistance.
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'What's New' in ST Math 6th Grade!

Per district level meetings in June, we've now placed all sixth grade students in 6th Grade STMath. This allows students to play only grade level content. Intervention content is no longer the rule for the majority of students. Please let me know if there are targeted populations of students who may require a differentiated intervention model (geared toward grade 2-5 intervention.)

New Standards Beta Report is now available by class/by student, see sample.

AFTER Start-Up :

Monitor students as they work

- Read and use reports to create an intervention plan for each session.
- Use the onscreen indicators to target which additional students need support.
- Speak to all students regularly to gather formative assessment data.
- Facilitate students by using Teacher Mode and asking open-ended questions.

Connect to instruction

- Be sure to check ST Math curriculum order and align with LBUSD Unit guides. Drag and drop the objectives to make this alignment.
- Project and play ST Math games with students in the classroom.
- Discuss math concepts presented in the games, connect them to symbolic representations, and develop mathematical vocabulary.
- Incorporate ST Math games into lesson plans.
- Use the visual mathematical models to solve word problems and problems from the textbook with students.

New Tools! (All forms follow in Start-Up Guide)

The JiJi Stuck Journal engages students in thinking about their thinking, evaluating their strategies, and making connections. This tool may be used as:

A reflection tool to help students think about and evaluate their strategies.
A way for students to connect the math in the games to classroom lessons.
A tool for stuck students who need help thinking through a puzzle. It can be a resource just like manipulatives, whiteboards, or paper/pencil. Students may fill this out before asking for teacher assistance.
A structure to help students practice mathematical communication. Using a document camera, students can share their thinking (and even their "stuckness") with the whole class.

Structures to support accountability: Teaching students to be self-directed learners mean that they take responsibility for their own learning. Consider using some of the following tracking documents:

Students can record their session progress shown on the Today's Accomplishments screen using the Progress Accomplishments form. This might be used for reflection, goal setting, or as data to be used for a data analysis lesson. It's a great way to see how students are doing over time.

The Show Your Work Pre- and Post-Quiz Recording Sheets offer students a place to record their work on the pre- and post-quizzes. When turned in, it communicates not only the scores but also how they answered each question.

Students record pre- and post-quiz scores for each objective on the Quiz Tracking Sheets. Students might even use this to plan their own interventions. The How Am I Doing in ST Math document shows students how to access their own data.

Mini-lessons to provide formative assessment data and build connections: Based on data from reports, anecdotal observations, and any of the tools mentioned above, create mini-lessons using ST Math games. Focusing on both content and processes will develop amazing problem solvers who can reason and communicate mathematically.

Technology Procedures and Protocols: Whole Class

Teach

For students to gain the most from ST Math, it is helpful to teach students specific procedures. Time spent setting these rules and protocols at the beginning will ensure that student on-task time is increased, maximizing learning and achievement. Here are topics to consider when setting rules and procedures for using ST Math:

Scheduling: The recommended schedule for use of ST Math is 60 minutes per week for kindergarten and first grade, and 90 minutes per week for all other grades. Sessions should be no less than 30 minutes.

Transition Times: Carefully plan how you will transition to ST Math. Take into consideration getting to and from the computer lab, setting up laptops or tablets, or utilizing classroom computers and rotation schedules efficiently. Minimizing transition times will maximize ST Math time.

Assigning students to computers: Assigned seating is recommended. This is also true for assigning laptops or tablets to specific students.

Acceptable noise level: Think of your comfort level in terms of noise during JiJi time and require that of your students.

Backpacks, books, and other materials brought to the lab: Make sure you implement rules on what the students should do with their personal belongings if they go to a lab.

Closure: Provide a closure activity at the end of each session. Students may write in a journal, answer a reflective question, write a summary, or participate in a brief discussion. Whatever activity you choose, encourage students to reflect on the math they have learned from the games. Have students reflect at the "Today's Accomplishments" screen to reinforce effort, progress and achievement.

KEYS TO MAKING THE MOST OF JIJI TIME:

- A schedule
- Working devices
- Procedures
- Seating charts
- Manipulatives
- Paper and pencil
- Teachers use onscreen indicators
- Teachers facilitate
- Teachers use reports
- Students think through puzzles
- Students watch visual feedback
- Students persevere
- Extra time for play

Other materials for students: All students use the on-screen visuals in the ST Math games to solve complex math problems. On occasion, some students might need materials outside the games to enhance their learning. By having access to certain manipulatives, and/or paper and pencil, students can choose the tools they need to support their visualization process.

JiJi Toolkit

1

2

3

Technology Procedures and Protocols: Rotation

Teach

For students to gain the most from ST Math, it is helpful to teach students specific procedures. Time spent setting these rules and protocols at the beginning will ensure that student on-task time is increased, maximizing learning and achievement. Here are topics to consider when setting rules and procedures for using ST Math using a station or rotation model.

Scheduling: The recommended schedule for use of ST Math is 60 minutes per week for kindergarten and first grade, and 90 minutes per week for all other grades. Sessions should be no less than 25-30 minutes. Make sure the rotation schedule and student groups are visible to students.

Transition Times: Carefully plan and practice how you will transition to ST Math. Take into consideration device locations, student movement in the classroom, and a 2-minute warning timer so students have time to prepare for the next station. Minimizing transition times will maximize ST Math time.

Fostering Independent Problem Solving: Create a culture of perseverance, learning by doing, and mistakes as learning opportunities. Have a system so students can let you know that they need help. A JiJi Stuck Journal () and Thinking Mat () can help explain where and why students are stuck, especially when used alongside the reports. Plan a time to review student work and the reports so you can address the stuck students. A great solution – incorporate stuck places into small group instruction.

Student Accountability: Have a system in place for students to take responsibility for their progress and understanding. You may want to use tracking documents () or journals.

Reflection: Provide a reflection activity at the end of each session. Students may write in a journal, answer a reflective question, or write a summary. Whatever activity you choose, encourage students to reflect on the math they have learned from the games. The "Today's Accomplishments" screen can reinforce effort, progress, and achievement.

Materials: A JiJi toolkit with manipulatives, journals, game mats in sheet protectors, and individual Think Before You Click posters help students work through puzzles. Spending time at the beginning of the year solving puzzles as a whole class using these materials will help students have more success working independently.

KEYS TO MAKING THE MOST OF JIJI TIME:

- A visible schedule
- Goal setting
- Procedures
- Quick transitions
- Manipulatives
- Paper and pencil
- Teachers use onscreen indicators
- Teachers facilitate
- Teachers use reports
- Students think through puzzles
- Students watch visual feedback
- Students persevere
- Extra time for play

JiJi Toolkit

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2

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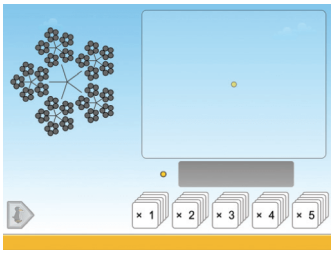
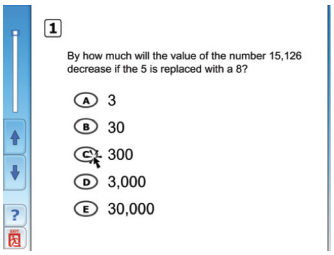
Introducing ST Math

Take a few minutes before students begin to use ST Math to introduce the games and the password.



Share the following with students:

- ✓ The games are designed using research in neuroscience to make learning math easier.
- ✓ Just like in video games, rather than being told how to play, students must figure out how to solve the puzzles.
- ✓ Making mistakes can actually help sometimes.
- ✓ Watching the animation is critical to figuring out how the game works.
- ✓ Use paper, pencil, or other materials, but NO calculators to figure out your answers.
- ✓ It is OK to ask for help; the teacher can help students examine the animation more closely.
- ✓ Take your time on all quizzes.



You might say (either while projecting a game from Test Drive or just as an introduction):

Today you're going to start working on a program that **helps you learn math in a totally different way.** And I want you to notice that I didn't say it teaches you math, I said it helps you learn math.

There is a penguin named JiJi that you need to help get from one side of the screen to the other. That's it. There are no directions and I'm not going to tell you how to figure it out. In each of the games, there will be something blocking JiJi's path and you have to figure out how to clear it.

The game will give you **immediate feedback** that lets you know if you were right or wrong. If you got it wrong, you have to use that feedback to figure out what you did wrong. And that's where the brain science comes in. Scientists know that we learn best when we perform an action, see the results, and then adjust what we do. It's called the **perception-action cycle**. (If your students are interested in this, you could also tell them that the games take advantage of the tight-looped reciprocal connections between the perceptual and executive hierarchies of the posterior and frontal cortices!)

So here are the rules:

- **Do your own work.** This is about you building your own understanding.
- **Expect to make mistakes.** That's how your brain is going to figure out what to do.
- **Think about what you're doing.** What problem are you being asked to solve?
- **Use paper and pencil or manipulatives** if you think they would help.
- **If you really, truly are stuck,** ask me, not a friend, for help.
- **There will be quizzes.** Please do your best on all quizzes and, when they ask you whether you're sure about your answer, tell the truth.

STMath Middle School Login Procedures LBUSD 2015/2016

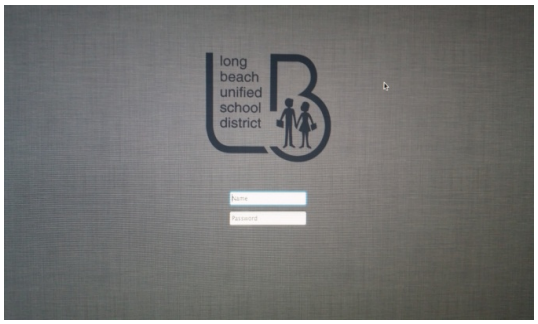
District Username:_____

District Password:_____

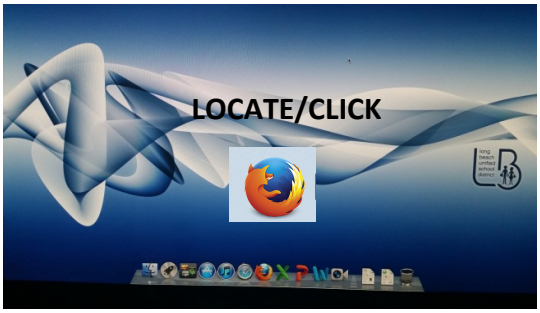
Student Name:_____

Fold Vertically and Flow Downward/Invert/Repeat

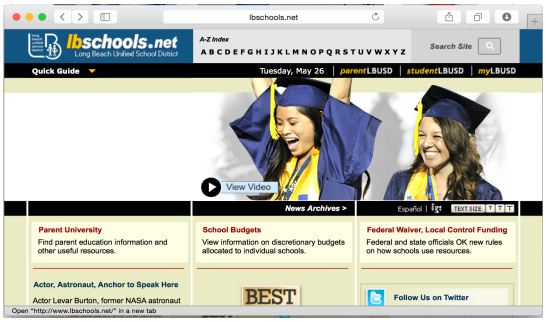
1 Type District Username/Password



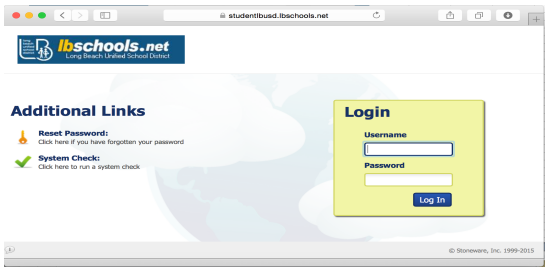
2 Click Mozilla Firefox Icon



3 Click | studentLBUSD | upper right



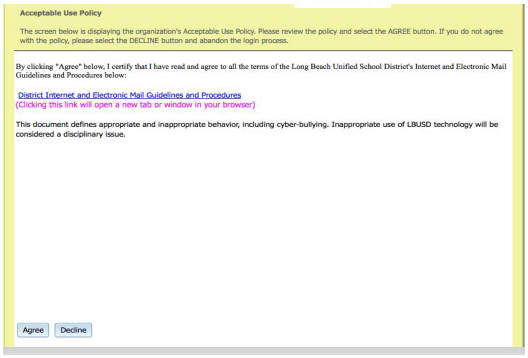
4 Type District Username/Password



5 First Day Portal Set-Up

Acceptable Use Policy

Lower Left Click: Agree



6 First Day Portal Set-Up (3 clicks)

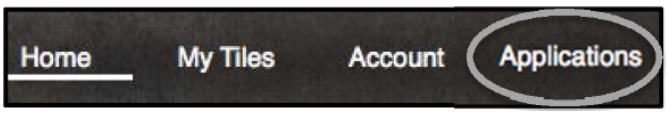
Lower Left Click: 'Don't Show Again'

Next, Upper Right Click X in black pane.

Next, Upper right Click X same area.

7 First Day Portal Set-Up

Next, Lower Center Click 'Applications'



STMath Middle School Login Procedures LBUSD 2015/2016

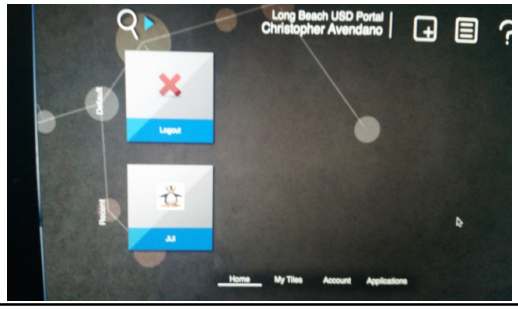
District Username:_____

District Password:_____

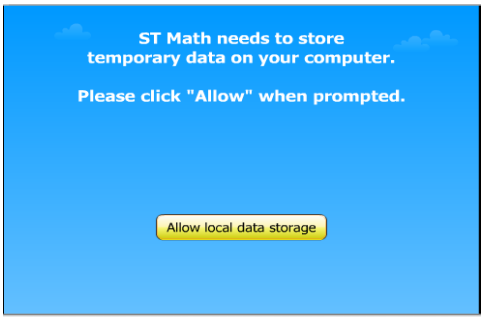
Student:_____

8 EVERY DAY PROCEDURES

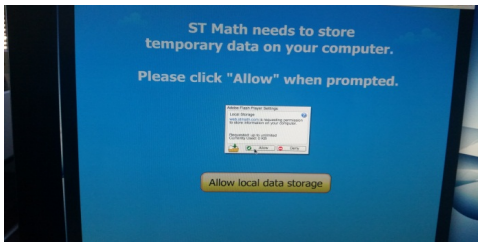
Click JiJi Icon: lower left



9 Click 'Allow local data storage'



10 In tiny box, green circle, white check mark, click 'agree'



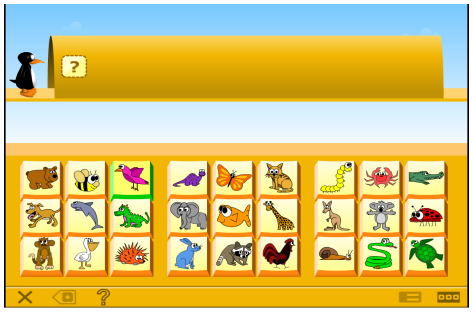
11 Do You Remember Your PIcture Password?

Yes? Click on JiJi /Enter Pictures/Play the Gray

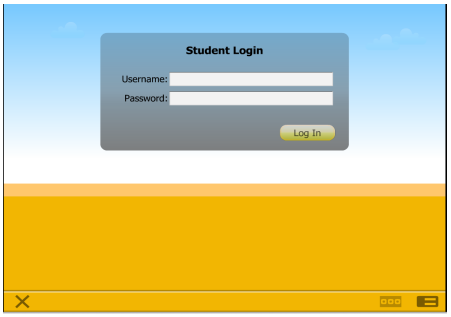
If you are new or forgot, then, go to step 12

Do not use the little green man+ button lower left!

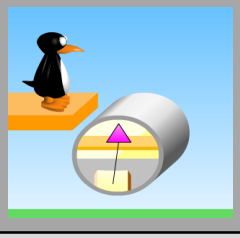
12 Click Equal sign Lower Right:

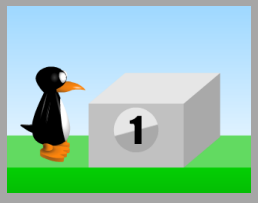


13 Type District Username/Password

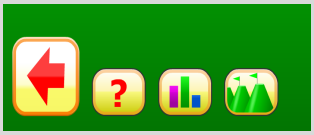


14 Play the Gray!





15 To finish playing: Click arrows/lower left -then X out! Green Bubbles Rise!

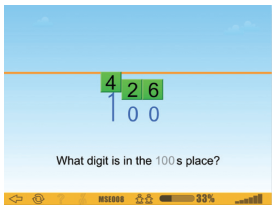


Day 1 Procedures: Exiting ST Math

Teach

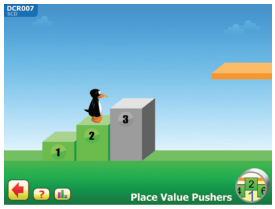
Important: On the computer, do not close the web browser, and do not use command+Q or alt+F4 to exit. On tablet devices, do not press the home button or close your app to exit ST Math.
Students must use the following process for their work to be saved.

1



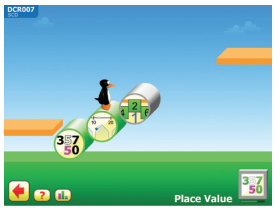
Select the ⇦ button.

2



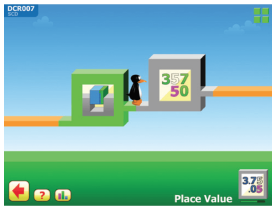
Select the ◀ button.

3



Select the ◀ button.

4

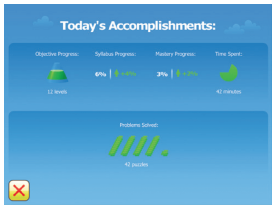


Select the ◀ button.

5

Select the ◀ button.

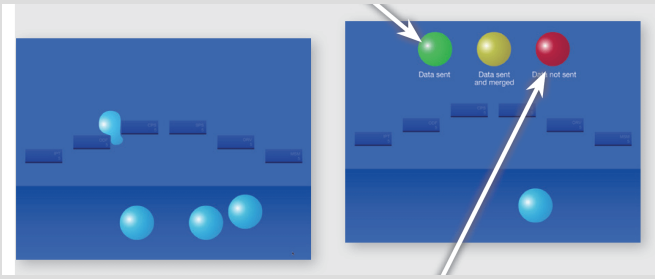
6



Select the ✕ button.

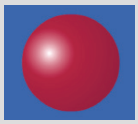
Successful Data Transfer (green/yellow bubbles)

Data has been successfully stored on the MIND Research Institute server. The next time the students log in, progress will resume from where they left off.



Unsuccessful Data Transfer (red bubbles)

ST Math was unable to transmit data to the MIND Research Institute server at the moment. ST Math is designed to store each student's progress on the local device. Have students use the same device next time they log in. The data will be transmitted the next time the student exits with an Internet connection.



ASK STUDENTS TO TELL YOU IF THEY SEE RED BUBBLES

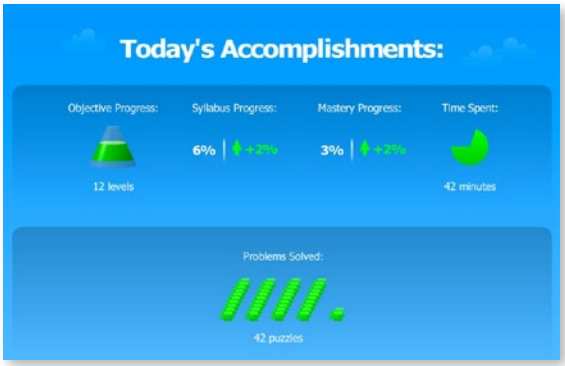
Tip: To help students remember their passwords after their initial training, leave enough time at the end of your ST Math session to have students log out of ST Math and then log back in using their passwords. This will not only give them additional practice with the password, but reinforce that students will enter ST Math using their password from now on.

JiJi Journal
I'm stuck!

Name: _____
Current Objective: _____
Game: _____ Level: _____
Date: _____

Use pictures, words, and equations in the boxes below to think through the puzzle.

What I learned in the previous games/levels:	**I have already tried...**
What does JiJi show me when I try my answer?	**I am struggling with...**



Name _____

STMath

Accomplishments Log

Date	Levels Completed	Syllabus Progress Overall	Syllabus Progress Increase (X if less than 1%)	Time Spent	Problems Solved
9/10	*12*	*6%*	*+2%*	*42 min.*	*42 puzzles*

MIND Research Institute

ST Math Pre-Quiz
Show Your Work

Name: _____
Objective: _____
Pre-quiz score: _____
Date _____

Instructions: Write out the question or problem. Show your work and record your final answer in the box provided. Try your best! After you get the results, mark the problems correct or incorrect.

1.	2.	3.
4.	5.	6.

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ED-ST-004-150707

ST Math Post-Quiz
Show Your Work

Name: _____
Objective: _____
Pre-quiz score: _____ Post-quiz score: _____
Date _____

Instructions: Write out the question or problem. Show your work and record your final answer in the box provided. Try your best! After you get the results, mark the problems correct or incorrect.

1.	2.	3.
4.	5.	6.

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ED-ST-005-150707

STMath Quiz Tracking Sheet

Grade 6: Common Core 2015-2016

Student Name _____ Math Teacher _____

Directions: This tool will help you to track your progress. As you complete each quiz, write your pre- or post-quiz score next to each objective.

	Pre	Post
The Number System		
Negative Numbers		
Geometry		
Coordinates and Distances		
Ratios and Proportional Relationships		
Proportional Reasoning		
Percents		
Unit Rates, Tables, and Graphs		
Applying Rates and Ratios		
The Number System		
Factors and Multiples		
Expressions and Equations		
Properties of Operations		
Using Parentheses		
Solving One-Step Equations		
Linear Relationships		
Exponents		

	Pre	Post
The Number System		
Division Algorithm		
Fraction Division		
Decimal Addition and Subtraction		
Geometry		
Area of Polygons		
The Number System		
Decimal Multiplication		
Decimal Division		
Statistics and Probability		
Mean, Median, Mode, and Range		

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STMath Quiz Tracking Sheet

Grade 7 MSS: Common Core 2015-2016

Student Name _____ Math Teacher _____

Directions: This tool will help you to track your progress. As you complete each quiz, write your pre- or post-quiz score next to each objective. If you test out of an objective record an X in the corresponding box.

Number System Concepts	Pre	Post
Base Ten Concepts		
Expanded Form and Place Names		
Ordering and Comparing Whole Numbers		
Whole Number Addition		
Whole Number Subtraction		
Multiplication Algorithm		
Division Algorithm		

Fractions	Pre	Post
Visual Fraction Concepts		
Fractions on the Number Line		
Comparing and Equivalent Fractions		
Fraction Addition and Subtraction		
Fraction Multiplication		
Unlike Denominator Concepts and Strategies		
Unlike Denominator Addition and Subtraction		
Fraction Division		

Decimals	Pre	Post
Fraction Decimal Equivalence		
Decimal Place Value		
Rounding		
Decimal Addition and Subtraction		
Decimal Multiplication		
Decimal Division		

Geometry, Measurement, and Data	Pre	Post
Shapes and Attributes		
Area and Perimeter		
Volume		
Data and Graphing		
Area of Polygons		

The Number System	Pre	Post
Rational Concepts		
Negative Numbers		
Coordinates and Distances		
Addition and Subtraction with Negative Numbers		
Multiplication and Division with Negative Numbers		
Multiplying and Dividing Rational Numbers		
Adding and Subtracting Rational Numbers		

Ratios and Proportional Relationships	Pre	Post
Proportional Relationships		
Percents		
Unit Rates, Tables, and Graphs		
Applying Rates and Ratios		

Expressions and Equations	Pre	Post
Factors and Multiples		
Properties of Operations		
Using Parentheses		
Solving One-Step Equations		
Solving Two-Step Equations		
Linear Relationships		
Exponents		

Geometry	Pre	Post
Polygon Angle Sums		

Statistics and Probability	Pre	Post
Probability		
Mean, Median, Mode and Range		

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ST Math® Quiz Tracking Sheet

Grade 8 MSS: Common Core 2015-2016

Student Name _____ Math Teacher _____

Directions: This tool will help you to track your progress. As you complete each quiz, write your pre- or post-quiz score next to each objective. If you test out of an objective record an X in the corresponding box.

Number System Concepts	Pre	Post
Base Ten Concepts		
Expanded Form and Place Names		
Ordering and Comparing Whole Numbers		
Whole Number Addition		
Whole Number Subtraction		
Multiplication Algorithm		
Division Algorithm		

Fractions	Pre	Post
Visual Fraction Concepts		
Fractions on the Number Line		
Comparing and Equivalent Fractions		
Fraction Addition and Subtraction		
Fraction Multiplication		
Unlike Denominator Concepts and Strategies		
Unlike Denominator Addition and Subtraction		
Fraction Division		

Decimals	Pre	Post
Fraction Decimal Equivalence		
Decimal Place Value		
Rounding		
Decimal Addition and Subtraction		
Decimal Multiplication		
Decimal Division		

Geometry, Measurement and Data	Pre	Post
Shapes and Attributes		
Area and Perimeter		
Volume		
Data and Graphing		
Area of Polygons		

The Number System	Pre	Post
Rational Concepts		
Negative Numbers		
Coordinates and Distances		
Addition and Subtraction with Negative Numbers		
Multiplication and Division with Negative Numbers		
Multiplying and Dividing Rational Numbers		
Adding and Subtracting Rational Numbers		

Ratios and Proportional Relationships	Pre	Post
Proportional Relationships		
Percents		
Unit Rates, Tables, and Graphs		
Applying Rates and Ratios		

Expressions and Equations	Pre	Post
Factors and Multiples		
Properties of Operations		
Using Parentheses		
Solving One-Step Equations		
Solving Two-Step Equations		
Solving Linear Equations		
Exponents, Squares and Roots		

Functions	Pre	Post
Linear Relationships		
Graphing Linear Functions		

Geometry	Pre	Post
Polygon Angle Sums		

Statistics and Probability	Pre	Post
Probability		
Mean, Median, Mode and Range		

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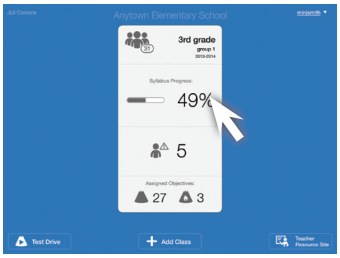
Standards Report: Class View

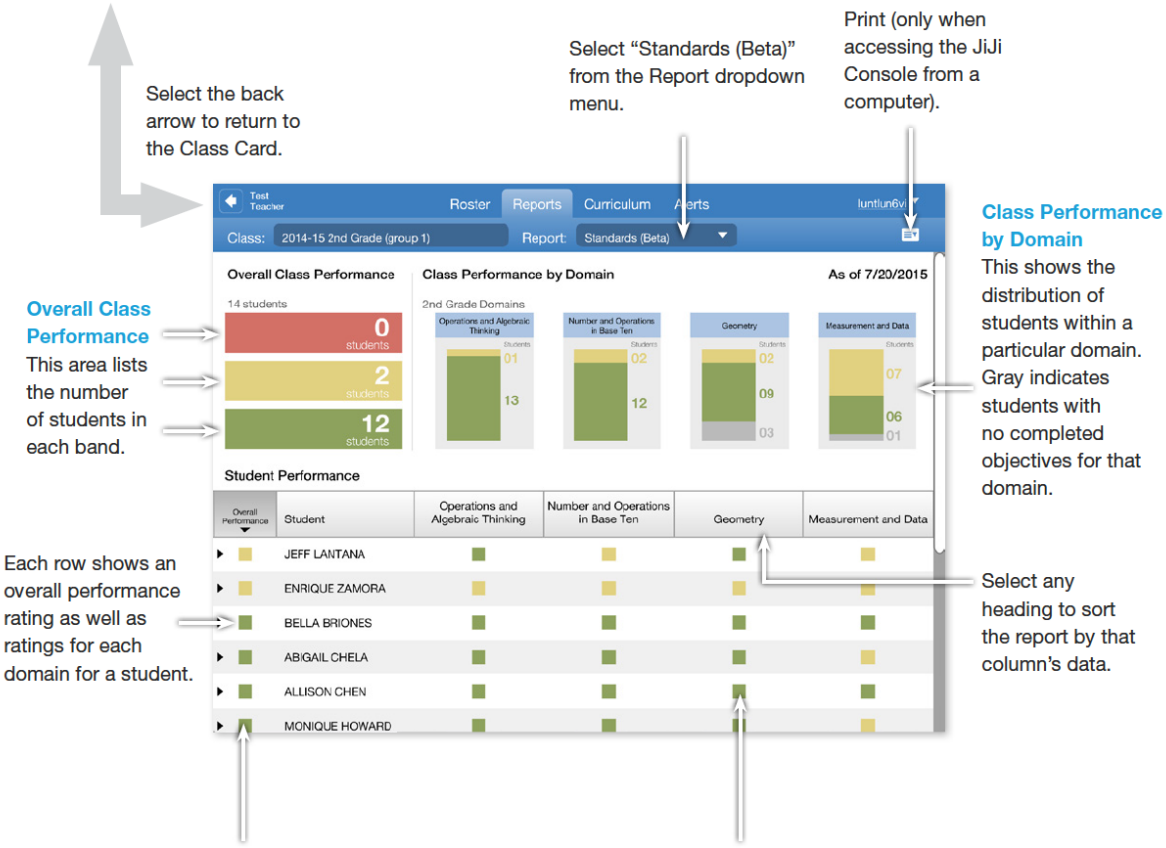
Monitor

The Standards Report uses students' actual performance in the content along with post-quiz scores to determine their performance level for each objective completed.The Cluster Alignment lists the standards clusters that are directly addressed and/or supported within each objective.

There is a score for each objective, a cumulative score for each domain, and an overall performance score. Data can be seen for individual students or for the class.



Navigate to the Report tab by selecting the **Syllabus Progress** section of the Class Card.



Overall Student Performance
This indicates overall rating for **all** domains based on ratings from completed objectives within each domain.

Student Performance by Domain
Look here to find an overall rating by domain. This is calculated using the number of hurdles and the score on the post-quizzes for completed objectives within that domain.

A gray box indicates that a student has begun, but not completed, an objective in this domain.

Standards Report: Student View

Monitor

Each student has an overall performance rating, a cumulative rating for each domain in which at least one objective has been completed, and a rating for each objective. The first objectives completed in a domain can provide an early indicator of student performance and provides an opportunity for the teacher to adjust instruction to impact student performance and learning.

Selecting any of the colored boxes will open the student view in the Standards Report. Here is found:

- A list of all objectives within the domain
- A correlation of the ST Math objectives to the standards clusters
- A performance rating for each completed objective based on the number of hurdles and the Post-quiz score
- A link to Test Drive to see the games and quizzes in the objective

Overall Performance
Select this box to open a detailed view, showing all of the data for all of the domains the student has started. This view includes ratings and cluster alignment for each objective within each domain.

Performance by Domain
Select this box to open a detailed view showing all of the data for this specific domain. See the student's ratings, number of hurdles, Pre- and Post-quiz scores, and cluster alignment for each objective within the domain.

This provides a direct link to the objective in the software, allowing access to the games and quizzes for that objective.

Indicates that a standards cluster is directly addressed within the curriculum.

Provides a description of the standards cluster.

Indicates that a standards cluster is supported by the curriculum.