San Diego Enhanced Math Research Team PD
September 12, 2019
8:00-3:00

Agenda for Today:

- 8:00-8:15 - Small Group Documentation - What's working, what's not?
- 8:15-9:45 - Looking at Unit 1 or 2 (choice)
- 9:45-10:00 BREAK
- 10:00 - 11:00 - Planning a Week
- 11:00 - 12:00 - Formative Assessments and Scoring (Use actual Unit 1 responses)
- 12:00 - 1:00 - LUNCH
- 1:00-1:45 Lesson Planning
- 1:45-2:30 - Grading and Powerschool
- 2:30 - 2:45 - Baseline SD Assessment
- 2:45 - 3:00 - Reflection/Closure
- Optional 3:00-3:30 Tech Support with Support Teachers

Small Group Documentation: What's Working? What's Not?

Make Groups of 4 Such That:

There are 2 middle school teachers

There are 2 high school teachers

No 2 teachers are from the same site

Someone from the Leadership Team will be joining you to listen and take notes

In Your Groups Discuss

What is an area where you are feeling success?

Describe in detail what is going well for you and/or your students.

3 minutes

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Describe in detail what is going well for you and/or your students.

What is an area where you are feeling challenged?

Describe in detail what has been difficult for you and/or your students.

3 minutes

In Your Groups Discuss

What is an area where you are feeling success?

Describe in detail what is going well for you and/or your students.

What is an area where you are feeling challenged?

Describe in detail what has been difficult for you and/or your students.

How can the Leadership Team support you?

Describe in detail what support would be useful for you to feel successful.

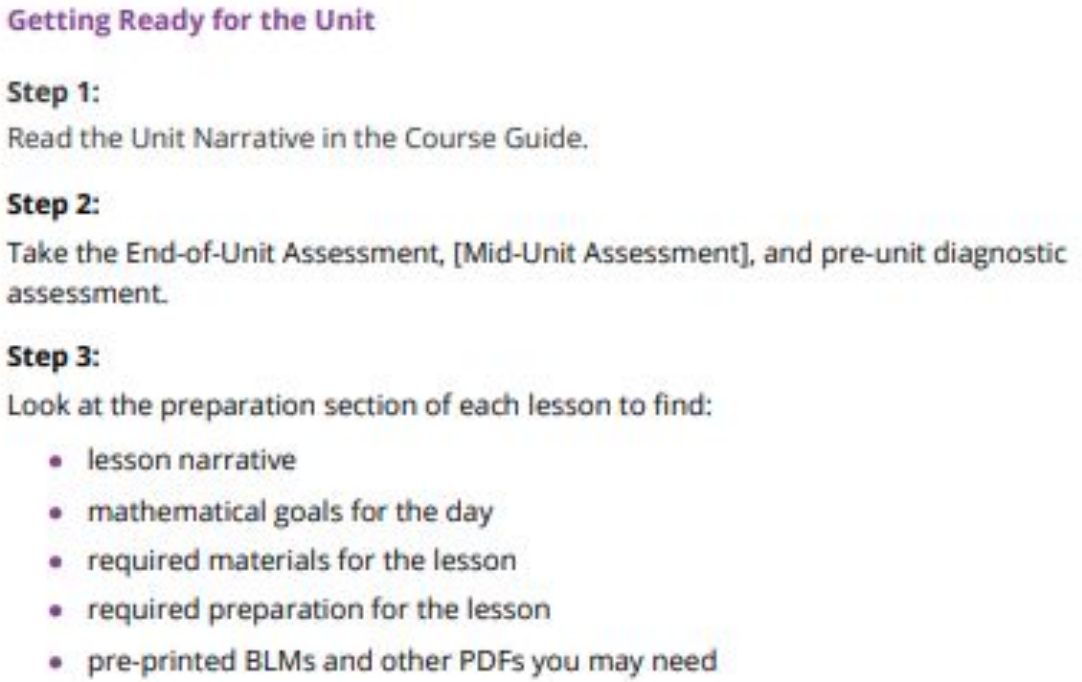
3 minutes

Let’s Take a Look at Unit Planning

Pick Unit 1 or Unit 2

Unit Planning Protocol

- Please select the link for your chosen “Unit Planning” document in Google Classroom.
- When you open the document, it should create a separate copy attached to your account.
- Follow the steps and add text where prompted



Getting Ready for the Unit

Step 1:

Read the Unit Narrative in the Course Guide.

Step 2:

Take the End-of-Unit Assessment, [Mid-Unit Assessment], and pre-unit diagnostic assessment.

Step 3:

Look at the preparation section of each lesson to find:

- lesson narrative
- mathematical goals for the day
- required materials for the lesson
- required preparation for the lesson
- pre-printed BLMs and other PDFs you may need


BREAK

Let’s Take a Look at Weekly Planning

Stick With What You Picked: Unit 1 or Unit 2

Getting Ready for a Week

Planning a Week	
Step 1	Read the lesson narratives and lesson goals for all 5 days. • Identify how the lessons progress. • What is the new idea each day?
Step 2	Do all 5 of the cool-downs. • Identify how the cool-downs progress. • How is that new idea addressed mathematically?
Step 3	Read the warm-up, activities, activity syntheses, and lesson synthesis for each day. • Identify the key understanding in each. • How does each piece connect to the learning goal(s)?
Step 4	Read each activity launch. • Identify places to address any student misunderstandings. • Where are opportunities to build in questions to support student understanding?
Step 5	Print all cool-downs and blackline masters for the week.

Planning a Week

- Please select the link for “Planning a Week” in Google Classroom.
- When you open the document, it should create a separate copy attached to your account. Only one in each team needs to submit this assignment.
  - Share the document with your school partner(s)
- Follow the steps and add text where prompted

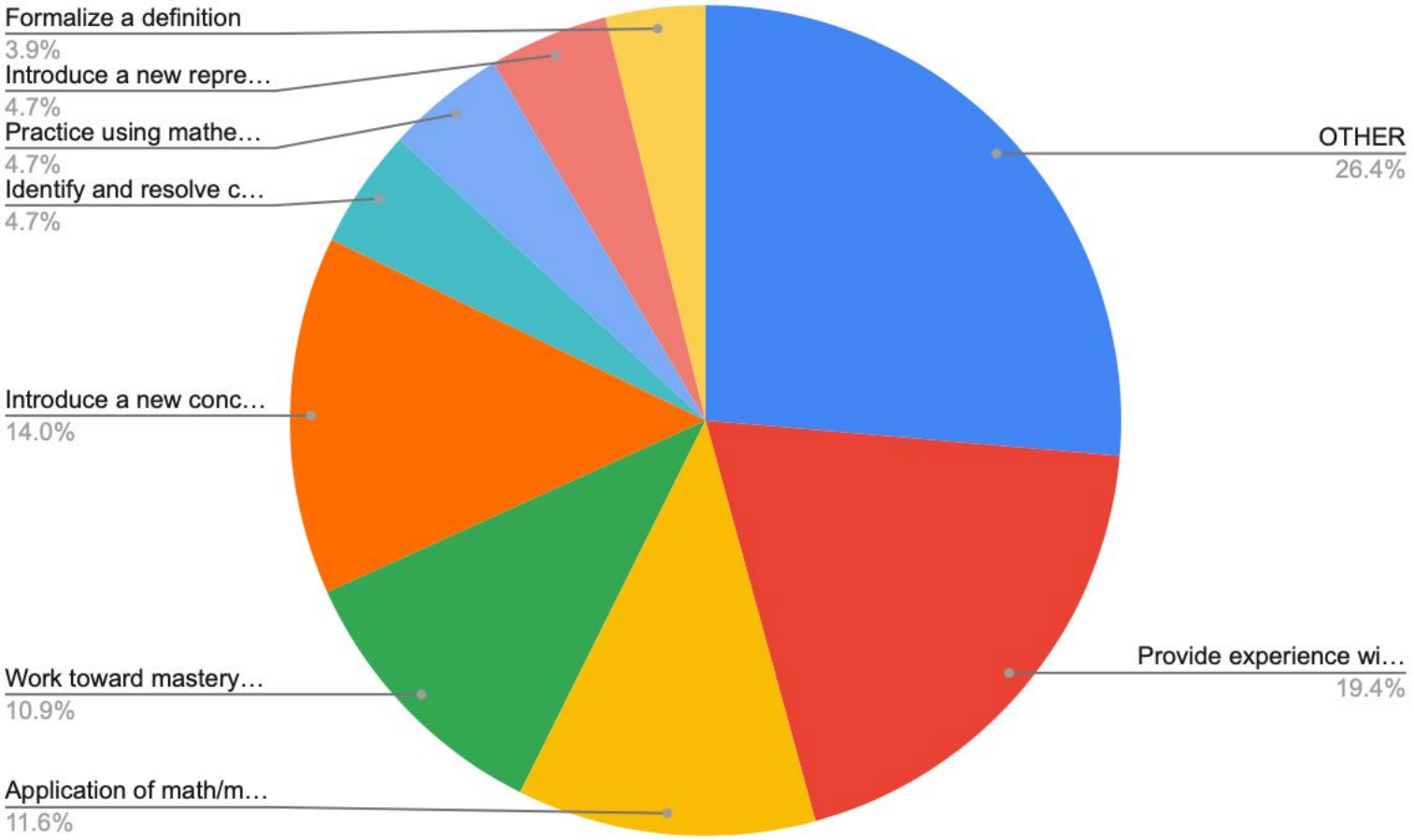
Daily Lesson Reflections:

PURPOSE

INSTRUCTION

TIME

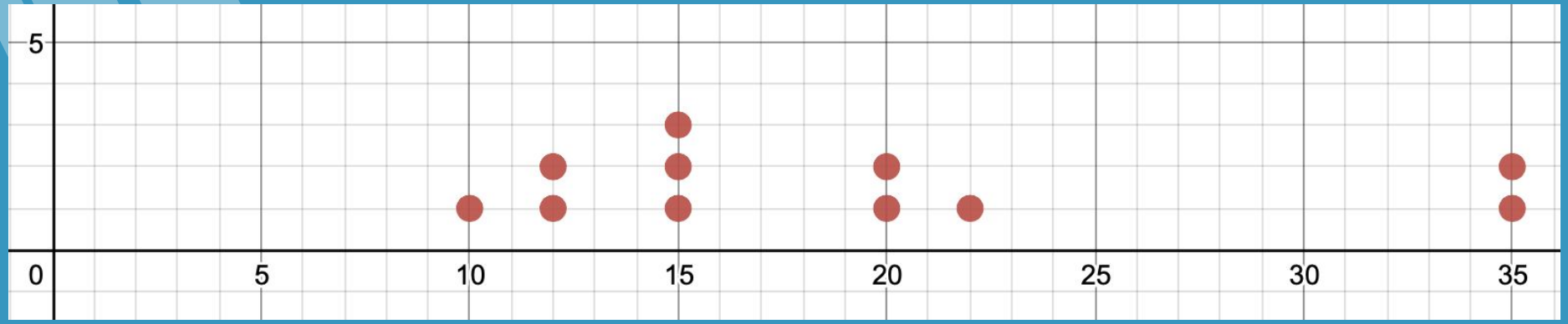
PURPOSE


Formalize a definition
3.9%
Introduce a new repre…
4.7%
Practice using mathe…
4.7%
Identify and resolve c…
4.7%
OTHER
26.4%
Introduce a new conc…
14.0%
Provide experience wi…
19.4%
Work toward mastery…
10.9%
Application of math/m…
11.6%

Instructional Routine	Count
BLANK	18
Think, Pair, Share	17
Five Practices	12
Which One Doesn't Belong	6
Discussion Supports	4
Notice and Wonder	4
Collect and Display	2
N/A	2
Compare and Connect	1

Instructional Routine	COUNT
	58
Notice and Wonder	10
Compare and Connect	8
Think, Pair, Share	7
Collect and Display	6
Which One Doesn't Belong	6
Critique, Correct, and Clarify	3
Discussion Supports	3
Math/Number Talk	3
N/A	2
Co-Craft Questions and Problems	1
OTHER	1

98 documented instructional routines



Boxplot of Notice and Wonders
(time in minutes)

Formative Assessment Scoring

Get Your Unit 1 Responses Ready!

Cool downs: formative assessments embedded in the IM curriculum

How To Access Student Responses to Cool Downs

Step 1: Open your Lesson Data Card for Unit 1

Lesson Data Card: Grade 6 Unit 1: Area and Surface Area

Evidence Card Linked Here

HOW TO: Documenting Evidence

Lesson 1: Tiling the Plane

SDEM ID	Activity	Purpose	Est Time (min)	Instructional and Language Routines	Time Stamp	Artifacts produced
6.1.1.1	Warm Up: Which One Doesn't Belong: Tilings	Invitation to the math	10	MLR2: Collect and Display Which One Doesn't Belong? Sentence Frames		Verbal explanation
6.1.1.2	More Red, Green, or Blue? (digital version)	Introduce a new concept and associated language	25	Anticipate, Monitor, Select, Sequence, Connect MLR1: Stronger and Clearer Each Time MLR2: Collect and Display Think Pair Share Support for SwD		Verbal explanation
optional	Are You Ready for More?	Challenge	5-10			
	Lesson Synthesis	Synthesis	5-10			
6.1.1.3	Cool Down: What is Area?	Formative Assessment	5			

RT ONLY: LESSON DATA CARD: SDEM IM1 Unit 1: Univariate Statistics

Evidence Chart for RTs

How-To's for Evidence Collection for RTs

Knowledge Application Communication Application/Communication Going Deeper

Unit 1 Lesson 1: Getting to Know You (Alg 1, Unit 1, Lesson 1)

Code	Slides	Activity	Purpose	Est Time (mins)	Instructional Routines	Time stamp	Artifacts/Evidence
1.1.1.1	2-5	Warm Up: Which one doesn't belong: Types of data	Invitation to the math	5	Which one doesn't belong?	1	Discussion
1.1.1.2	6-8	Representing data about you and your classmates	Develop understanding	25	None	2	Discussion Data Collection worksheet
1.1.1.3	9-17	Activity Synthesis	Apply understanding	10	Collect and Display	3	Discussion: Teacher charts
1.1.1.4	18-24	Lesson Synthesis	Synthesis	5	Turn and Talk or Other	4	PearDeck responses
1.1.1.5	25-26	Cool Down: Categorizing Questions	Formative assessment	5	None	5	Google Form
		Lesson Reflection					

Step 2: Select a Lesson that you want to review student responses to

HS - Unit 1 Evide[illegible] Chart

LESSON	SI[illegible]	IM Lesson	IM ACTIVITY NAME	FORMAT	RT BITLY FOR STUDENTS	TUDENT RESPONS Spreadsheets	SCORING A = auto score T = teacher	RUBRIC	K	A	C	D/C
2	1.1.2.3	2	Cool Down: Reasoning about Representations	GF	bit.ly/1-1-2R	1.1.2.3 Response	T	1.1.2 Rubric			2	
3	1.1.3.4	3	Cool Down: Why Graphical Representations	GF	bit.ly/1-1-3R	1.1.3.4 Response	T	1.1.3.4 Rubric		2		
4	1.1.4.5	4	Cool Down: Distribution Types	GF	bit.ly/1-1-4R	1.1.4.5 Response	A	1.1.4.5 Rubric	2			
6	1.1.6.5	10	Cool Down: Shape and Statistics	GF	bit.ly/1-1-6R	1.1.6.5 Response	A+T	1.1.6.5 Rubric			2	
8	1.1.8.5	12	Cool Down: True or False: Reasoning with Standard Deviation	GF	bit.ly/1-1-8R	1.1.8.5 Response	A+T	1.1.8.5 Rubric	2			
9	1.1.9.5	13	Cool Down: Majors and Salaries	GF	bit.ly/1-1-9R	1.1.9.5 Response	A	1.1.9.5 Rubric		2		
10	1.1.10.5	14	Cool Down: Expecting Outliers	GF	bit.ly/1-1-10R	1.1.10.5 Response	T	1.1.10.5 Rubric		2		
11	1.1.11.5	15	Cool Down: Comparing Mascots	GF	bit.ly/1-1-11R	1.1.11.5 Response	A+T	1.1.11.5 Rubric			3	
U			End of Unit Assessment: Desmos form	D			RT	tbd	3	3	3	

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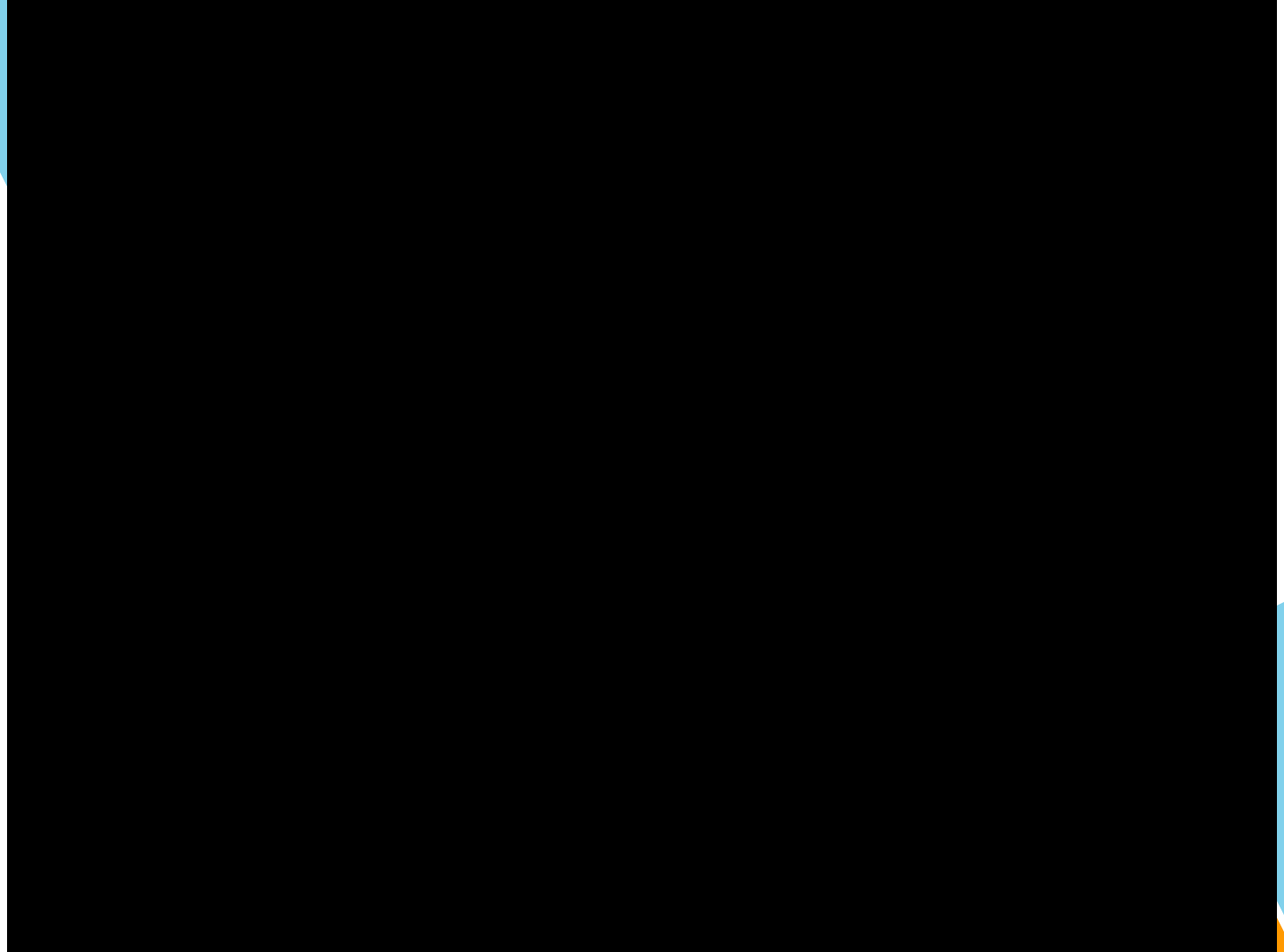
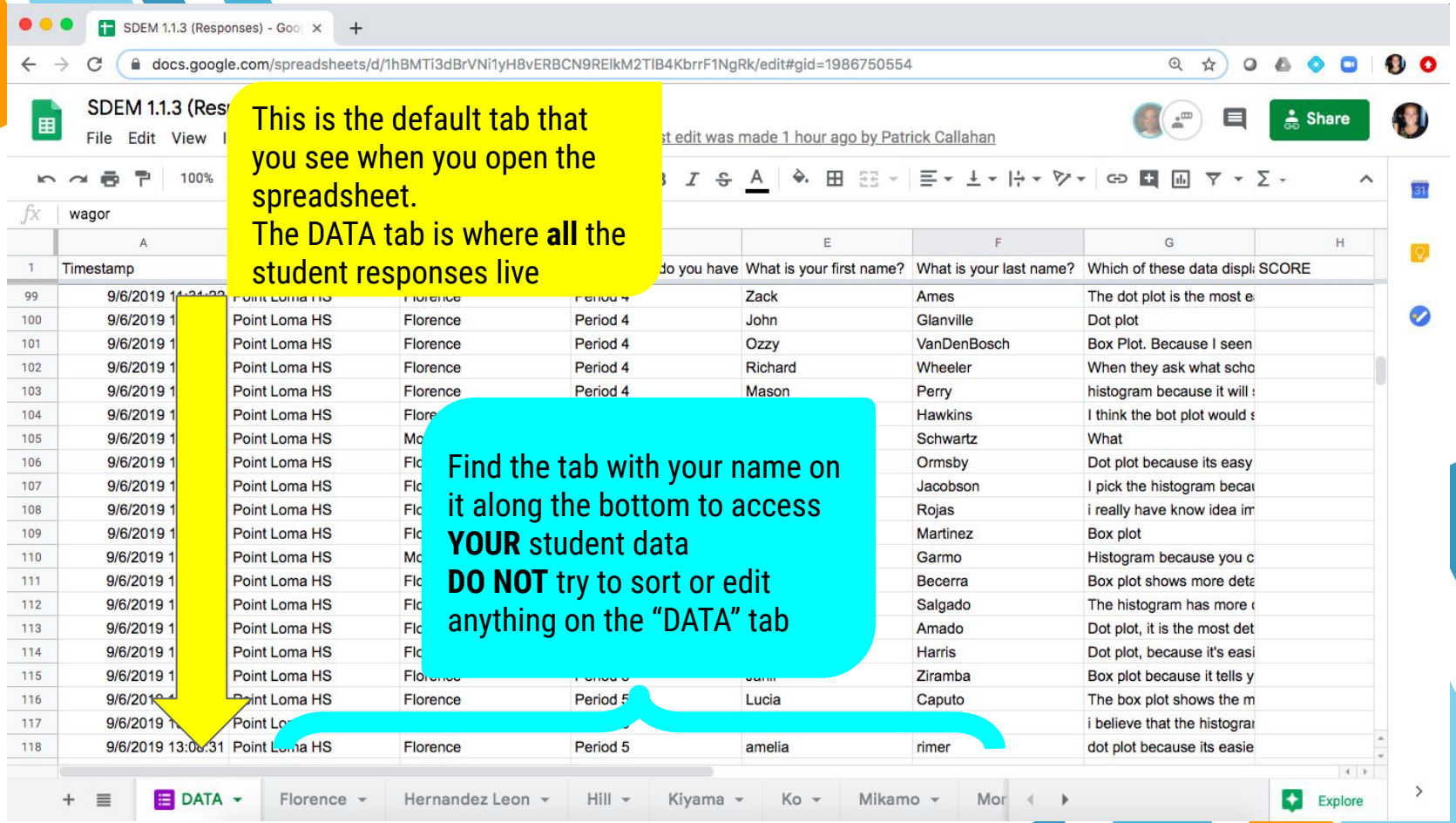




	A	B	C	D	E	F	G	H
1	Timestamp			do you have	What is your first name?	What is your last name?	Which of these data displ	SCORE
99	9/6/2019				Zack	Ames	The dot plot is the most e	
100	9/6/2019	Point Loma HS	Florence	Period 4	John	Glanville	Dot plot	
101	9/6/2019	Point Loma HS	Florence	Period 4	Ozzy	VanDenBosch	Box Plot. Because I seen	
102	9/6/2019	Point Loma HS	Florence	Period 4	Richard	Wheeler	When they ask what scho	
103	9/6/2019	Point Loma HS	Florence	Period 4	Mason	Perry	histogram because it will	
104	9/6/2019	Point Loma HS	Flore			Hawkins	I think the bot plot would	
105	9/6/2019	Point Loma HS	Mc			Schwartz	What	
106	9/6/2019	Point Loma HS	Flc			Ormsby	Dot plot because its easy	
107	9/6/2019	Point Loma HS	Flc			Jacobson	I pick the histogram becau	
108	9/6/2019	Point Loma HS	Flc			Rojas	i really have know idea im	
109	9/6/2019	Point Loma HS	Flc			Martinez	Box plot	
110	9/6/2019	Point Loma HS	Mc			Garmo	Histogram because you c	
111	9/6/2019	Point Loma HS	Flc			Becerra	Box plot shows more deta	
112	9/6/2019	Point Loma HS	Flc			Salgado	The histogram has more	
113	9/6/2019	Point Loma HS	Flc			Amado	Dot plot, it is the most det	
114	9/6/2019	Point Loma HS	Flc			Harris	Dot plot, because it's easi	
115	9/6/2019	Point Loma HS	Flc			Ziramba	Box plot because it tells y	
116	9/6/2019	Point Loma HS	Florence	Period 5	Lucia	Caputo	The box plot shows the m	
117	9/6/2019	Point Lo					i believe that the histogra	
118	9/6/2019 13:06:31	Point Loma HS	Florence	Period 5	amelia	rimer	dot plot because its easie	

A Few Suggestions and Details

+ Once you're in your own tab with your own student data, you **cannot** sort or edit the data, so we suggest you copy and paste your student responses into a new form that you own

+ The original spreadsheet will be where all the scores live, so keep in mind that if you copy the student responses **before** it's been scored, you will have to come back to the original to access scores

Scoring versus Grading

These terms are often used interchangeably.

We will keep them distinct:

- **Scoring** is documenting evidence/quality of student work.
- **Grading** is putting a student in a category.

Keep scoring and grading separate

We will discuss grading later.

Now we will focus on scoring.

Scoring is focusing on documenting student learning and is primarily *formative*, i.e. informs instruction.

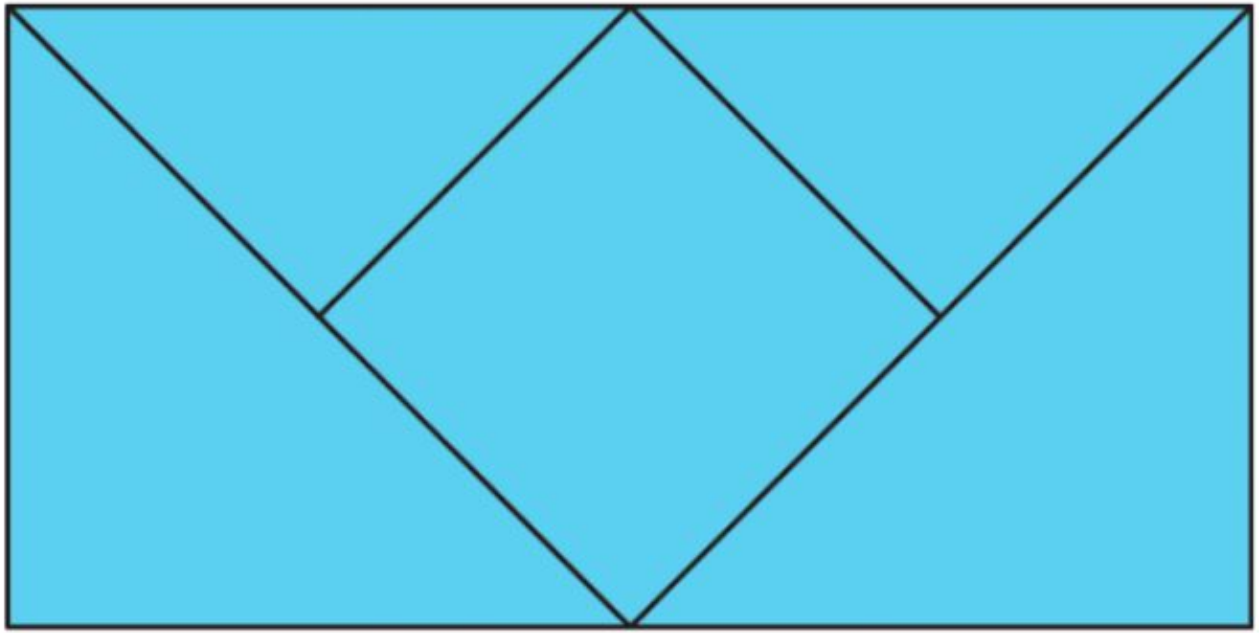
Different purposes!

Knowledge: do student know the content

Application: can students apply their knowledge

Communication: can they communicate it

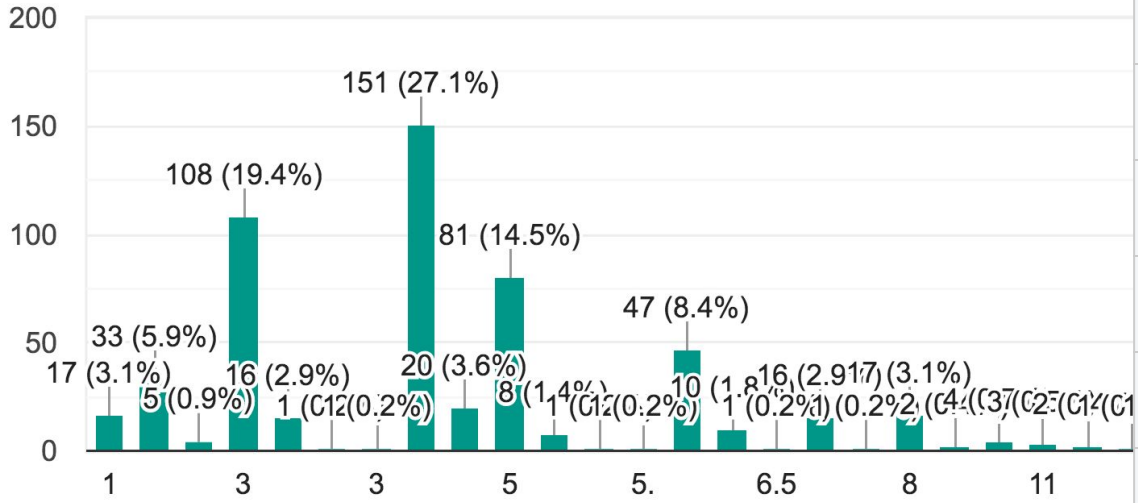
The square in the middle has an area of 1 square unit.



What is the area of the entire rectangle in square units? *

What is the area of the entire rectangle in square units

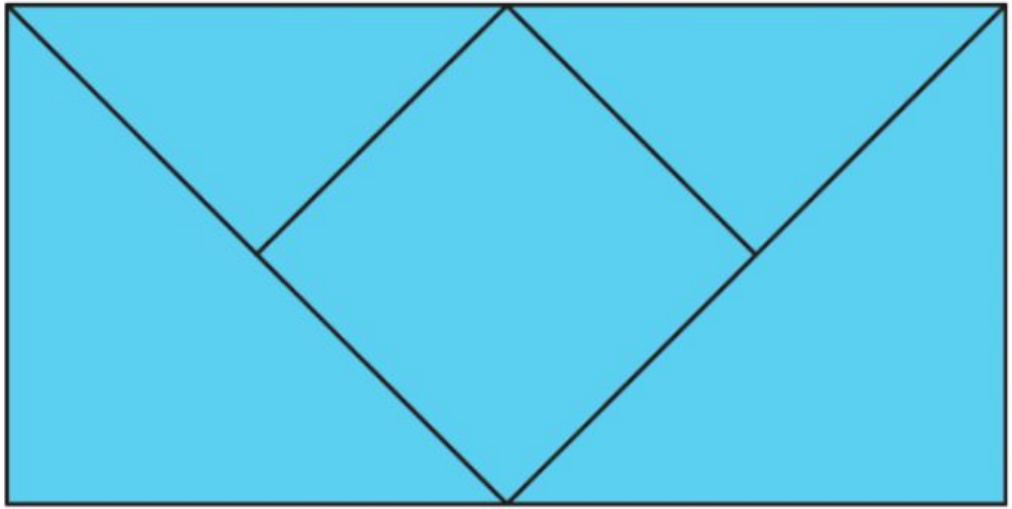
557 responses



AREA	#
4	168
3	125
5	89
6	57
2	38
7	17
1	16
8	16
10	4
11	3

5 Practices: 1) ANTICIPATE

The square in the middle has an area of 1 square unit.



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AREA	#
4	168
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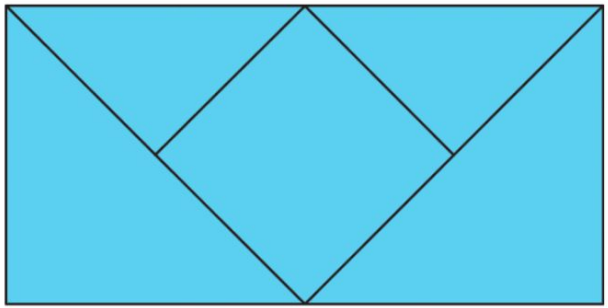
Common misconceptions about area:

I think it’s 3 because the 2 large triangles can make a square, the 2 medium sized triangles also make a square, and there's 1 square in the middle.

Its 3 square units because the square in the middle is 1 square unit, the two triangles faced upside down count as another square unit because 2 triangles equal as 1 square unit. Finally, the 2 triangles at the ends is 1 square units so 1+1+1 is 3

The square in the middle has an area of 1 square unit.



What is the area of the entire rectangle in square units? *

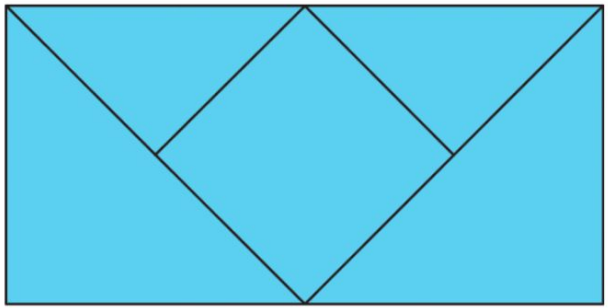
The answer is three because the there are 4 halves which make two wholes and you have a square already so thats three.

Common misconceptions about area:

Because they're are 5 shapes in inside the rectangle.

There are five parts of the rectangle, the four triangles and the one sqaure in the middle

The square in the middle has an area of 1 square unit.



What is the area of the entire rectangle in square units? *

I know it's 5 because even though there not squares they still count like a square unit. So the entire rectangle is 5 square units.

Question 1: Select ALL the terms that you could use to describe the distribution

- [ ] Symmetric distribution
- [ ] Skewed distribution
- [ ] Bell-shaped distribution
- [ ] Uniform distribution
- [ ] Bimodal distribution

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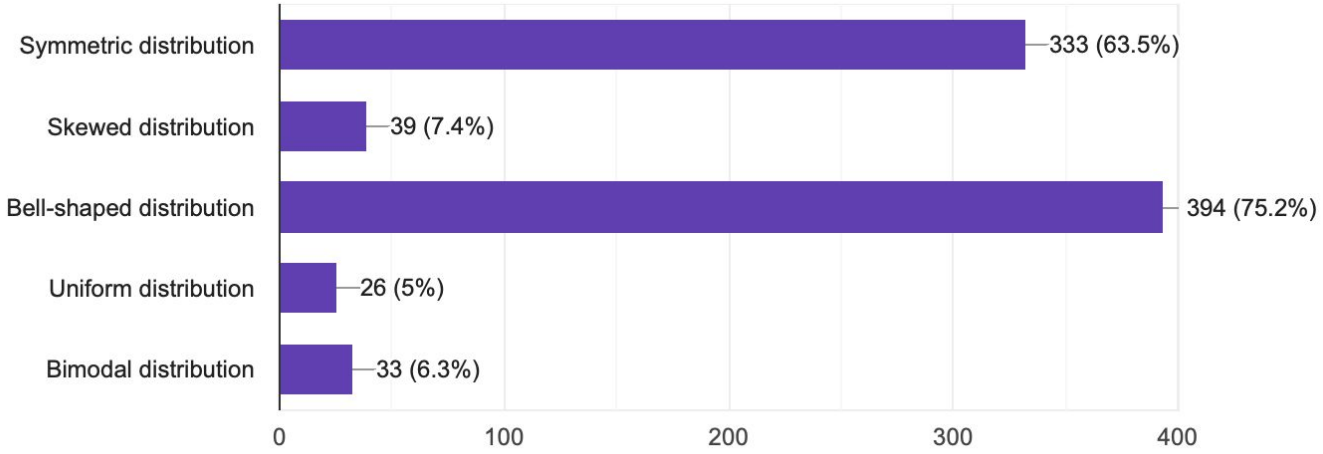
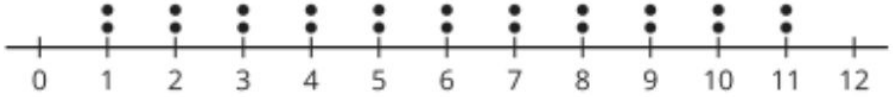


Question 4: Select ALL the terms that you could use to describe the distribution



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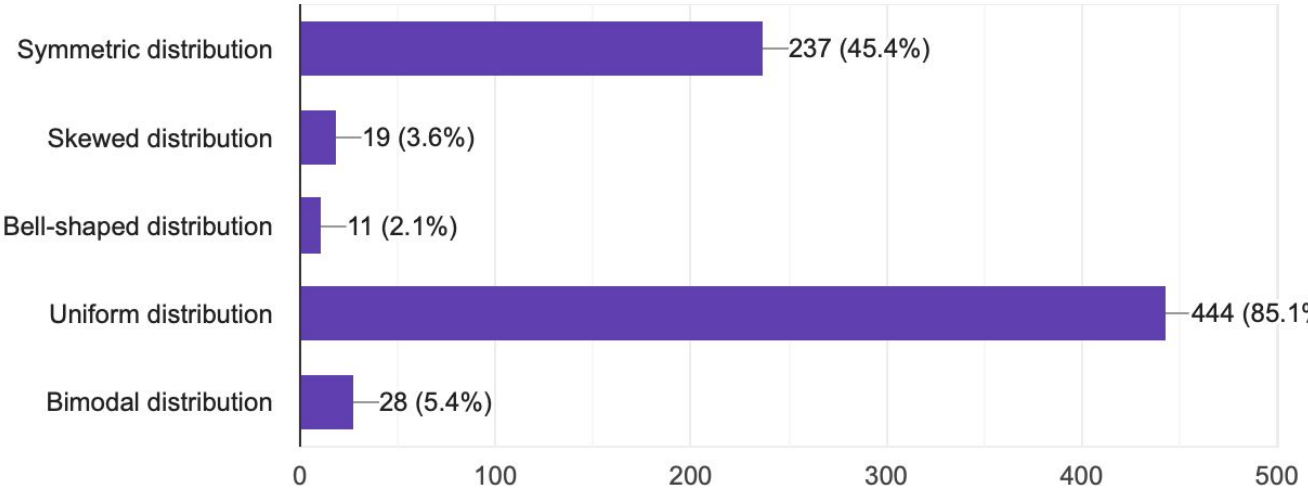


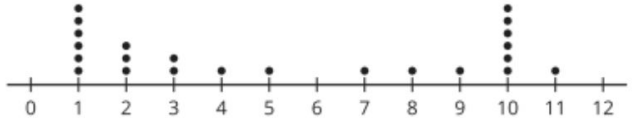
All you can eat buffet!! How many plates did people use?

Question 5: Which of these distributions is most likely to show data collected

1.

2.

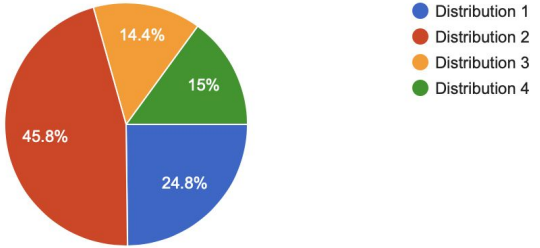
3.



4.

Question 5: Which of these distributions is most likely to show data collected while studying the number of plates people use while eating at an all-you-can-eat buffet?

528 responses



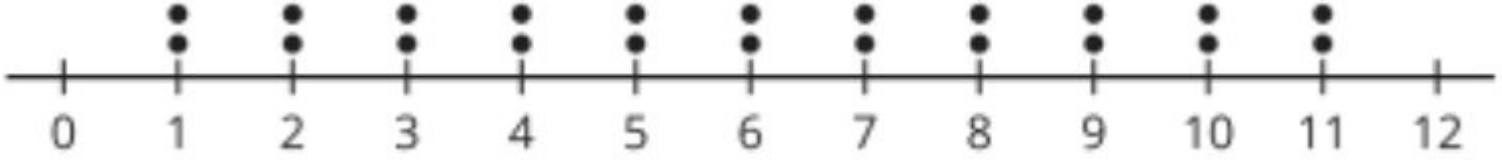
Making sense of data: Written explanations

I picked distribution 1 because the dots are distributed on most of the numbers which means most people have picked up at least one plate but all the numbers aren't the same because everyone at the buffet isn't going to pick the exact same amount of plates.

I said that distribution 2 is most likely to correspond to the survey question given because it is unlikely that people will grab more than 7 plates, but if they do, it will probably be only one or 2 people who grab that many plates. Also most people are likely to grab 1, 2, or 3 plates so when I saw that most people in distribution 2 got 1, 2, or 3 plates, I decided to choose distribution 2.

I would say number two because everyone grabs at least one plate and it wouldn’t be number three because I don’t assume many people grab 10 plates and it makes sense for the number to slowly go down.

Window to student thinking: misconceptions



The uniform one because it is symmetrical and each person had two plates.

Everyone should use about the same amount of plates.

What to do with the formative assessment data?

Based on your understanding of the narrative of the unit and the lesson activities and purposes:

1) If there are more opportunities to learn through activities, then move on, and MONITOR, looking for learning opportunities to highlight. When time is appropriate, a retake could occur.
2) If this is a critical component for progress and/or they do have more activities addressing the topic then RE-ENGAGEMENT LESSON with a built in retake or allow for retakes at a later point (e.g. data)


Lunchtime! See you at 1:00!

Lesson Planning!

Lesson Planning: Preparing to Monitor

- Build a monitoring chart by identifying a few anticipated strategies for each activity.
- Use the ‘Anticipated Misconceptions’ and ‘Sample Responses’ as checks for understanding along the way

Monitoring Chart

Unit: _____ Lesson: _____ Activity: _____

Anticipated Strategy	Questions to Ask During **Connect**:	**Selected** Student	**Sequence**

Lesson Planning: Preparing to Monitor

The tools we need are in Google Classroom:

- Lesson Planning
- Monitoring Chart

Tools are together in one file, which should automatically copy for your personal use. (*Thank you Libby!*)

	Unit: ____ Lesson: ____	Notes
Lesson Narrative	Read the lesson narrative. What is the purpose? What are the important points?	
Goals	What should students know and be able to do at the end of this lesson?	
Cool-down	Do the math. What should students be able to do on the problem to show understanding of the learning goal?	
Warm-up	Why does this warm-up start the lesson?	
Activity 2	Do the math. How does this build towards the learning goal for the lesson?	
Activity 3	Do the math. How does this build towards the learning goal for the lesson?	
Lesson Synthesis	What are you asking or doing to consolidate thinking before the cool-down? How does this build towards the big idea or essential question of the unit?	
Prepare to Monitor	Build your Monitoring Chart by completing the 'Anticipated Strategy' column for each activity. The 'Anticipated Misconceptions' section of the Teacher Materials for this lesson may be a useful starting point.	

Grading and PowerSchool

What do grades mean?
What are their purpose?
Who is the audience?

The purpose of grades for Math Grade 6 is to document evidence of student achievement in mathematics. To be successful in mathematics means that students **know** the content, are able to **apply** this knowledge to solve a variety of problems in various contexts, and can **communicate** their reasoning effectively to a variety of audiences. The grade in this course signifies the extent to which students have demonstrated evidence of knowing, applying, and communicating the mathematics of Math Grade 6.

This course uses a *standards based grading system*. Students are graded on the quality of their work against a set of rigorous standards developed by the district and aligned to the California Common Core Standards. Students are not graded relative to their peers. Grades based on being “above average”, “average” or “below average” are not used in this course.

Grades are entirely based on learning objectives (knowledge, application, and communication). Although students will be supported with structures to practice behaviors that support learning (e.g. note taking, organization, participation, citizenship, homework) none of these will contribute to the course grade.

Immediate needs.
Longer term goals

This is a research project. Part of the research is to explore systems for effective Standards Based Grading.

We do not have everything figured out yet! But we are committed to making it work.
This is an opportunity for sharing and prioritizing immediate needs.
But also share out successes and ideas.

What are some immediate goals?
Questions from parents?
How to give feedback? Progress reports? Expectations?

Specific details of how to use powerschool.

Upcoming: Baselines

Middle School Baseline:

bit.ly/2kdkR78

High School Baseline:

bit.ly/2mdrSWg

Closure and Reflections

bit.ly/2mdN3HJ