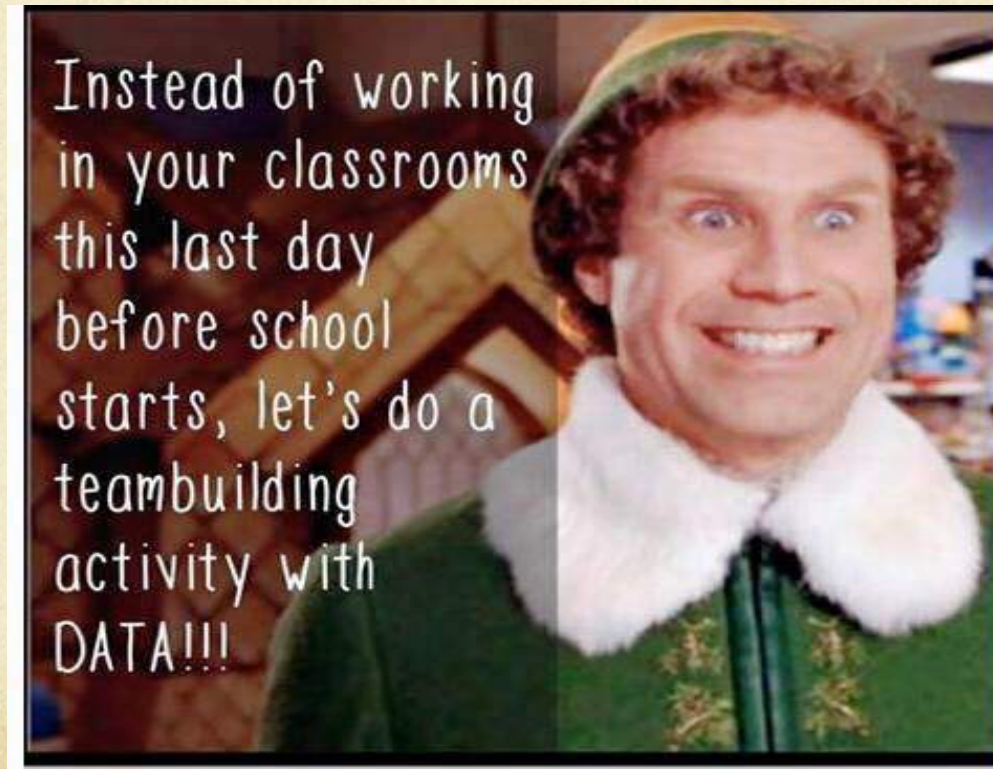


A³ – Assess, Analyze and Address

WELCOME to Day 2



Agenda and Logistics

Any Questions???

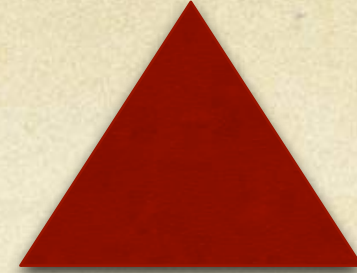
- Sign in Sheets for attendance
- On time schedule for fabulous prizes
- Homework assignments – printed copy
- Lunch options
- Credit information
- Stipend clarification



Recalling Norms Defining Culture



Feedback



What have you learned??

1. What a z-score is
2. About the law of large numbers
3. New terminology - How important vocabulary is
4. Thinking all events have equal probability is a common misconception
5. Before students do lots of work with theoretical probability, they must explore situations with experimental probability
6. The “story” of mathematics may be written differently and storyline matters
 1. CCSSM is just a guide, use the progressions to help figure out the route to take
 2. The progression is the key to knowing/understanding what we should expect from students
 3. The order can change how it is understood

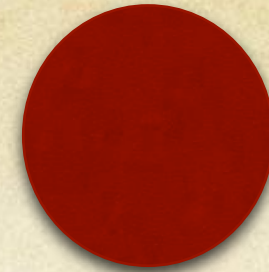
Feedback



What squared with your thinking??

1. You can manipulate data to fit your needs
2. Experimental probability and natural intuition builds the foundation for theoretical understanding
3. It's important to look at standards and put them into words that students understand
4. The importance of knowing the sequence from grade level to grade level
5. Statistical bias is hard to eliminate – not always providing equally likely outcomes
6. Collaboration is important when tackling something new or unfamiliar
7. Rich, deep, open-ended, “messy” tasks (like the 911 problem) are awesome

Feedback



What is still circling in your head ??

1. What's the probability that the horse wins the 100 flip race? And how do you even get percentages in that problem?
2. How do you calculate the probability for the cup problem?
3. Clarity with some of the SP terminology/concepts
4. What happened to the EMS problem?
5. More about formative assessment
6. Clarity with some of the SP terminology and concepts
7. How do I get buy-in for digging deeper into SP - with students and with district
8. How does this fit with my current curriculum?
9. What's the end game? Where are we going with all of this? What's the goal with the grant - to be more aware of progressions and CCSS? To look at misconceptions? To improve content knowledge? All of these and more?

Focusing our work....

- Goal #1. To increase teachers' mathematics knowledge for teaching.
 - A key feature of this activity will be training on how formative assessment probes can be designed to align to CCSS-M content standards.
 - Cheryl Tobey's work, understanding progressions, understanding mathematics story lines, digging deeper into the content - learning intentions, exploring misconceptions, writing probes to elicit student thinking

Focusing our work....

- Goal #2. To uncover student thinking in order to identify misconceptions, specific gaps, or weaknesses in conceptual understanding and procedural knowledge directly related to high school readiness.
- Key features of this activity include: collecting and evaluating data on student thinking, using appropriate interview protocols and statistical analysis to identify trends and commonly held misconceptions.
- Exploring the K - HS continuum, utilizing probes both written and interview based to uncover student thinking about the learning intentions of the content.

Focusing our work....

- Goal #3. To improve teaching practices by employing and analyzing strategies that purposefully address previously identified student needs.
- Key features of this activity include: Structured observations of the implementation of specified strategies with reflections on the use of those identified strategies and the collection of longitudinal data regarding student response to the teaching strategies used.

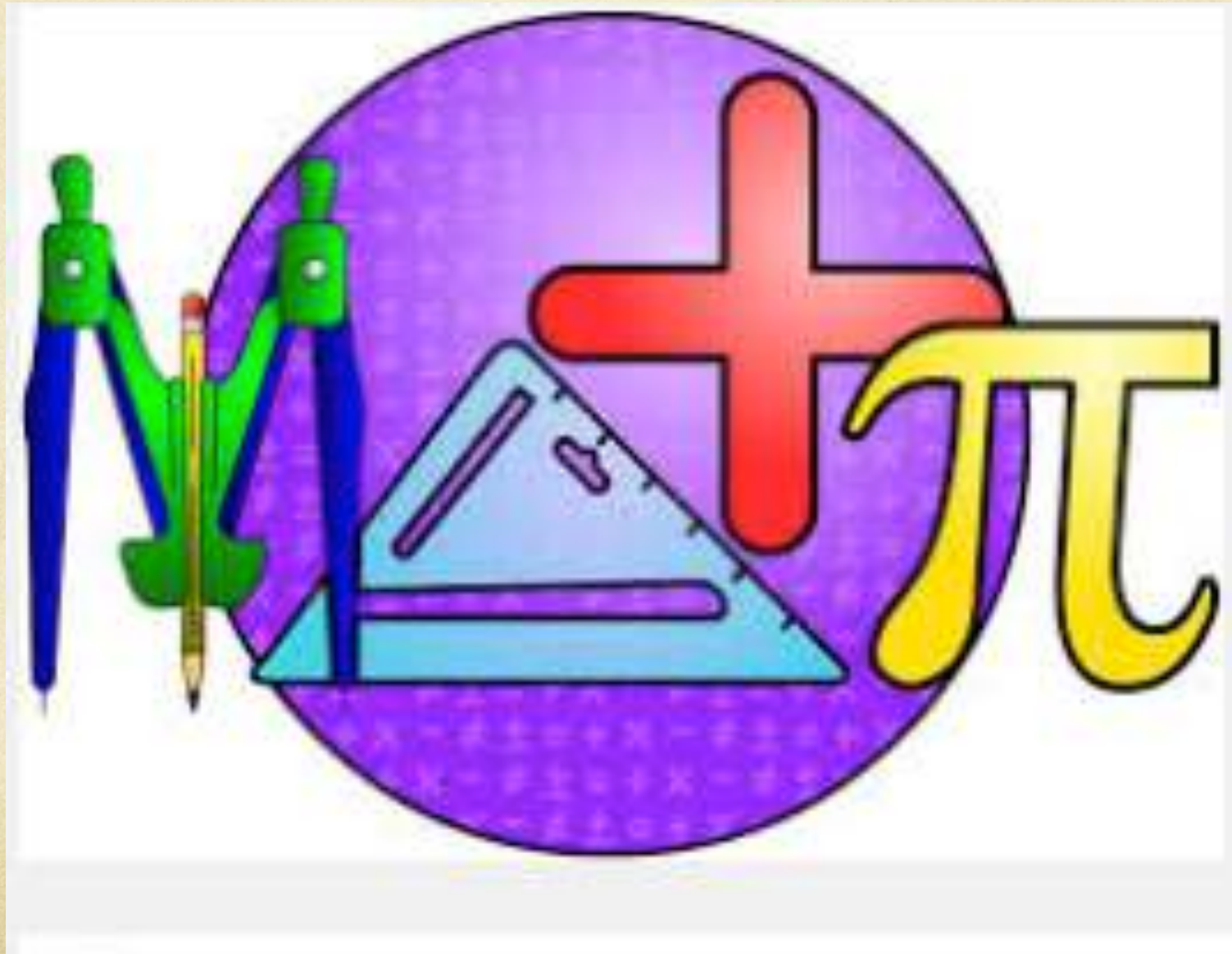
Focusing our work....

- Summer 2015
 - Explore the storyline and progressions related to Statistics and Probability
 - Create probes both written and interview based to elicit student thinking related to Statistics and Probability
 - Create a protocol for administering both an interview and a written probe data collection process

Focusing our work...

- 2015-2016 School Year
 - Collect data and edit our work
- Summer 2016
 - Focus on Geometry and Measurement
- 2016-2017 School Year
 - Collect data and edit our work
- Summer 2017
 - Focus on Number and Algebraic Thinking

Let's do some....



BREAK



Reflecting on our reading...

- Task #1
 - Share with your group the two things you chose to highlight and the one thing that you are still questioning
 - Give each person about 2 minutes to share their ideas
 - Discuss and agree on 2-3 things from your discussion you will share with the whole group, be prepared to discuss what page number your idea comes from

Reflecting on our reading....

- Task #2
 - Number off by 6
 - Create new groups based on your number

Continuing to Understand the Storyline as defined by CCSS

- Your team will be assigned a grade level, based on your number (Grade 1 = group #1, Grade 2 = group #2,.... Grade K – group #6).
- Make a poster using the progressions document, the CCSS site, and the Illustrative Math site for your grade level that includes:
 1. The related standards codes (i.e. K.CC.5) discussed in the progression document and your **interpretation** of the standards written in student friendly terms
 2. **A description of a relevant task** that addresses those standards chosen from the tasks found on the Illustrative Mathematics website

CCSS http://www.corestandards.org/wp-content/uploads/Math_Standards.pdf

The Illustrative Mathematics website
<https://www.illustrativemathematics.org/content-standards>

Lunch Time!

When someone says "STOP"
I never know if its In the
Name of Love,
Hammer Time, or if I am
supposed to collaberate
and listen



somee cards
user card

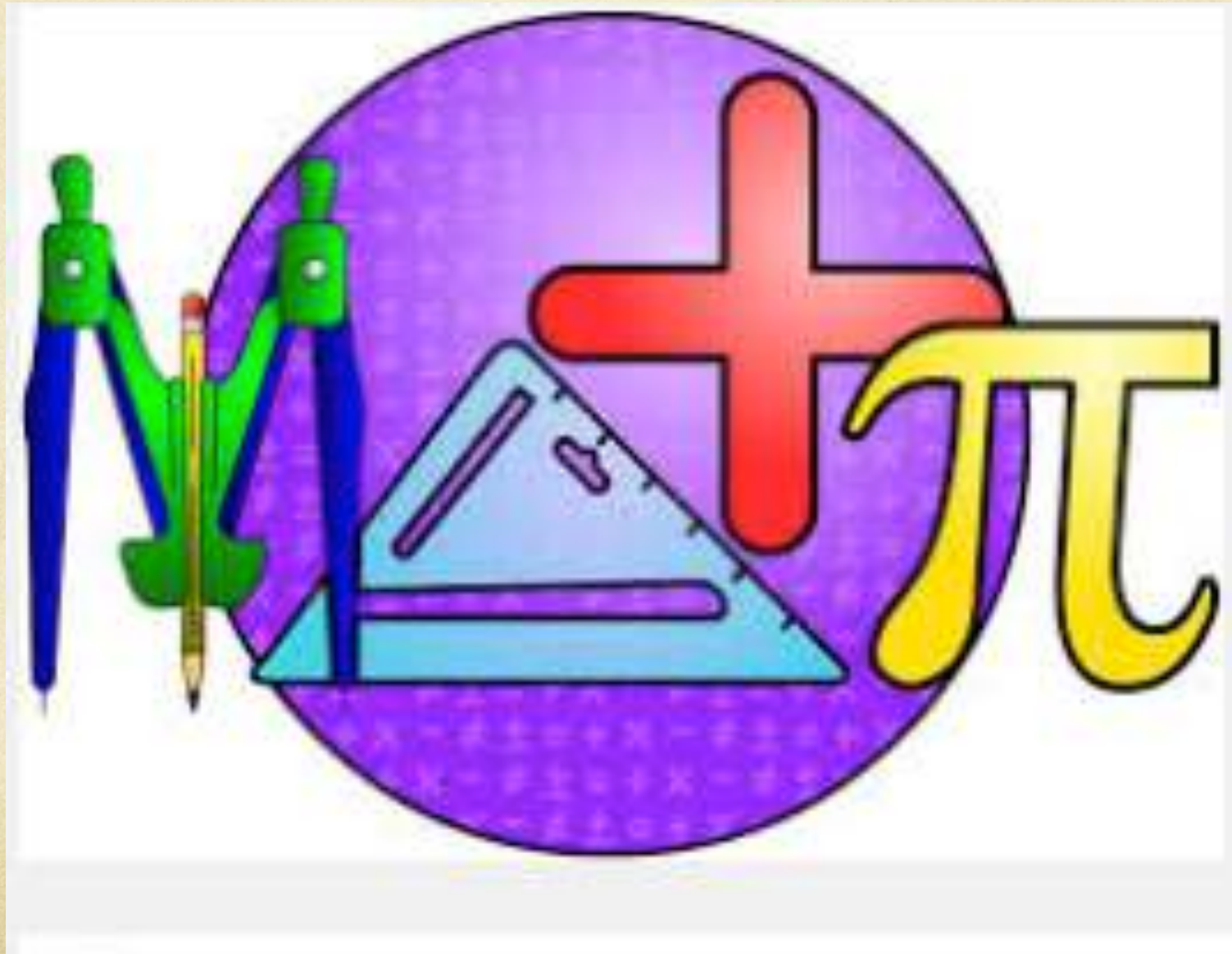
Sharing our connections...

- In your groups “letter” off from a - f
- Create new groups based on your letter
- Move to your assigned poster (a = K, b = 1st, c = 2nd, d = 3rd, e = 4th, f = 5th)
- Gallery walk with discussion. Each “expert” shares the information on the poster. Move to the next poster when signaled to do so.
- Make sure to share the following points:
 - The statistics and probability standards at the grade level you explored
 - The statistics task from the Illustrative Math site
 - The related standards
 - The task connected to the related standards from the Illustrative Math site
- Reference the progressions document from your homework

BREAK - til 2:10



Let's do some....



Wrap up..



"I'll have the math homework."