



**Holy Name Parent  
Information Night:**  
**Math Program**



# Hello!

**We are Dr. Sue Looney and Heidi Sabnani**

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Looney Math Consulting



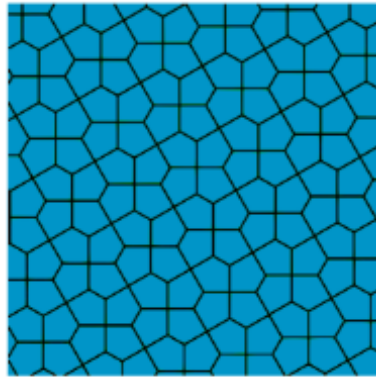
**We are going to start with some  
math!**

Let's Play

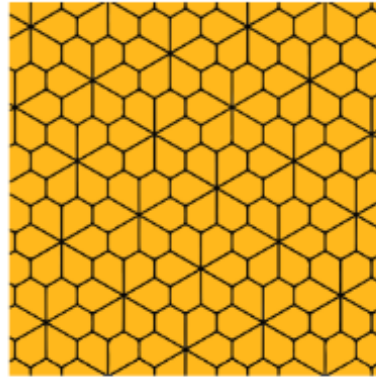
# Which One Doesn't Belong?

Which pattern doesn't belong?

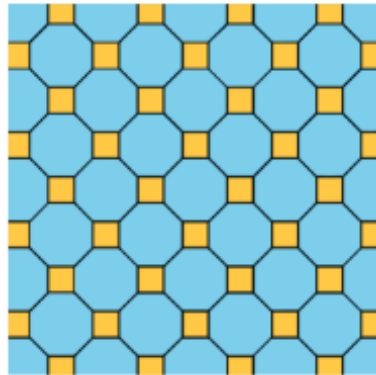
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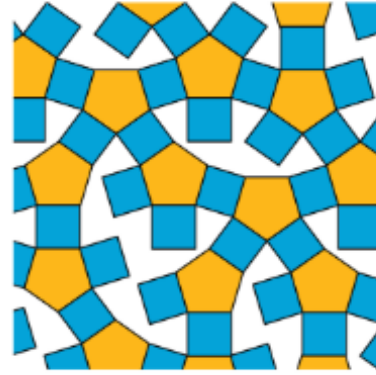
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## **Goals for this evening**

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**Background to the  
changes in the text  
resource**

**Supporting your child**

**Questions and Answers**





# Importance of math in 2018

Why it matters...



## Why are math skills important

By 2020, 65 percent of all jobs will require postsecondary education and training beyond high school.

**Judgment/decision-making, communications, analysis, and administration will be the four most in-demand competencies**

Of all occupations, 70 percent require mathematical knowledge to be either very important or extremely important to success.



# Top Ten Things Employers Look for in New College Graduates

1. The ability to work well in teams—especially with people different from yourself
2. An understanding of science and technology and how these subjects are used in real-world settings
3. The ability to write and speak well
4. The ability to think clearly about complex problems
5. The ability to analyze a problem to develop workable solutions
6. An understanding of global context in which work is now done
7. The ability to be creative and innovative in solving problems
8. The ability to apply knowledge and skills in new settings
9. The ability to understand numbers and statistics
10. A strong sense of ethics and integrity

*Source: "How Should Colleges Prepare Students to Succeed in Today's Global Economy?" (Results of a national poll by Peter D. Hart Research Associates, 2007).*





## **Jo Boaler - Growth Mindset**

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[Math Today](#)

See Parent Resources and student resources at

[www.youcubed.org](http://www.youcubed.org)



## Building a community of problem solvers

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- ◆ Everyone can learn math to the highest levels.
- ◆ Questions are really important
- ◆ Math is about creativity and making sense
- ◆ Math is about connections and communicating
- ◆ Math is about learning, not performing
- ◆ Depth is more important than speed
- ◆ Mistakes are valuable. Mistakes are where the new learning goes!

~From Jo Boaler



## Scores from Ed Reports

- ◆ *Illustrative Mathematics 6–8 Math*, the first curriculum from nonprofit publisher Open Up Resources, has achieved an unprecedented review score from EdReports, the independent nonprofit that reviews K–12 curricula for standards alignment and quality. It is now the math curriculum with the highest rating from EdReports, as well as the first and only middle school math series to receive the highest designation by EdReports in all three review categories.
- ◆ Developed through a partnership between Open Up Resources and Illustrative Mathematics, the nonprofit founded by lead standards author Bill McCallum, *Illustrative Mathematics 6–8 Math* is a problem-based curriculum that develops students' mathematical reasoning skills and fosters discussion-filled classrooms.

### Gateway 1: FOCUS & COHERENCE



### Gateway 2:

### RIGOR & MATHEMATICAL PRACTICES



### USABILITY | Meets Expectations

### Gateway 3: USABILITY



### Gateway 1: FOCUS & COHERENCE



### Gateway 2:

### RIGOR & MATHEMATICAL PRACTICES

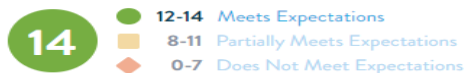
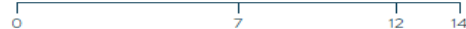


### USABILITY | Meets Expectations

### Gateway 3: USABILITY

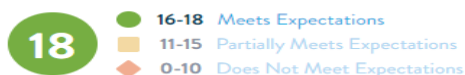


### Gateway 1: FOCUS & COHERENCE



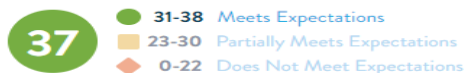
### Gateway 2:

### RIGOR & MATHEMATICAL PRACTICES



### USABILITY | Meets Expectations

### Gateway 3: USABILITY





# **How Can I Best support my Child in Math?**

Sense Making and Homework





# Helping with Math Homework

When your child is getting started:

Provide a well lit and comfortable place for your child. ASK...

What do you need to find out? Can you estimate the answer?

Would you like to read the problem together to be sure you understand what it's asking.

- Can you show me an example of this kind of problem in your book?

While your child is working, ask:

- How can you organize your information? Will a list or table help?

Would it help to draw a picture of the problem or use counters?

What could you do next? Do you see any patterns?

- (If your child seems frustrated..) Ask your child if they need a 10 minute break.

When your child finds an answer, ask:

- How did you get your answer? Do you think it's right? Tell me more.

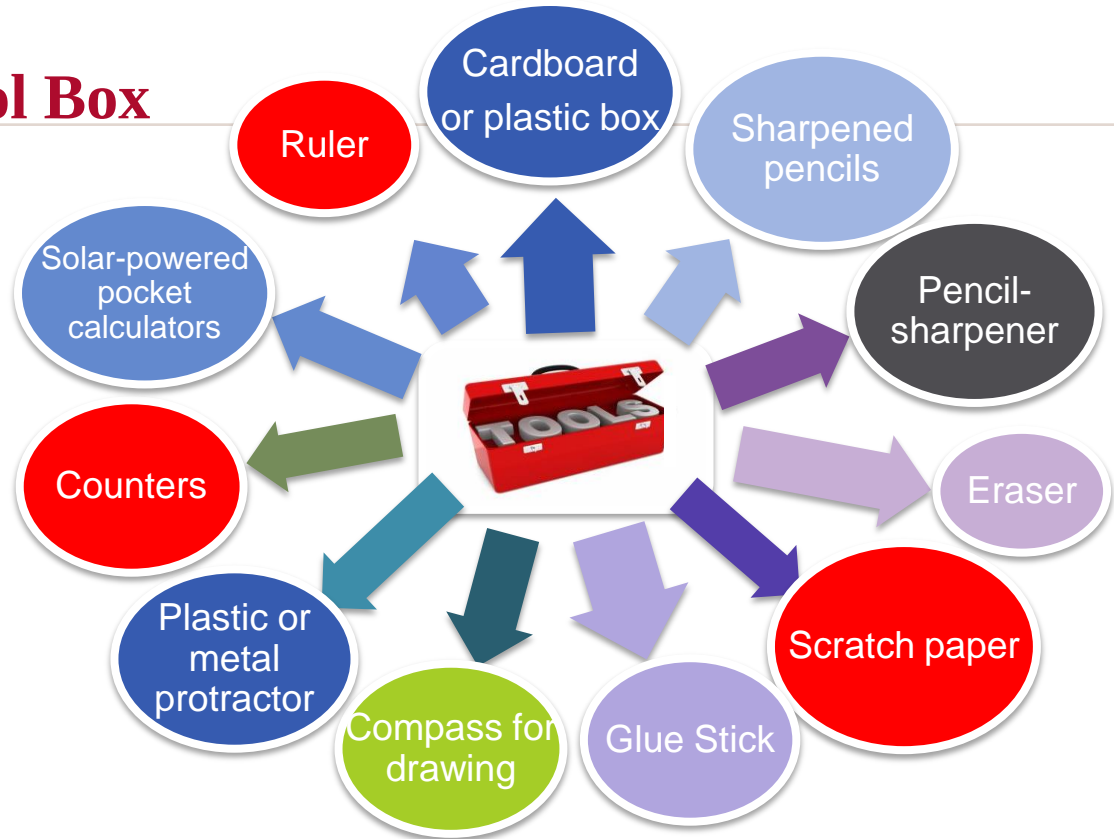
If your child seems puzzled, ask him or her to tell you what doesn't make sense. Or...

- Explain why your answer makes sense.





## Math Tool Box





# Homework Help

- ★ **Help your child with time management.** Establish a set time each day for doing homework. Don't let your child leave homework until just before bedtime.
- ★ **Be positive about homework.** Tell your child how important school is. The attitude you express about homework will be the attitude your child acquires.
- ★ **When your child asks for help, provide guidance, not answers.** Giving answers means your child will not learn the material. Too much help teaches your child that when the going gets rough, someone will do the work for him or her.
- ★ **If homework is meant to be done by your child alone, stay away.** Too much parent involvement can prevent homework from having some positive effects. Homework is a great way for kids to develop independent, lifelong learning skills.
- ★ **Stay informed.** Talk with your child's teacher. Make sure you know the purpose of homework and what your child's class rules are.
- ★ **Help your child figure out what is hard homework and what is easy homework.** Have your child do the hard work first. This will mean he will be most alert when facing the biggest challenges. Easy material will seem to go fast when fatigue begins to set in.



## Help with Questions not answers

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What is the goal of the problem?

Why does that step work?

Why would we want to do that next?

What does this step in the process accomplish?

How do you know if your answer is reasonable?

Can you check your work to make sure it makes sense to you?



## 6 Ways to Help Your Child

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1. **Play**
2. NOT speed
3. **Encourage** number sense
4. Never share with your children that you were bad at math or that you dislike it.
5. Be encouraging with your child when they make a mistake “Oh, I see what you are thinking.”
6. Growth mindset: let students know that they have unlimited math potential and that being good at math is all about working hard.



## Summarizing

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FUN

Encouragement

Growth Mindset

Sense Making

Notice / Wonder

Visualization

Homework routine

Supply questions not answers



**OPEN-UP**  
**resources™**

- ◆ Developed by Illustrative Mathematics and 175 classroom teachers in 2016-2017.





## Transition Testimony

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“I had to make real shifts in practice with this curriculum. First, I had to reduce the amount of time I speak. I had the habit of going over detail, so I had to learn to sit back and let kids work through the problems. I also had to stop jumping to a student’s rescue. Now I let them struggle and collaborate with others around problems, rather than bailing them out right away.”

— Deb Steffen Teacher, Evergreen Public Schools (WA)

# How Teachers Gave Feedback in the Development of Open Up Resources

- **Real-time chat:** Pilot teachers chat with curriculum authors, as well as their peers, via a dedicated Slack channel.
- **Lesson and unit surveys:** Teachers complete a survey at the end of every lesson, as well as after the conclusion of a unit. “I use the survey tool I give feedback on what worked, and what didn’t, in every lesson,” says Gayleen Gomez, a teacher at Galt Unified School District (CA) and a member of the pilot cohort.
- **Student work exchange:** Teachers regularly submit student work to the team at IM as a way to show how kids engage with the materials. The student perspective fosters further refinement and ensures that tenor of the curriculum resonates with its audience.
- **On-the-ground observations:** OUR conducts monthly site visits to observe the curriculum in action, gather in-person feedback, and ensure teachers have the support they need to implement the curriculum.
- **Direct communication:** The IM and OUR teams are directly accessible to teachers via email and phone.
- **Newsletters:** OUR’s bi-monthly teacher newsletters highlight the latest learnings and share recent content updates based on teacher feedback.



# Teacher Feedback

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- ◆ “Fundamentally, the curriculum is based on rich tasks: kids talking math, kids wrestling with ideas, and teachers helping building ideas over time rather than introducing an idea and expecting mastery in practice immediately.
- ◆ “I give feedback on time allotment, because our greatest challenge is knowing how long it actually takes to deliver a lesson,” says Gomez.



# The Typical Lesson

A typical lesson has four phases:

1. A warm-up
2. One or more instructional activities
3. The lesson synthesis
4. A cool-down

Example from Grade 7 Unit 1

## 1.1 Lesson Plan

LESSON 1

WARM-UP: 10 minutes

ACTIVITY: 10 minutes

ACTIVITY: 15 minutes

Lesson Synthesis

COOL-DOWN: 5 minutes

Glossary



# The Warm Up

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The first event in every lesson is a warm-up. A warm-up either:

- helps students get ready for the day's lesson, or
- gives students an opportunity to strengthen their number sense or procedural fluency.

## Four Instructional Strategies

- Number Talks
- What Doesn't Belong
- True/False
- Notice and Wonder

5-10 minutes

\* Prerequisite skills



# The Activities

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An activity can serve one or more of many purposes.

- ◆ Provide experience with a new context.
- ◆ Introduce a new concept and associated language.
- ◆ Introduce a new representation.
- ◆ Formalize a definition of a term for an idea previously encountered informally.
- ◆ Identify and resolve common mistakes and misconceptions that people make.
- ◆ Practice using mathematical language.
- ◆ Work toward mastery of a concept or procedure.
- ◆ Provide an opportunity to apply mathematics to a modeling or other application problem.





# Activity Routines

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- ◇ Anticipate, Monitor, Select, Sequence, Connect
- ◇ Group Presentations
- ◇ Poll the Class
- ◇ Take Turns
- ◇ Think, Pair, Share
- ◇ Stronger and Clearer Each Time



## **Lesson Synthesis**

After the activities for the day are done, students should take time to synthesize what they have learned. This portion of class should take 5–10 minutes before students start working on the cool-down. This assists the teacher with ways to help students incorporate new insights gained during the activities into their big-picture understanding. Teachers can use this time in any number of ways, including posing questions verbally and calling on volunteers to respond, asking students to respond to prompts in a written journal, asking students to add on to a graphic organizer or concept map, or adding a new component to a persistent display like a word wall.



## **The Cool Down = Exit Ticket**

Each lesson includes a cool-down task to be given to students at the end of the lesson. Students are meant to work on the cool-down for about 5 minutes independently and turn it in. The cool-down serves as a brief formative assessment to determine whether students understood the lesson. Students' responses to the cool-down can be used to make adjustments to further instruction.



# Assessment

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- ◆ Each unit begins with a **diagnostic assessment** of concepts and skills that are prerequisite to the unit as well as a few items that assess what students already know of the key contexts and concepts that will be addressed by the unit.
- ◆ Each unit includes an **end-of-unit written assessment** that is intended for students to complete individually to assess what they have learned at the conclusion of the unit. Longer units also include a mid-unit assessment. The mid-unit assessment states which lesson in the middle of the unit it is designed to follow.



# **Take-away Resources**



## Parent Information Resources

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◆ <https://im.openupresources.org/>

<https://www.youcubed.org/resource/parent-resources/> - Jo Boaler /  
Growth Mindset

<http://www.pbs.org/parents/education/math/math-tips-for-parents/> -  
PBS

From MA Department of Education

<http://www.doe.mass.edu/frameworks/>





# We are in this together!

You are their primary educator and when families and schools work as a team, with understanding and mutual respect, children learn best!

Thank you!