JORDAN SCHOOL DISTRICT

Defining Problem Based Learning
Launching the Open Up Resources (OUR) 6-8 Math Curriculum
JSD OUR 2021 Session 1

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Learning Goals

- **Mindset:** Teachers believe a problem-based curriculum is an effective tool for student-centered math instruction
- **Curriculum Design:** Teachers understand how the units, lessons, and activities are designed to support problem-based learning
- **Strategic Planning:** Teachers understand the purpose of each of the curriculum materials and use them in both their long-term and daily planning

Session 1 Agenda

Time	Section	Resources

30 minutes	**Welcome & Connections**
	Essential Questions:
	• What are the goals for our work together?
		• Hopes and Fears
		  ○ Task 1
		  ○ Breakout Room 1
		• Community Agreements Padlet
		• Setting Agreements
		• Questions/concerns type in chat

30 minutes	**Engaging in a Problem** Essential Questions: • What does a problem-based approach to math feel like for students?	• Noah's Ark • Desmos Check for Understanding • OUR Course Guide: What is a "Problem-Based" Curriculum?
5 minutes	**Break**	
60 minutes	**Learn by Doing: An OUR Math Lesson** Essential Questions: • What does it feel like to work through an OUR lesson as a student? • How are the components of an OUR lesson designed to promote problem-based math learning?	• 6th Grade Unit 1 Lesson 1 (Teacher's Guide) • 6th Grade Unit 1 Lesson 1 Student Handouts • Digital Applet for Activity 1.2 • Cool Down Guidance • Community Created Resources for 6.1.1 • Slides for 6.1.1 from Brooke Powers
5 minutes	**Break**	

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30 minutes	**Key Characteristics of the OUR Math Curriculum-** Essential Questions: ● How do the key characteristics show up in this lesson? ○ Group 1: Classroom Culture ○ Group 2: Launch - Work Time - Synthesis ○ Group 3: Lesson/activity purpose ○ Group 4: Learning sequenced to build conceptual understanding over time	● 6th Grade Unit 1 Lesson 2 ● 6th Grade Unit 1 Lesson 2 (PDF) ● New Breakout rooms ● Group 1: Classroom Culture ● Group 2: Launch - Work Time - Synthesis ● Group 3: Lesson/activity purpose ● Group 4: Learning sequenced to build conceptual understanding
20 minutes	**Reflection & Closure** Essential Questions: ● What progress have we made toward our goals? ● What would we like to do the same/differently the next time we meet?	● Workshop Survey ● Today's Slides ● HIVE STIPEND REFLECTION

Name	What is your role? (Coach/teacher/SpEd	What is a hope you have for this curriculum?	What is a fear you have about this curriculum?
Task 1			
Allison Tyson	Teacher	That students will be engaged and will learn how to do math and solve problems.	The curriculum will be too vast to cover in one school year--that we have to rush through it.

Michelle Wallace	Teacher	I hope to learn how to navigate through the curriculum and plan according to my students' needs.	I am not fearful, just excited to learn more.
Betsy Lopez	Teacher	I hope to understand the curriculum enough to get going on Day 1	Leaving long-term sub plans for math when I go on maternity. I'm afraid the sub won't know what to do...
Tamara Moore	Teacher	I'm hoping that will help me feel like I have the resources to teach this year.	Not necessarily this curriculum specifically, but as a teacher I do like to have a little bit of autonomy and I don't want to be dictated to. I think it's important that teachers still get to use best teaching practices.
Stephanie Sirois	Teacher	I hope it helps engage my students	I like that... frustration with tech =-/
Britni Cassidy-Rice	Teacher	This curriculum will allow students to gain a deeper understanding of math concepts and ultimately save time without having to do as much reteaching and intervention	It might be overwhelming to implement and I won't know what changes to make to accommodate our given learning time.

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Breakout Room 1

Breakout Rooms - Identifying Personal Goals

- We are going to randomly assign you to a **breakout room**
- The people in your breakout will be your **HIVE team** for the rest of the series
- **Task 1:** Introduce yourself
- **Task 2:** Assign roles (facilitator, timer, recorder, reporter)
- **Task 3:** Share a specific goal you have for this workshop
- **Time frame:** 5 minutes

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Breakout Rooms

Room 1	Room 2	Room 3	Room 4
Allison **Megan**	**Betsy** **Tamara**	**Michelle** **Stephanie**	**Britni** **Christena**
Key Characteristic: *Classroom culture*	**Key Characteristic:** *Launch - Work Time - Synthesis*	**Key Characteristic:** *Lesson/ activity purposes*	**Key Characteristic:** *Learning sequenced to build conceptual understanding over time*

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Group 1: Classroom Culture

Member Gems (one each team member)

- The lesson has students discuss with partners and in groups which prompts students to share ideas and then the whole group is learning together.
- The lesson allows time for discussion of misconceptions and mistakes that students could make. This allows the classroom to feel safe because students can learn that everyone makes mistakes and they are an important part of learning.

Name: Allison	Name: Megan
Name:	Name:
Name:	Name:

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Group 2: Launch/work-time/synthesis

Member Gems (one each team member)

- Students are using tiling to learn about area and how area can be found.
- Students come up with a class definition of area
- They can refine their thinking later on

Name: Tamara	Name: Betsy
Name:	Name:
Name:	Name:

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Group 3: Lesson activity/purpose

Member Gems (one each team member)

Students are discussing questions posed by the teacher to use the information they have been given without any other tools. They are using their knowledge to find ways to define the area of the shape.

-They are using the squares to show that they can rearrange and decompose to make a shape that is easier to find the area.

Name: Stephanie	Name:
Name: Michelle	Name:
Name:	Name:

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Group 4: Learning sequenced to build conceptual understanding over time

Member Gems (one each team member)

In the first lesson we learned about the area and what that is. This lesson builds onto that idea by helping them compose their own shapes and find the area of those shapes. The next lesson helps them learn the different strategies to find areas in other shapes.

Name: Britni Cassidy-Rice	Name: Christena Johnson
Name:	Name:
Name:	Name:

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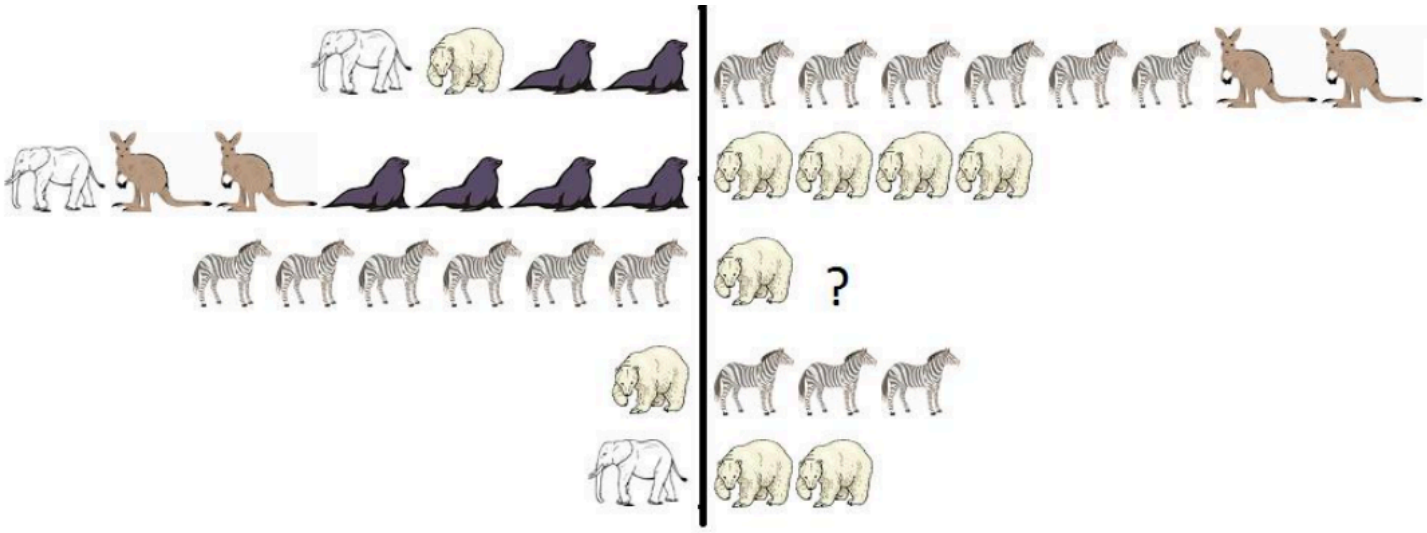


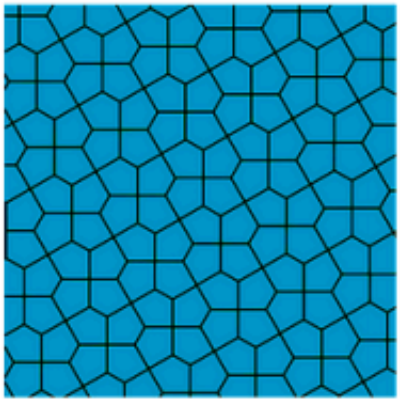
Noah's Ark

Mr. Noah wants his Ark to sail along on an even keel. The ark is divided down the middle, and on each deck the animals on the left exactly balance those on the right – all but the third deck. Can you figure out how many SEALS are needed in place of the question mark so that they (and the bear) will exactly balance the six zebras?

1.1 Which One Doesn't Belong: Tilings

Which pattern doesn't belong?

A



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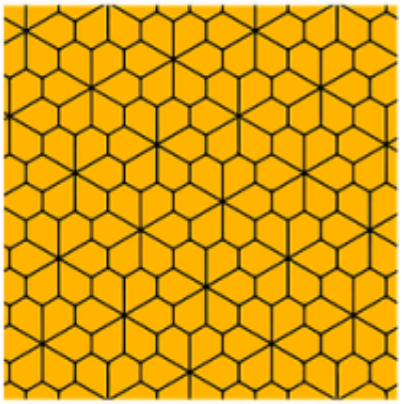

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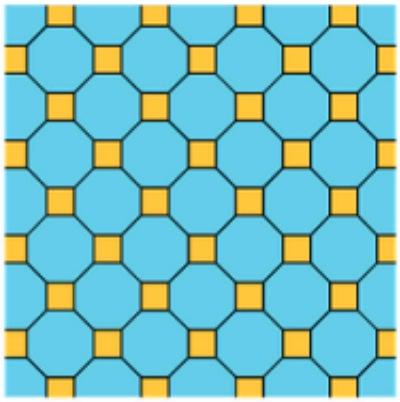

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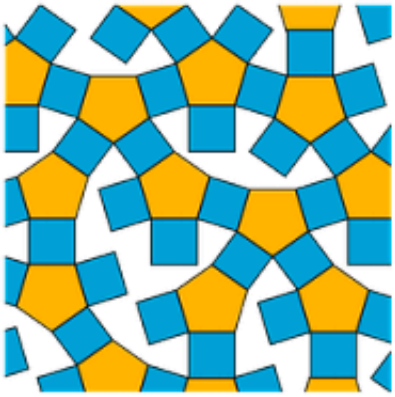
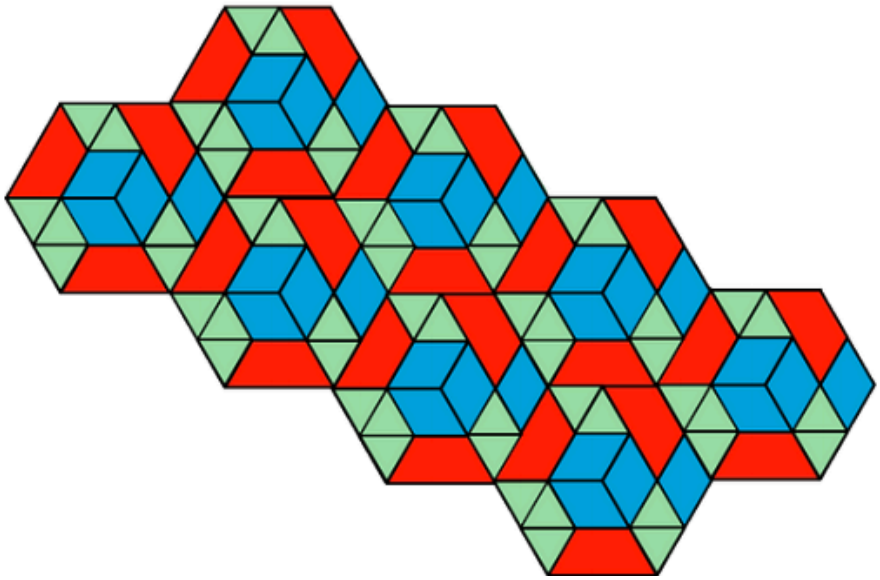


1.2 More Red, Green, or Blue?

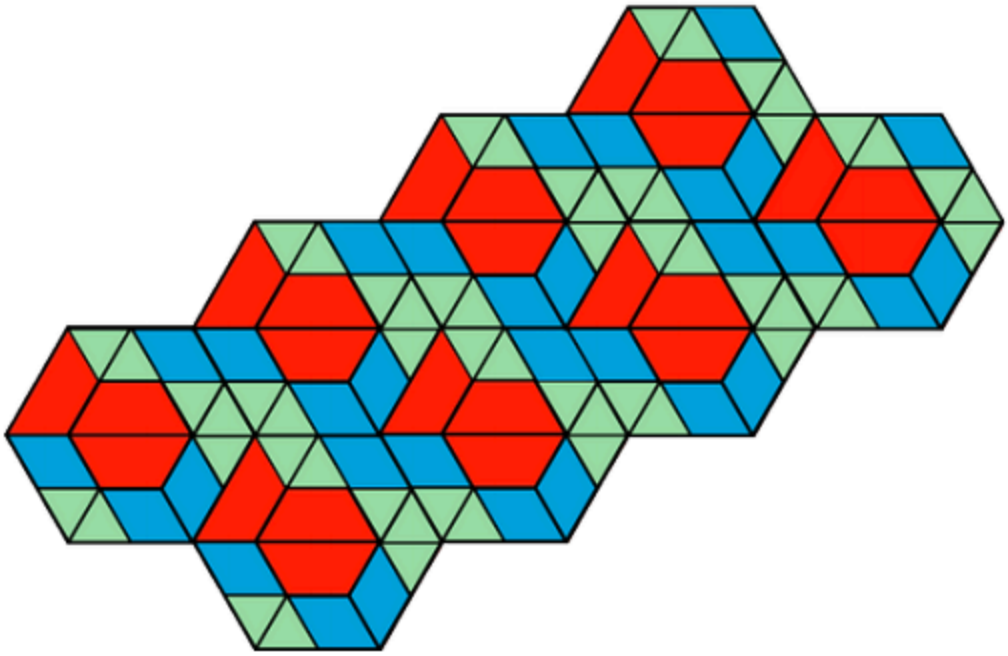
Your teacher will assign you to look at Pattern A or Pattern B.

In your pattern, which shape covers more of the plane: blue rhombuses, red trapezoids, or green triangles? Explain how you know.

Pattern A



Pattern B



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Unit 1, Lesson 1

Cool-down

1.3 What is Area?

Think about your work today, and write your best definition of area.

Key Characteristics of the OUR Curriculum

- **Classroom culture** where students learn by trying, sharing & listening to each other
- **Launch - Work Time - Synthesis** structure of classroom activities
- Specific lesson & activity **purposes**
- Carefully sequenced learning experiences that help students develop **conceptual understanding** over time
- A focus on student communication & **discourse**