BCPS Illustrative Mathematics Lesson Planning Internalization and Reflection Tool

Use this document to internalize the story of the lesson.

- Consult your PLC's Unit Plan to determine the lesson number(s) and activities (reference the block schedule guidance as needed).
- Access the lesson plan in your teacher's edition, BCPS Math Curriculum Schoology group, or IM's website.
- Read and answer the prompts in the left column.

Overarching learning pursuits (adapted from *Historically Responsive Learning Template*):

- ✓ Identity: How will your teaching help students to learn something about themselves and / or others?
- ✓ Skills: What skills and content learning standards are you teaching?
- ✓ Intellect: What will your students become smarter about?
- ✓ Criticality: How will you engage your students in thinking about power, equity, and anti-oppression in the text, in society, and in the world?

Lesson Component		Reflection and Implementation Notes
	**Lesson Title(s) and Number(s)** **Addressed Standards** **Unit 5 Lessons 5 and 6 (block schedule)**	**Prerequisite standard:** CCSS 6.NS.C.7.c: Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. **Grade Level Standards addressed:** CCSS 7.NS.A.1.b Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. CCSS 7.NS.A.1.c Understand subtraction of rational numbers as adding the additive inverse, p - q = p + (-q). Show that the distance between two rational numbers on the number line is the absolute value of their difference and apply this principle in real-world contexts.

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 	**Lesson Goal(s) and Narrative** Read and annotate the lesson preparation, focusing on the lesson narrative, teacher facing learning goals, and lesson standards to answer these questions: • *How does the lesson fit into the story of the unit? What have students already learned? What will be new learning in this lesson?* • *What do you want students to learn? Why do you want them to learn it? How will you know they have met the rigor of the standards?* • *What is the language objective (see teacher facing learning goals) to demonstrate mastery by reading, speaking, writing, or listening (SIOP)?*	Objective: Students will be able to identify absolute value of two numbers by using a number line (both vertical and horizontal) across zero in order to use absolute value to calculate the distance between two points and apply this understanding to real world contexts. Absolute Value is taught as a full lesson in Math6 IM and only referenced in Lesson 1 of Unit 5. These students did not receive Grade 6 IM last year, so to help connect prior learning to Lessons 5 and 6 of Math7, we will take some time to further explore distance from zero and build background knowledge that many students may need for Absolute Value. The new learning will be applying their knowledge of Absolute Value (a number's distance from zero) to subtracting integers and finding the distance between positive and negative integers. (The rationale behind why when we subtract a negative, we are actually adding).
 	**Cool Down** (Assessment Evidence) *Do the math!* Complete the lesson cool down to answer the question: • *What connections are there between the lesson standards, learning goals, learning targets, and the cool down?* • *How will you know if students have met the teacher facing learning goals?*	For the cool down, students will be able to solve a real-world problem by applying absolute value (distance from zero) to find the distance between the top of a volcano and the bottom of the ocean floor. Students will be asked to explain how they solved the problem.
   	**Warm Up** (Anticipatory Set / Hook) *Do the math!* Read and annotate the warm up to answer the question: • *How is this warm up an invitation to mathematics?* • *How does this warm up engage students in setting a purpose, previewing learning, or linking new learning to prior lessons?* • *What instructional strategies are outlined that support student engagement and discourse?* • *When students share their thinking, which ideas, concepts or strategies will be important to highlight or amplify to encourage connections and reflections?*	Students will be participating in a Think About It – Discussion: Notice and Wonder. Students will activate prior knowledge from a previous lesson where we identified zero, negative numbers, and positive numbers in real world context. Students will verbally record their responses or write their responses in the Schoology Discussion Post and read/respond to other classmate's responses before sharing verbally. (This notice and wonder will be revisited at the end of the lesson) The Discussion will take ***Approximately 10 minutes*** *(during this time, I take attendance)*

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   	**Activities** (Teach / Model / Guided Practice / Checks for Understanding / Independent Learning / Assessment / Reteach / Enrich / Extend) *Do the math!* Use the block schedule guidance and sample timelines as needed to select the activities. Read and annotate the activities to: • Connect each activity to the cool down to understand the depth of each activity. • Unpack the launch – activity work time – synthesis for each activity. • Understand the Instructional Routines used in the lesson. • Describe the progression of understanding from one activity to the next. • Plan for questioning and student discourse. Answer these questions: • *What is the intended new learning?* • *How will you facilitate new learning?* • *What strategies, representations, and ideas will students use to show understanding of the learning goal?* • *How will you know if students have met the objective? What evidence will you collect? How will you quickly assess student progress and understanding? How will you adjust instruction based on what you learn?* • *What, if any, opportunities are needed for acceleration or reteaching?*	Explore: In this part of the lesson, students will be assigned to breakout rooms and begin working on the first 10 slides together to explore distance from zero and absolute value. In addition to the explore slides, a short video is included in the Desmos to provide support if they require it. Students will work together to define absolute value and how it can be used to subtract negative and positive integers. As the students work, I will be monitoring the back end of Desmos to check for understanding and pacing, as well as, making round to breakout rooms. In addition to the pre-assessment data and general knowledge of my students, this is providing me with information to help with differentiation. ***Approximately 15 minutes*** After about 15 min. I will close the breakout rooms. Students will return to the main meet and we will discuss the exploration slides. Students will share out their definition of Absolute Value and how distance from zero can help with subtracting integers. We will add this definition to our journals. We will take a look at the objective and then I will model how to use vertical and negative number lines to find distance from zero and examples of absolute value in real world context by drawing a number line and/or using a digital number line. *(A common misconception is that the absolute value of a negative number is not negative – it's positive. Students often confuse absolute value with the opposite of a number)* https://apps.mathlearningcenter.org/number-line/?3tluvczm ***Approximately 15-20 minutes*** After we discuss as a whole group, students will return to their breakout rooms to work on the remaining Desmos slides to practice the concepts within this lesson. The Desmos has extension embedded in the activity. This is the area of differentiation (based on pre-assessment and informal lesson observations). Breakout Groups 2-4 will be working at a faster pace, and I am anticipating will master the understanding of absolute value quickly and will need extension. In addition, specific students have been grouped within Breakout Rooms 2-4 to help facilitate the practice slides. I will be working with Group 1 but will circulate into breakout groups after about 10 minutes. ***Approximately 20 minutes (10-15 minutes in breakout rooms)***

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Lesson Synthesis (Closure / Reflection) Read and annotate the lesson synthesis to answer the questions: • *What questions or actions provide the students with the opportunity to consolidate their learning before the cool down?* • *How will you use the Student Lesson Summary and Glossary Entries?*	To wrap up the lesson, we will return to the main meet where I will clarify any misconceptions or struggles that I noticed while rotating through breakout rooms. We will revisit the Think About It from the start of the lesson. Students will be able to apply what they learned by solving a real-world problem involving absolute value. They will be asked to find the distance between the top of the volcano and the ocean floor in a Schoology Discussion. Students will not be able to see other students' responses until they post.
Materials and Modality of Learning • Decide on modalities of interactions for students. Note these modalities may vary by activity. Consider using the Additional Resources (PowerPoints or Google slides) at the bottom of each Lesson Preparation page, the IM provided resources, or GeoGebra. • Use the kits provided to acquire and prepare any required materials, including printing Blackline Masters, if necessary. • Consider how to assign practice problems as asynchronous work for your students.	Desmos, Journal/Notebook (students with writing needs take screen shots of notes), Practice problems embedded in Desmos with extension for those who need more, video embedded in Desmos for students to review if they need support, extension activity for those who finish early, Math Learning Center App number line for visual representation.
Personal / PLC Reflections on Lesson Implementation *How does this lesson inform next steps?* *Why was this lesson important in this unit?*	This conceptual understanding is important for applying distance from zero when adding and subtracting integers! It provides a visual representation as to WHY two negatives make a positive when subtracting a negative integer. As we begin solving equations and using distributive property, students must be fluent at adding and subtracting negative and positive integers. Desmos lesson: https://teacher.desmos.com/activitybuilder/custom/63768bd217d1ba203f62e5ab