LESSON PLANNING AND REFLECTION: MATHEMATICS

Quick-Reference Question Guide

The questions in this resource support a thoughtful reflection on mathematics instruction. These questions are ideal for:

- Personal lesson planning
- Personal reflection on a lesson
- Peer-to-peer or coaching discussions
- Discussion within a PLC or other professional learning setting

These questions are aligned to college- and career-ready expectations and derived from the Lesson Planning Tool on Achieve the Core. They can be used in conjunction with the Instructional Practice Guide (IPG), Lesson Planning Tool, and Beyond the Lesson Discussion Questions.

Mathematics of the Lesson

What is the mathematical learning goal of the lesson?

What standard(s) and/or cluster(s) (or part thereof) am I targeting in this lesson?

What aspect(s) of Rigor (conceptual understanding, procedural skill and fluency, application) do the targeted standards require?

How will I ensure the lesson meets the mathematical learning goal?

What common misconceptions and opportunities for growth do I anticipate will arise?

How am I going to address these misconceptions to strengthen students' understanding of the content?

Coherent Connections

How does this lesson relate to other lessons that address the same standard(s)?

What prior skills and knowledge might students bring to this lesson?

How will the lesson explicitly connect to and build on students' prior skills and knowledge? What will I say or show my students to make this connection clear?

What unfinished learning from earlier grades/courses might I need to address within the context of this lesson to help students access grade-/course-level content? When and how will this occur?

If applicable, why am I covering content from a different grade-/course and how does it connect to on-grade/-course work?

How does the mathematics of this lesson lay the foundation for future work?

Problems & Exercises

What explanations, representations, tasks, and/or examples will I share to make the mathematics of this lesson clear?

What grade-/course-level problems or exercises will I ask the whole class to solve?

Which problem(s) will prompt students to share their thinking and apply their mathematical language?

Which problems or exercises, if any, will require students to persevere? How will I encourage students to persist even in the face of difficulty?

Which problem(s) will require students to explain and justify their work?

What solution methods or representations do I anticipate seeing from students?

How will I connect these solution methods or representations to each other to strengthen all students' understanding?

What scaffolding will I provide for students who demonstrate a need for more support?

How will I address unfinished learning in the context of the on-grade-level work?

What extension work will I prepare for students who are ready for deeper engagement with grade-level content?

Formative Assessment Strategies

What strategies and opportunities will I use to check for understanding throughout the lesson? What questions will I ask?

How will I use the information gained from these checks for understanding?

In what ways may I need to adapt the lesson as a result of this data?

How will I provide feedback to students?

Will there be an opportunity in this lesson for students to revise their work? If so, when?

Classroom Discussion

What ideas/concepts will I focus on during discussions?

What questions will I ask to prompt students to share their thinking about the content of the lesson and when will that happen?

What criteria will I use to determine which students will be chosen to share their mathematical work? How will I sequence this sharing of student representations and/or solution methods to connect and strengthen all students' understanding of the content?

How will I encourage students to engage in mathematical discourse?

How can I facilitate student discussions that prompt students to critique the reasoning of others, justify solutions, ask questions, and learn from other students' thinking?

What informal mathematical language do I expect to hear?

How will I connect students' informal language to the precise mathematical language of this lesson?

What student work and discussion will I highlight to reinforce the mathematical learning goal(s) of the lesson?

How will I make the student thinking from the lesson visible?

What will the summary of the lesson look or sound like?