

Lesson Study Protocol

Preview the Learning

Investigate the Development of Learning

Prepare for Instruction

PREVIEW THE LEARNING

Step 1: Explore the Lesson Set Content and Ideas

Action Items	Guiding Questions	Resources
<p>A. Read the Prepare section.</p> <ul style="list-style-type: none"> Identify the Phenomenon Question. Note the Knowledge Statement and the lesson objectives. 	<ul style="list-style-type: none"> What scientific understanding do students develop by the end of this lesson set? How does this new understanding build toward their explanation of the anchor phenomenon? How will exploring the Phenomenon Question help students build a coherent understanding of the Focus Question? 	<ul style="list-style-type: none"> Prepare section

Step 2: Identify the Lesson Set Standards Addressed

Action Items	Guiding Questions	Resources
<p>A. Examine the Standards Addressed.</p>	<ul style="list-style-type: none"> How does exploring the anchor and supporting phenomena develop the targeted science ideas? (Content Standards) How do students use scientific and engineering practices to develop an understanding of the module's science ideas? (Scientific and Engineering Practices, or SEPs) How do students apply recurring science concepts to uncover the module's science ideas? (Recurring Themes and Concepts, or RTCs) 	<ul style="list-style-type: none"> Prepare section—Standards Addressed

Step 3: Examine the Lesson Set Assessments

Action Items	Guiding Questions	Resources
<p>C. Examine the Checks for Understanding.</p> <ul style="list-style-type: none"> Locate and read the Checks for Understanding in the lesson set. 	<ul style="list-style-type: none"> What evidence do you see of students applying science ideas (Content Standards), scientific and engineering practices (SEPs), and recurring science concepts (RTCs)? Why are the science ideas (Content Standards), scientific and engineering practices (SEPs), and recurring science concepts (RTCs) in the Check for Understanding important to formatively assess? 	<ul style="list-style-type: none"> Checks for Understanding (inline and sidebar)
<p>D. Make connections to the Conceptual Checkpoint and the End-of-Module Assessment (EOMA).</p>	<ul style="list-style-type: none"> How do the Checks for Understanding connect to the Conceptual Checkpoint and the EOMA? 	<ul style="list-style-type: none"> Conceptual Checkpoint EOMA and EOMA rubric Checks for Understanding

INVESTIGATE THE DEVELOPMENT OF LEARNING

Step 4: Determine the Lesson Set Investigations

Action Items	Guiding Questions	Resources
<p>A. Analyze the learning progression.</p> <ul style="list-style-type: none"> Identify student-generated questions that connect to exploration of the phenomena in this lesson set. 	<ul style="list-style-type: none"> What question are students exploring? What investigations and resources are students engaging with? What are students figuring out? How does what students figure out connect to other learning? How does it connect to previous learning? How does it move or drive the learning forward? How does what students figure out connect to the anchor visual updates in the concept? 	<ul style="list-style-type: none"> Appendix A: Module Storyline Lesson pages Classroom anchor visuals: anchor model, anchor chart, driving question board

PREPARE FOR INSTRUCTION

Step 5: Deepen the Learning and Preparation

Action Items	Guiding Questions	Resources
<p>A. Plan for each lesson in the lesson set.</p> <ul style="list-style-type: none"> Complete the lesson's investigations prior to facilitating with students. 	<ul style="list-style-type: none"> What student-generated questions are explored and answered? How can you support students while maintaining rigor and keeping instruction student-driven? How will you support students in building a coherent understanding of the science content and understanding the purpose behind the lesson's investigations? How do the lesson's questions move students toward answering the Phenomenon Question and achieving the lesson's objective? Are there any parts of the lesson that you need to practice prior to facilitating this lesson with students? 	<ul style="list-style-type: none"> Lesson pages, including Just-in-Time notes Science Logbook Great Minds Digital Platform: Pacing Guide Great Minds Digital Platform: Investigation Videos for Students
<p>B. Prepare the necessary materials and plan for materials management.</p>	<ul style="list-style-type: none"> What materials are needed? What advance materials preparation needs to occur? What is your materials management plan/routine? How can you plan to overcome any environmental barriers that may exist for students? 	<ul style="list-style-type: none"> Great Minds Digital Platform: Investigation Videos for Teachers Module Resources Great Minds Digital Platform: Materials List Great Minds Digital Platform: Preparation Guide
<p>C. Consider pacing needs and how to address pacing obstacles.</p>	<ul style="list-style-type: none"> How can you maximize instructional time while honoring the curriculum's intentional design and structure? Optional: How does the pacing for this lesson set compare to state or district pacing guides? 	<ul style="list-style-type: none"> Lesson pages Great Minds Digital Platform: Pacing Guide
<p>D. Explore connections to other content areas.</p> <ul style="list-style-type: none"> Identify any mathematics or English language arts (ELA) skills and knowledge students may need to apply. 	<ul style="list-style-type: none"> How can you leverage the coherence between content areas to support and/or accelerate student learning? How can you ensure coherence between content areas? How can you ensure these mathematics and ELA connections are coherent from the student perspective? 	<ul style="list-style-type: none"> Lesson pages, including Just-in-Time notes District, state, or national mathematics and ELAR resources Mathematics and/or ELAR curricula