Deep Space Mission Planning-to-Teach Checklist for Space Hazards

How to use this planning tool:

1. Download or print the Space Hazard Unit Educator Resource Guide for Science and/or Engineering.
2. Read through each section in the order below, as each section builds on the prior information.
3. Jot down key thoughts and questions in the *Educator Planning & Reflection Notes* to help you plan for teaching.
    - Flag items that need follow-up (for example, checking available materials or learning space needs).
    - Focus on capturing ideas that relate specifically to *YOUR* learners and programs.

STEP 1: Experience a Space Hazards Adventure	
Planning Steps	**Educator Planning & Reflection Notes** 📝
• **Experience a Space Hazards Adventure as your learners would.** *Find the Ready-SET-Go Adventure on p. 1 of the Science Educator Guide or Engineering Educator Guide. Note this Adventure is the same for both learning pathways. (~45 min)*	This opening adventure for the Space Hazards introduces learners to the concept of hazards in space as they study the energy of space trash as it impacts spacecraft, as planetary scientists would, and act as engineers to design a technology to protect against space trash impacts. Use the following reflection prompts to help guide your thinking as you experience this Space Hazards Adventure. • The Our Ideas Poster is a feature of Space Hazards adventures that helps provide learners with a visual sense-making tool and encourages them to share ideas in their preferred language. *As you move through the Ready-Set-Go Adventure capture your ideas about any additional ways you can support your learners in successfully capturing their thoughts on the Our Ideas Poster.*

	• Learners will work together in groups for this Adventure. After reading through the activities, *what thoughts do you have for strategic and inclusive grouping strategies for your learners*? • There are many opportunities to "Level-Up" in this Adventure. *Which, if any, Level-Ups do you feel you might include*? • This Adventure includes teaching tips for "Supporting Learners Differences" to ensure all learners can equitably participate in the activities. *Are there any additional inclusive strategies you feel you need to include to modify the activities so your learners can better participate*?
STEP 2: Get a high-level view of the Space Hazards unit.	
Planning Steps	**Educator Planning & Reflection Notes** 📝
Click on the Navigating the Space Hazards Unit video. *This video shows how each adventure builds on the previous one, leading your learners toward proposing a solution in science or technology design in engineering. (~3 min)*	Which pathway(s) do you plan on offering for your learners?

Read the Space Hazards Pathway Learning Sequence for Science and/or Engineering. *The pathway learning sequence provides a high-level overview of each adventure in Space Hazards Science and Engineering and how they build on one another. (~10 min per pathway)*	**SCIENCE LEARNING PATHWAY** (**Science Pathway p. xi-xiii)** Science adventures intentionally build on one another. What ideas do you have to support learners who may miss a day of learning? What key moments in this pathway can you use to help connect learners' to career opportunities in science?	**ENGINEERING LEARNING PATHWAY** (**Engineering Pathway p. xi-xiii)** Engineering adventures intentionally build on one another. What ideas do you have to support learners who may miss a day of learning? What key moments in this pathway can you use to help connect learners' to career opportunities in engineering?
STEP 3: Get to know the different features and teaching supports found in the Space Hazards Science Educator Guide.		
Planning Steps	**Educator Planning & Reflection Notes 📝**	
Overview of Features and Teaching Supports in Educator Guide. *This resource provides key information about the front matter of the educator guide and the instructional design of the Space Hazards adventures. (~10 min read)*	Star features you'll use most often.	

Reviewing Materials *Review the material checklist for the science pathway. (~5 min)*	**SCIENCE LEARNING PATHWAY (Science Pathway** p. xxiii to xxiv) What materials do you still need to purchase? Where will you store materials between sessions? What environment setup would work best for your group?	**ENGINEERING LEARNING PATHWAY (Engineering Pathway** p. xxiii to xxv) What materials do you still need to purchase? Where will you store materials between sessions? What environment setup would work best for your group?

Planning for YOUR Learners Needs: Read the the following teaching supports provided in the Educator Guide on pages xv to xxii: ○ Instructional Tips for Learning. ○ *Ideas for Inclusion Activities [To be added].* ○ Inclusive Grouping Strategies ○ Ideas for Building Family & Community Connections. *These resources provide instructional strategies you may consider to help meet the needs of your learners. (~20 min read)* Explore some of the additional video resources on supporting unique learners' needs (~3 mins each): ● Supporting Multilingual Learners ● Supporting Indigenous Learners ● Supporting Learners with Diverse Physical and Sensory Abilities	Which strategies best match your learners' needs? What are 1-2 new strategies you'd like to try?

STEP 4: Chart your course for how the Space Hazards Science unit will be implemented into your current program.		
Planning Steps	**Educator Planning & Reflection Notes** 📝	
Planning for Space Hazards in your program: Review sample schedules to see examples of how the Science and Engineering Pathways can fit into an out-of-school time program. *These schedules will help you see how Space Hazards fits into your schedule. Whether you've got daily sessions or just a few hours a week, the PLANETS curriculum can fit your needs! (~10 min read)*	Which format might work best given your program's schedule? What adjustments might you need to make?	
Optional Next Steps: Interested in learning more? Here are some recommended next steps in your Space Hazards learning mission.		
• (*Optional*) Read through the Science/Engineering Educator Guide to understand how each adventure builds on the next. Think about any preparation and space considerations you need to make.	**SCIENCE LEARNING PATHWAY** **(Science Pathway** p. 1 to 63) What connections do you see between activities? Which parts might need extra prep time?	**ENGINEERING LEARNING PATHWAY** **(Engineering Pathway** p. 1 to 125) What connections do you see between activities? Which parts might need extra prep time?

	What might your learners find most challenging or exciting?	What might your learners find most challenging or exciting?