# Space Hazards Planning to Teach Checklist

## How to use this tool:

1. Download or print the *Space Hazard Unit Educator Guide for Science and/or Engineering.* (optional)
2. Work through each section of the checklist in the order as shown below since each section builds on the prior information.
3. The Educator Planning & Reflection Notes section has key information and reflection prompts to help you plan for teaching. You can jot down your thoughts and questions for planning in this space. For example:
   * 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.
4. This checklist takes ~120 minutes. For essential preparation only, focus on resources marked with a that will take   
   ~45 minutes.

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| 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 Activity on pg. 5 of the [**Science Educator Guide**](https://planets-stem.org/wp-content/uploads/2025/07/Space-Hazards-Educator-Guide-SCI.pdf) or pg. 7 of the [**Engineering Educator Guide.**](https://planets-stem.org/wp-content/uploads/2025/07/Space-Hazards-Educator-Guide-ENG.pdf) Note this Activity is the same for both learning pathways. (~45-60 min) | This context-setting adventure for the Space Hazards unit invites learners to think like planetary scientists as they explore how space trash poses a hazard to spacecraft, and act as engineers to design a technology to protect against the impacts of a collision.  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 learners in successfully capturing their thoughts on the Our Ideas Poster.* * Learners will work together in groups for this adventure.. After reading through the adventures, *what thoughts do you have for strategic and inclusive grouping strategies for 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 Learner Differences” to ensure all learners can equitably participate in the Adventures. *Are there any additional strategies you feel you need to include to modify the adventures so learners can better participate*? |

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| STEP 2: Get a high-level view of the Space Hazards unit. | | |
| Planning Steps | Educator Planning & Reflection Notes 📝 | |
| Badge New with solid fill[**Click on the Navigating the Space Hazards Unit video.**](https://drive.google.com/file/d/1Q-UmOCsClAKRPNA4kQML2HgJV0pEA9HR/view?usp=drive_link)  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 your learners? | |
| Badge New with solid fill**Read the Space Hazards Pathway Storyline for Science and/or Engineering.**  The storyline provides a high-level overview of each activity in the Space Hazards Science and Engineering pathways and how they build on one another. (~10 min per pathway) | **SCIENCE PATHWAY STORYLINE**  **(**[**Science Pathway**](https://planets-stem.org/wp-content/uploads/2025/07/Space-Hazards-Educator-Guide-SCI.pdf) **pg. xxiii-xxv)**  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 PATHWAY STORYLINE**  **(**[**Engineering Pathway**](https://planets-stem.org/wp-content/uploads/2025/07/Space-Hazards-Educator-Guide-ENG.pdf) **pg. xxiii-xxvi)**  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? |

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| STEP 3: Get to know the different features and teaching  supports found in the Space Hazards Educator Guide. | | |
| Planning Steps | Educator Planning & Reflection Notes 📝 | |
| Badge New with solid fill**Reviewing Materials**  Review the material checklist for the science pathway. (~5 min) | **SCIENCE PATHWAY  (**[**Science Pathway**](https://planets-stem.org/wp-content/uploads/2025/07/Space-Hazards-Educator-Guide-SCI.pdf) **pg. 2–3 and materials calculator)**   * 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 PATHWAY  (**[**Engineering Pathway**](https://planets-stem.org/wp-content/uploads/2025/07/Space-Hazards-Educator-Guide-ENG.pdf) **pg. 2–3 and materials calculator)**   * What materials do you still need to purchase? * Where will you store materials between sessions? * What environment setup would work best for your group?   *(continued)* |
| **Planning for YOUR Learners’ Needs**:  Read the following teaching supports provided in the Educator Guide in the *Educator Resources to Support Learning* section on pages xviii to xxii:   * Instructional Tips for Learning * Ideas for Inclusion Activities * 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 (~3-4 mins each):   * [**Supporting Multilingual**](https://www.youtube.com/watch?v=b8ydknKE3L0) [**Learners**](https://planets-stem.org/videos/translanguaging/) * [**Supporting Indigenous**](https://www.youtube.com/watch?v=_-4WyGXqWXo) [**Learners**](https://planets-stem.org/videos/indigenous-learners/) * [**Supporting Learners with Diverse Physical and Sensory Abilities**](https://planets-stem.org/videos/diverse-physical-abilities/) | * Which strategies best match your learners' needs? * What are 1-2 new strategies you'd like to try? | |

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| STEP 4: Chart your course for how the Space Hazards  unit will be implemented into your current program. | | |
| Planning Steps | Educator Planning & Reflection Notes 📝 | |
| Badge New with solid fill**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? | |
| 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 PATHWAY**   * What connections do you see between adventures? * Which parts might need extra prep time? * What might your learners find most challenging or exciting? | **ENGINEERING PATHWAY**   * What connections do you see between adventures? * Which parts might need extra prep time? * What might your learners find most challenging or exciting? |