

All about HiWayz™ PHENOMENA! STEM ACTIVITY CARDS

Student Groupings:



Individuals

Promote independent curiosity and problem-solving



Partners or Small Groups

Promote active collaboration and spark conversations as students work to prove their reasoning about phenomena



Whole Class

Model meaningful discussions and interactive problem-solving skills with adult support

FRONT



Phenomena images

1

2

Essential skill

Elements of each card

- 1 Phenomena images** - Thought-provoking images that spark curiosity and promote deep thinking connected to the activity and science concept.
- 2 Essential skill** - Objective statement written in student-friendly language.



BACK

1 Station of STEM®

2 Guiding question

4 Materials list

3 Vocabulary

5 Step-by-step directions

6 Challenges

Robotics

How is space exploration possible?

- Look at the image on the front of the card. Record what you notice about the International Space Station (ISS) and spacewalks. What accommodations are required to explore space?
- Use your augmented reality tools to explore which parts of the International Space Station provide conditions that allow humans to work in space (such as power, shelter, food, and water).
- Use assorted craft materials to represent different essential parts of a space station, such as solar panels, airlocks, and water recycling systems.
- Use your robotics tools to represent an astronaut on a spacewalk who is repairing essential parts of the space station.
- Record observations of successes and challenges in using your robotics tools.

CHALLENGE

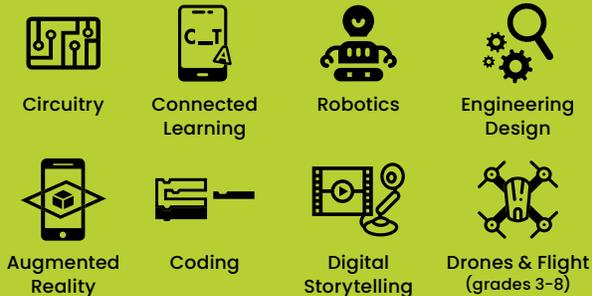
- Research the early history of space flight and focus on a particular astronaut or mission. Share your findings in a presentation to your classmates.
- Make a list of five personal items you would bring with you for a year-long stay on a space station. Write a brief description of each item and explain why you would bring it.

Save a recording of your robot in action to add to your STEM portfolio.

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Elements of each card

1 Station of STEM® - The Stations of STEM - a TechTerra trademarked concept - refers to a system for understanding and organizing learning centers for the purpose of exploring the world of STEM and STEAM.



2 Guiding question - Sparks curiosity and prompts student thinking and conversation.

3 Vocabulary - Highlights important terms that students will encounter.

4 Materials list - Materials and STEM tools needed to complete the card (standard classroom supplies)

5 Step-by-step directions - Student-friendly language to encourage independent hands-on exploration without one-on-one adult support.

6 Challenges - Extends thinking on the concept and connects to different content areas including Language Arts, Math, and Social Studies.

Explore concepts using hands-on STEM tools in each area. Use your own tools or those purchased from our Hiwayzz™ Tool Starter Kit and Tool Bundles.

