

Think Like an Astronaut: K-2 Enrichment Lesson Plan January 2017

Purpose: To imagine and create a mysterious mission for Meteor (a smiley-face eraser).

Materials: Disposable plates (paper chinet plates...12 by 10), erasers, markers, tape, Space stickers, foil, puffballs, paper strips, pipe cleaners, popsicle sticks, *Mousetronaut Goes to Mars* by Mark Kelly

Lesson Time: 35-45 minutes, including clean up

Link to Clean-up Music: ["Space Jam"](#)

Whole Group Instruction (10 minutes)

1. Define **astronaut** and introduce Astronaut Mark Kelly and overview his background
 - a. Mark Kelly: an **astronaut** who has done many **missions** in space and he is 52 years old
 - b. Lived on International Space Station for a year. Here are some fun facts about that year:
 - i. He orbited the earth 5,440 times.
 - ii. He watched the sun go up and down 10,944 times since the sun rises or sets every 45 minutes in spaces.
 - iii. He flew over 100,000,000 miles.
 - iv. He grew two inches in space because of the lack of gravity pulling him down.
 - v. When Mark Kelly lived in space, he answered kids questions about what he was doing there.
2. Read Mark Kelly's book *Mousetronaut Goes to Mars*.
3. Highlight the front cover and a few pictures from the book of possible **obstacles** that Meteor faced: craters, rocks, stars, shooting stars. Brainstorm other possible challenges that Meteor faced.
4. Introduce the challenge: Answer the mystery of what happened to Meteor: Your mission is to create a **maze** to get Meteor from one place to another and to imagine the **sequence** of events/story and **obstacles** that Meteor had to **navigate**.

Terms to Be Integrated into Whole Group Instruction

Kindergarten	First Grade	Second Grade (and all definitions)
Astronaut Mission Mysterious Maze Obstacle	Astronaut Mission Mysterious Maze Obstacle Navigate	Astronaut: A person who travels in a spacecraft into outer space. Mission: A task or job that someone is given to do. Mysterious: Strange, unknown, or difficult to understand. Maze: A confusing/complicated arrangement of paths. Sequence: Putting things in order. Obstacle: An object that you have to go around or over (something that blocks your path). Navigate: To find the way to get to a place when you are traveling in a ship, spaceship, etc.

Individual Work Time (15-20 minutes)

1. Create a **mysterious** mission with obstacles.
 - a. Distribute [Meteor's Mysterious Mission Mat](#) to use as a guide for the mission. The mat includes guiding questions for student and teacher reference.
 - b. Each facilitator will have 6 purple bags that include zip lock bags of materials for small groups of students to use in their maze construction.
 - c. Overview the materials with the students. Explain the use of these materials (need versus excess use). 10 stickers are provided for each student.

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- d. Distribute 1 purple bag for every 4-6 students. These bags are stocked for multiple classes. They can be replenished but should not need it after every classroom. (Need vs. excess again)
- e. Tape and stickers are ways to attach the materials to the plate. Tape may be difficult for students to tear off, so adults in the room should help with that as needed.
- f. Teachers and facilitators use the following guiding questions for each grade level or for students who need additional challenge. (*Top of next page*)
- g. Use your judgement as to when to pass out Meteor (the eraser top). The students may need to move to the floor to test their mazes and walk Meteor through them.

Kindergarten Guiding Questions	First Grade Guiding Questions	Second Grade Guiding Questions
<ul style="list-style-type: none"> • What is the beginning and end of Meteor's mission? • What does Meteor do? What is the sequence of events? 	<ul style="list-style-type: none"> • What is the beginning and end of the Meteor's mission? • What does Meteor do? What is the sequence of events? • What obstacles/challenges does Meteor face on this mission? 	<ul style="list-style-type: none"> • What is the beginning and end of th Meteor's mission? • What does Meteor do? What is the sequence of events? • What obstacles/challenges does Meteor face on this mission? • How does Meteor navigate these challenges on this mission?

Clean Up/Closure (5-10 minutes)

- Play "Space Jam" song audio while the students clean up (link provided at beginning of lesson plan). Students put materials back in zip locks and place the sealed zip locks back in large purple bags.
- Students share their mazes with a partner. Each student shares the mission that Meteor took. Then, the students switch mazes and try to get Meteor from the start to end of the mission.
- If time, select two to three students to share their missions with the whole class.
- Mazes are to be brought home, including Meteor.

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Teacher Name _____ Grade _____ School _____

Observation Notes ~ Maze Mission Maker

Include student's first and last name, and notes about observed behavior. Record top 4-5 students per area.

Elaboration and Details <ul style="list-style-type: none">• Adds design elements beyond instructions• Uses lots of detail about Meteor's adventure, the sequence of events, the obstacles, and Meteor's navigation of the mission	Imagination and Storytelling <ul style="list-style-type: none">• Tells an imaginative story about Meteor's adventure and navigation of mission• Incorporates creative obstacles or challenges for the maze• Embeds complex obstacles into Meteor's adventures
Critical and Strategic Thinking <ul style="list-style-type: none">• Makes multiple connections to whole group story and discussion• Sees complex cause and effect relationships (beginning/end/obstacles)• Designs maze with purposeful strategy around Meteor's adventures	Originality and Flexible Thinking <ul style="list-style-type: none">• Originates ideas that no other student mentions• Uses flexible thinking to modify the maze and the story around each other
These students surprised me today:	These students are generally stand-outs, but not in today's lesson:

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OBSERVATION INSTRUCTIONS

The purpose of this activity is to provide opportunities for students to demonstrate high levels of thinking in problem solving. We do not expect that all children will achieve mastery of the task. This activity is designed to find students who have high potential. Our goal is that all students will be interested and engaged, and a few will excel. Please write the names of the students who exhibit these skills in the appropriate box or boxes. See the observation notes descriptions below for details about the skills.

Please write first and last names. If the student exhibits these thinking skills more than once during the activity, put a checkmark next to the name for each additional response observed.

Your knowledge and observations of your students are crucial to the success of this Javits Grant Project. Thank you for allowing us to come into your classroom.

Maze Mission Maker Observation Notes: Examples of what we might see

Elaboration and Details <ul style="list-style-type: none">• Adds design elements beyond instructions• Uses lots of detail about Meteor's adventure, the sequence of events, the obstacles, and Meteor's navigation of the mission	Imagination and Storytelling <ul style="list-style-type: none">• Tells an imaginative story about Meteor's adventure and navigation of mission• Incorporates creative obstacles or challenges for the maze• Embeds complex obstacles into Meteor's adventures
Critical and Strategic Thinking <ul style="list-style-type: none">• Makes multiple connections to whole group story and discussion• Sees complex cause and effect relationships (beginning/end/obstacles)• Designs maze with purposeful strategy around Meteor's adventures	Originality and Flexible Thinking <ul style="list-style-type: none">• Originates ideas that no other student mentions• Uses flexible thinking to modify the maze and the story around each other

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