



ASTRONAUT ACADEMY

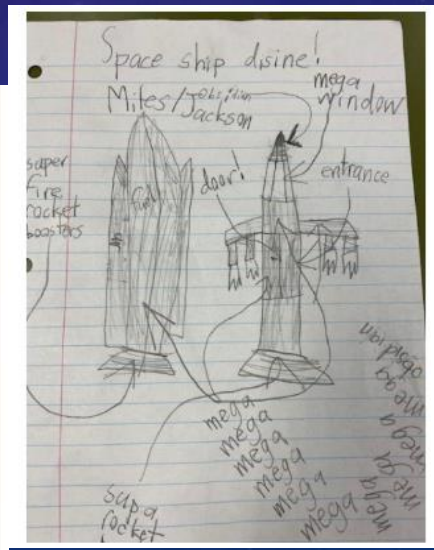
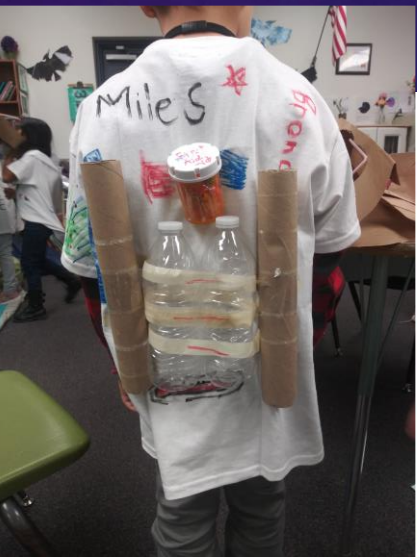
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Targeting Students in Grades 2-3

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UNIT HIGHLIGHTS

- The *Astronaut Academy* unit was designed using Joyce VanTassel-Baska's Integrated Curriculum Model (ICM):
 - ✓ Overarching concept: **EXPLORATION**
 - ✓ Advanced Interdisciplinary Content: **ASTRONOMY, SCIENTIFIC METHOD, FOUR FORCES OF FLIGHT, PHYSICAL FITNESS, CLEAR COMMUNICATION, LOGICAL DECISION-MAKING, HISTORY, WRITING, ETC.**
 - ✓ Problem based learning tasks forcing students to **THINK LIKE AN ASTRONAUT**



THE PBL TASK

Opening Script:

The year is 2030! The United States government has just announced the creation of a new program called **Cosmic Cadets**. The goal of the program is to prepare a handful of children to enter outer space for the first time. NASA has launched a series of four challenges to help determine who those lucky few kids will be. The challenges will test your physical fitness, mental intelligence, adaptability, and teamwork skills. You and your classmates are super excited about the possibility of being chosen, but have many questions you want answered.

- ☐ SPACE CREW TASK- True astronauts must be able to fly a jet first. Research the four forces of flight and explain how airplanes fly by creating a model, video, or other visual presentation.
- ☐ MISSION CONTROL TASK- Clear communication and logical decision making is crucial to a mission control specialist. Read the scenario your teacher will give you and explain how you would handle it.
- ☐ MEDIA AMBASSADOR- Design a potential logo for the Cosmic Cadet program and describe how you would market the program to children of the future and potential private donors.

MULTIPLE LEARNING PREFERENCES AND OPPORTUNITIES FOR CHOICE

Astronaut Academy Choice Menu

Student Name _____ Date _____

Directions: Please complete the activity of your choosing. You may work alone or with a partner.

1. Write a letter to a real astronaut, asking them something you have always wanted to know about space! Write the following address on the envelope. Your teacher will mail it for you. Astronaut Office CB NASA JSC 2101 NASA Rd. 1 Houston, TX 77058	2. Pretend you want to start your own space agency or company. What would you call it? What would your first mission be? How will it be different from NASA?	3. Go to www.kidastronomy.com and click on <i>The Sky Tonight</i> . Print out a map of the constellations that should be visible in your area and see if you can find them outside with your parents tonight.
4. Read a book about the solar system. Create a visual display (e.g., poster, PowerPoint, diagram, etc.) describing three things you learned.	5. Review the difference between <i>rotating</i> on an axis and <i>revolving</i> around the sun. Act out both types of movement pretending you are the planet and the trash can is the sun. Ask a friend to see if you are	6. Make up a rap or song to help others remember the order of the planets. Consider using your mnemonic device as the chorus and facts about the planets as the verses.

Visual Spatial	Pages 66,68,etc.- Construction of Venn diagrams Page 48- Designing a Cosmic Cadet logo Page 51 - Drawing and creating a model of the next generation space shuttle
Bodily Kinesthetic	Page 71- Catching a Comet game Page 90- Building a geodesic dome as a class Page 38- The Human Knot challenge Page 59- Modeling the movements of the sun, moon, Earth
Logical Mathematical	Page 36- Puzzles to Ponder (Mental Intelligence Challenge) Page 84- Calculating the time it would take to travel across the solar system if travelling 40,000 miles an hour Page 80- Measuring distances using rulers
Interpersonal	Multiple Pages- Working in PBL groups Page 35- Social emotional activities (penny activity) Page 45- Clear Communication challenge
Intrapersonal	Page 78- Choice to work alone or in a group Page 39-40- Adaptability skills and self-awareness End of every lesson - Journaling and reflecting
Naturalist	Page 26- Lima bean & sun experiment Page 54- Cloud in a bag experiment Page 64,66,etc.- Comparing size of each planet to fruits Pages 41-43- Forces of flight
Musical	Page 95- Choice to write a song or rap Page 92- 'First Kid in Outer Space' song Page 67- The Golden Record lesson
Verbal Linguistic	Page 65- Writing own constellation myths Page 83- Debating Pluto's planetary status Page 15- Creating space metaphors

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