

Moon Mars and Beyond Lessons and Activities

4th Grade Standards

Timing	Mission and Description	Supported Standards
Pre-Mission	Application: Students review career information and are guided through individual applications for the mission. Students are asked to collaboratively create a mission patch symbolizing the class, school, and mission. Teachers are encouraged to emphasize “consensus” with the students to instill the concept of give-and-take when making group decisions.	Science:3.1 Math:-- English:-- Social Studies:-- Visual Arts:1.2, 3.1, 3.2, 4.1
	Understanding Distance in Space: Students use worksheets to review vocabulary for distance in space, measurement units and instruments, and create a scale for modeling distances to planets.	Science:3.1 Math:3.1, 4.1 English:2.2, 2.3, 3.2, 3.3, 4.1 Social Studies:-- Visual Arts:--
	Memorizing the Planets in Order and Size: Students collaboratively create a mnemonic device for remembering the names of the planets in order from the Sun and in order of size	Science:3.1 Math:4.1 English:-- Social Studies:-- Visual Arts:--
	Decoding: After a review of using codes to represent words in a message, students practice decoding for the mission task.	Science:3.1 Math:-- English:1.1, 2.3 Social Studies:-- Visual Arts:--
	Metrics and Measurements: In order for students to become familiar with maps, they generate a map of their own classroom and identify specific locations on it. They create a scale and symbols on their map to represent important features.	Science:3.1 Math:3.1, 4.1, 4.2 English:-- Social Studies:-- Visual Arts:--
	Coordinate Graphs: Students learn the parts of a coordinate graph and how to plot points of an ordered pair. Students also learn the importance of the coordinate graph and ordered pairs in finding locations.	Science:3.1 Math:3.1, 4.1, 4.2 English:-- Social Studies:-- Visual Arts:--
	Reading and Listening for Information: Students practice reading and listening skills to improve their ability to recognize and report accurate information during their mission tasks.	Science:3.1 Math:-- English:2.2, 2.3 Social Studies:-- Visual Arts:--
	Aircraft Construction Task Cards: Students practice reading directions and using Task Cards to construct paper models of NASA aircrafts. This provides a 3-D look at what they will be “flying” in.	Science:3.1 Math:-- English:2.2, 2.3 Social Studies:-- Visual Arts:--
	Cargo Practice: All students practice the skills needed for Cargo Team tasks by calculating the amount of food and water needed by their family for a trip to and from the beach.	Science:2.3, 3.1 Math:1.3, 4.1 English:-- Social Studies:-- Visual Arts:--
	Planetary Trading Cards: Students gather information on the nine planets and construct cards to learn and remember major characteristics and features of each of the planets	Science:3.1 Math:-- English:2.2, 2.3, 4.1 Social Studies:-- Visual Arts:--
	Planetary Posters: Students use their Planetary Trading Cards to construct a poster to compare and contrast major features of the planets. Students will use this poster during the Moon, Mars and Beyond mission.	Science:3.1 Math:-- English:-- Social Studies:-- Visual Arts:--
Outpost Communications Exercise: Students use context clues within letters to determine the location of mission specialists writing status reports. Students use their prior knowledge and their Planetary Trading Cards to figure out the location of the space ship in relevance to a planet.	Science:3.1 Math:-- English:2.2, 2.3 Social Studies:-- Visual Arts:--	
Mission Day	Communication: The communications team is responsible for communicating concisely with other students in order to pass along important information to one another and Mission Control.	Science:3.1 Math:-- English:1.1

		Social Studies:-- Visual Arts:--
	Transmissions: Students will be decoding messages and looking for context clues in the letters from the astronauts aboard the missing aircraft. They will be responsible for relaying this information to the communications team to be passed along to navigation.	Science:3.1 Math:-- English:1.1, 2.2, 2.3 Social Studies:-- Visual Arts:--
	Navigation: The navigation team will be using a coordinate plane as well as planetary information from their Planetary Trading Cards to locate the missing space craft using clues that the transmission team has decoded.	Science:3.1 Math:3.1, 4.1, 4.2 English:1.1 Social Studies:-- Visual Arts:--
	Cargo Specialists: Students will be in charge of monitoring supplies on board the space craft including food and water. It is their job to make sure enough goods are rationed to last the entire flight and report if levels are getting low.	Science:2.3, 3.1 Math:1.3, 1.4 English:1.1 Social Studies:-- Visual Arts:--
Post-Mission	Press Conference: Students are asked to prepare for a press conference to answer questions surrounding their mission. Then parents, teachers, and administrators ask students to reflect on their experience and explain what they learned as a result of their mission.	Science:2.3, 3.1 Math:-- English:1.1 Social Studies:-- Visual Arts:--