

# PEANUTS and SPACE FOUNDATION

## Copy That, Snoopy!

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### OBJECTIVES

Students will:

- ◆ Read *Snoopy, First Beagle on the Moon!* and *Shoot for the Moon, Snoopy!* to give students some background knowledge.
- ◆ Communicate effectively with teammates to accomplish their mission.
- ◆ Use teamwork to replicate a design.
- ◆ Utilize time management skills to accomplish their mission.

### SUGGESTED GRADE LEVELS

2 – 5

### SUBJECT AREAS

Science, Engineering, Social Science

### TIMELINE

45 – 60 minutes

### NEXT GENERATION SCIENCE STANDARDS

- ◆ 2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- ◆ 3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

### 21st CENTURY ESSENTIAL SKILLS

Collaboration and Teamwork, Communication, Social Skills

### BACKGROUND

- ◆ NASA has proudly shared an association with Charles M. Schulz and his American icon Snoopy since Apollo missions began in the 1960s. Schulz created comic strips depicting Snoopy on the Moon, capturing public excitement about America's achievements in space. In May of 1969, Apollo 10 astronauts traveled to the Moon for a final trial run before the lunar landings took place on later missions. Because that mission required the lunar module to skim within 50,000 feet of the Moon's surface and "snoop around" to determine the landing site for Apollo 11, the crew named the lunar module Snoopy. The command module was named Charlie Brown, Snoopy's loyal owner.



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- ◆ These books are a united effort between Peanuts Worldwide, NASA and Simon & Schuster to generate interest in space among today's younger children.
- ◆ NASA's Mission Control Center (MCC) is the location that oversees crucial aspects of every U.S. human space flight.
- ◆ The ground team gathers data from the spacecraft and launch facilities and the flight control team then analyzes that data to make decisions on how best to proceed.
- ◆ In order to be prepared to help astronauts in any situation that could arise, MCC workers go through simulations with the astronauts and the training team. During the simulations, where workers practice responses, an unexpected event might be thrown in to surprise everyone. This anomaly, called a simfault, requires fast thinking and logical responses.
- ◆ In this lesson, students will be grouped in teams of three to simulate how a NASA team uses communication, attention to detail, and teamwork to complete a mission. Each team will try to accurately duplicate a device created by Mission Control (the teacher)—relying on verbal descriptions only! Each student team member will have a specific role during the mission:
  - ◆ Engineer – This team member is the only person who can look at Mission Control's structure, which will be hidden from the rest of the team members. After observing Mission Control's structure closely, the Engineer will whisper a description of the structure, in detail, to CAPCOM (the communications link; short for CAPsule COMMunicator). The Engineer cannot talk directly to the Astronaut.
  - ◆ CAPCOM – This team member can move freely between the Engineer and the Astronaut and can communicate with both. After receiving the whispered description from the Engineer, CAPCOM must relay accurate information to the Astronaut (also a whisper voice), who will build the structure based on the verbal description. CAPCOM is not allowed to see what the astronaut is doing or touch any of the objects at the station.
  - ◆ Astronaut – This team member must use the information from CAPCOM to accurately re-create Mission Control's structure. The Astronaut is the only one who can touch the objects to build the structure. The Astronaut cannot leave the team's station and cannot talk directly to the Engineer.

### VOCABULARY

Mission Control Center, CAPCOM, Engineer



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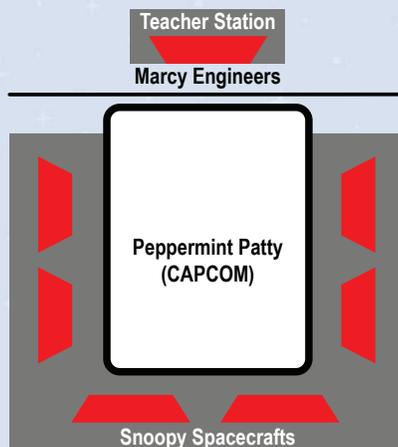
### MATERIALS

One of each per team, plus a set for the teacher:

- ◆ Small bowl
- ◆ Dog bone
- ◆ 2 different size balls
- ◆ “Leash” (string, about 12” long)
- ◆ Tri-fold display board

### CLASSROOM SETUP

Below is an example of classroom arrangement. Stations will be constructed around the room with Mission Control Center (teacher’s station) position at the front of the class. All stations should be hidden from plain view using tri-fold display boards.



### LESSON PROCEDURES

1. Read *Snoopy, First Beagle on the Moon!* and *Shoot for the Moon, Snoopy!* to the entire class, to give students some background knowledge.
2. Ask students, “How does Snoopy receive help from others? In real life, how do NASA engineers and astronauts work together?”
3. Provide students with background information on Mission Control Center. Focus discussion on the role of each team member and how all three work together. Optional: Show students’ a video of the “Square Peg in a Round Hole” scene in the film *Apollo 11*. (Videos can be found on YouTube or Movieclips)



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4. Explain to students that Snoopy's doghouse spaceship has a malfunction! You need to help Snoopy come home safely by accurately re-creating the device built by Mission Control—using only verbal directions!
5. Divide the class into groups of three. Instruct each team to put up the tri-fold display board to hide their station from view. Have teams assign each member a specific role:
  - a. Engineer (Marcy): Able to see Mission Control's (teacher's) new device for Snoopy's spacecraft. Marcy must observe the device (no touching) and describe in detail to CAPCOM (Peppermint Patty) how to build the new device. Marcy cannot leave the Engineer area next to Mission Control.
  - b. CAPCOM (Peppermint Patty): Receives the directions from Marcy, then relays that information to the Astronaut (Snoopy) through the display board—without leaving the CAPCOM area and without seeing what Snoopy is doing!
  - c. Astronaut (Snoopy): Snoopy is on the moon and must rebuild the new device exactly like Mission Control's model, using only the verbal directions from CAPCOM. Snoopy must remain seated and behind the display board during the mission.
6. Distribute the parts needed to fix the doghouse spacecraft. Explain that the new device might not use all of the parts.
7. Gather all the Marcys together in the Engineer area next to Mission Control, and all the Peppermint Pattys in the CAPCOM area in the center of the room. All the Snoopys (Astronauts) sit behind their display boards, out of sight of the rest of the class.
8. Construct the new device. The instructor allows only 3 minutes for teams to complete the mission (time can vary depending on age and ability levels). Engineers can have as many looks as needed during those 3 minutes.
9. Have each Snoopy move their display board so you can inspect their device. For a successful mission, the device should look exactly like the instructor's model. Ask students, "Why did some spacecraft make it home while others didn't? What are some examples of good descriptive words that you could use? Why is communication so important, especially in situations like this one? What can you do differently to make the next mission more successful?" Rotate roles and repeat the exercise until every team member has held every job.
10. Why was it a challenge to accomplish the mission? Rotate roles. Set display boards back up. Design a new device for the teams to replicate. Start timer again and repeat steps 6 – 8. Keep switching jobs so that everyone has a turn. Ideally, students will improve and communicate effectively to reconstruct your device.

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11. Collect supplies and come back together as a class. Conclude the lesson by asking students, “What made your team successful? What made this activity difficult to accomplish the mission? Why is it important to be an effective communicator?”

### EXTENSIONS

- ◆ Limit the Engineers to only 3 peeks at the design. This will force the Marcys to pay very close attention to details.
- ◆ Have the Marcys (Engineers) write the instructions for the Peppermint Pattys (CAPCOM). The Peppermint Pattys will now have to follow written instructions instead of verbal directions and hand gestures. Note that more time will be needed for this mission.

### RESOURCES

Dunbar, B. (n.d.). The People Behind the Astronauts. Retrieved from [https://www.nasa.gov/audience/foreducators/k-4/features/F\\_People\\_Behind\\_the\\_Astronauts.html](https://www.nasa.gov/audience/foreducators/k-4/features/F_People_Behind_the_Astronauts.html)

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Schulz, Charles M. (2019). *Snoopy, First Beagle on the Moon!* New York, NY: Simon & Schuster.

Schulz, Charles M. (2019). *Shoot for the Moon, Snoopy!* New York, NY: Simon & Schuster.

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