



TEACHER GUIDE

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• Reading Comprehension

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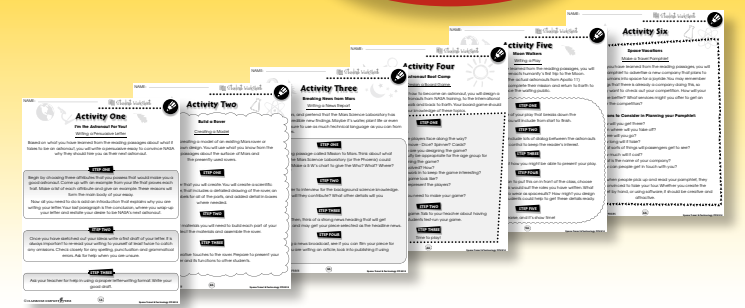
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A Trip to the Moon

1. What have you heard about man's first trip to the moon? Have you seen television footage, or heard your grandparents talk about it? Write a journal entry in your response notebook to tell what you already know about this amazing event in our history. Be sure to include a list of questions that you still have.

2. A *synonym* for a word is another word that has the same meaning. For example, you can run *fast* and you can run *quickly*. The two words have the same meaning. Choose a synonym from the word bank to fill in for each word in the left column. Note: You may use a synonym dictionary (thesaurus) for this activity. Then, tell if the word given is a noun or a verb.

	SYNONYM	Noun or Verb?	Word Bank
a)	shuttle		foot section
b)	module		bookmark gather
c)	collect		rattle place
d)	plant		indicate smell
e)	mark		section take

3. In each of the sentences below, tell if the word in **bold** is a noun or a verb by circling the correct answer in brackets.

- The waiter asked her to **indicate** (noun/ verb) where she would like to sit.
- They looked at their football tickets to find out which **section** (noun/ verb) their seats were in.
- The crowd began to **gather** (noun/ verb) at the gates before the concert.
- She planned to **take** (noun/ verb) a taxicab home from the movie theater because it would be getting dark.
- The judge asked the witness to **place** (noun/ verb) his hand on the Bible.



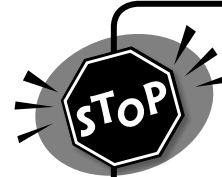
A Trip to the Moon

Picture a hot day in July. What types of activities might you be doing? Playing catch? Riding bikes? Swimming at a cottage? Traveling with your family? On July 20, 1969 two American astronauts were on the trip of a lifetime. Neil Armstrong, Edwin "Buzz" Aldrin and Michael Collins took their first steps on the moon!



Image courtesy of NASA

Just one day earlier, they (and a crew of five others) had lifted off from the **Kennedy Space Center** in Florida in a spacecraft called **Apollo 11**. The goal of this trip was to have the first successful **manned landing** on the moon. The entire trip would be just eight days, but it would mark a major event in human history.



MAKE A CONNECTION: If you were on board the Apollo 11 and could only bring three items, what would they be? Explain each choice.

The Apollo 11 was made of three parts: the **command module** (CM), the **service module** (SM) and the **lunar module** (LM). The CM and SM are the main parts of the craft where the crew's quarters and flight control sections are located. The **Command Module** is cone-shaped and is located on top of the **Service Module**. The **Service Module** is "cylinder shaped" and is located below the **Command Module** and above the **Lunar Module**. The **Lunar Module** is the portion that lands on the Moon and this is located below the **Service Module**. Together, they are called the CSM. It did not touch down on the moon. Instead, the lunar module shuffled the astronauts to the moon and then back to the waiting CSM. The nickname for the CM was "Columbia" and the nickname for the LM was the "Eagle". You may have heard the story of Neil Armstrong reporting over his radio that "the Eagle has landed". The astronauts spent about two and a half hours on the moon, collecting samples and taking photographs. They brought back forty-six pounds of moon rocks! Before leaving, they planted an American flag, and a plaque that read: "Here men from the planet Earth first set foot upon the moon. July 1969 A.D. We came in peace for all mankind." The crew splashed down safely in Hawaii on July 24, 1969.

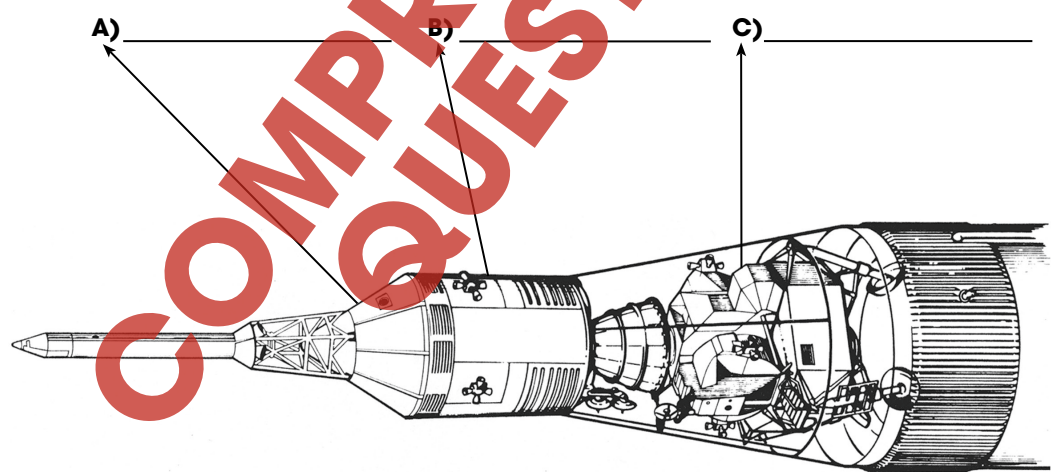


A Trip to the Moon

1. Number the events from 1 to 5 in the order they occur in...

- _____ a) A plaque is placed on the moon that reads: *Here men from the planet Earth first set foot upon the moon. July 1969 A.D. We came in peace for all mankind.*
- _____ b) Apollo 11 lifts off from the Kennedy Space Center.
- _____ c) Commander Neil Armstrong steps out onto the moon for the first time.
- _____ d) Apollo 11 splashes down in Hawaii.
- _____ e) The "Eagle" separates from "Columbia" and lands on the moon's surface.

2. "This is a diagram of the Apollo 11 spacecraft. Label the three main parts."



A Trip to the Moon

3. Answer each question with a complete sentence.

- Why do you think two additional astronauts were needed for this mission if they did not get to walk on the surface of the moon?

- Which two parts of Apollo 11 were designed to stay together?

- What did the astronauts do while they were on the moon?

Research & Extension

- Recently, some people have questioned whether the U.S. actually put a man on the moon, and suggest the whole event was staged. There certainly was a lot of pressure on the U.S. at the time to be the first country to set foot on the moon. Could it have been so much pressure that they made the whole thing up? Conduct research to find out the arguments made to support that the whole thing was a hoax. Track your findings in a T-Chart that lists each point given to prove why it was all a hoax. Then, visit the following website: http://science.nasa.gov/headlines/y2001/ast23feb_2.html to read what NASA has to say about this conspiracy theory. Add the counter-arguments to your chart. What do you think? Write an expository essay for or against the conspiracy theory. (Use the five paragraph format for your essay. The chart will help you.)
- You may have noticed that the spacecraft on this mission was the Apollo 11. Did you happen to wonder if there were other Apollo spacecrafts? Conduct research into this and write a report that details what happened to all of the other Apollo spacecraft.
- In this creative writing assignment, you will tell the fictional story of what happened on Apollo 10 - the one before Apollo 11. Consider what might have happened on an earlier and failed mission. Be sure that your story includes a lot of action and description.



WEB CONNECTION

To watch footage of the first moon landing, visit the NASA video library at: www.hq.nasa.gov/alsj/a11/video11.html
To hear a recording of Neil Armstrong stepping onto the moon, visit: www.nasa.gov/mission_pages/apollo/apollo11_audio.html







Test It!

TOYS IN SPACE

In this activity, you will have the chance to make predictions about how traditional toys will work in space. In scientific experiments, we call these predictions **hypotheses**. Then, you will have a chance to **observe** the toys at work and draw a **conclusion**. These steps are part of the scientific process.

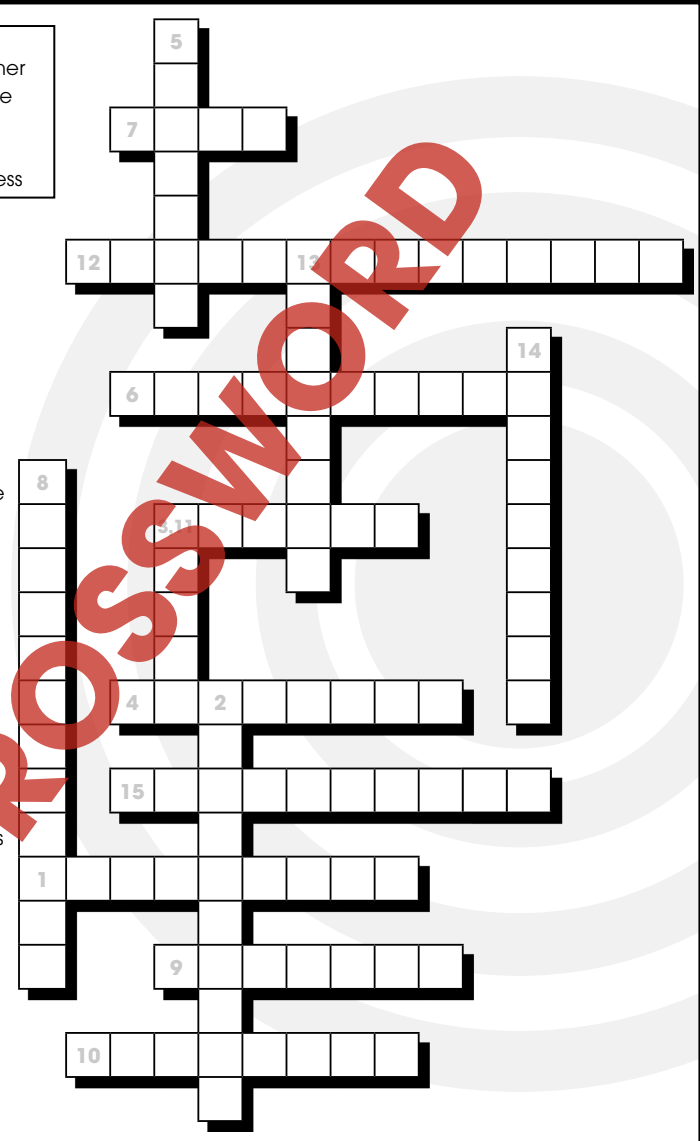
Many of the toys that we play with on Earth work well because gravity helps them to function. Have you ever wondered how toys might work in zero gravity conditions? Some toys might be more fun, and some might be less! Complete the first three columns of this chart. Then, go to: http://observe.arc.nasa.gov/nasa/exhibits/toys_space/toyframe.html to watch the toys at work. Complete the final two columns after you watch each toy.

TOY	A) Background: How does gravity help this toy work on Earth?	B) Hypothesis: How will this toy be affected by zero gravity?	C) Observation: What did you learn about how it actually performed in space?	D) Conclusion: Make a statement about what you learned compared to your hypothesis.
1. Ball in Cup 				
2. Jacob's Ladder 				
3. Yo - Yo 				
4. Wind-up Toy 				



Crossword Puzzle!

Word List
Assemble · Astronaut · Astronomer
Crew · Disintegrate · Hospitable
Launch · Lunar · Monitor
Satellites · Telescope · Terrain
Training · Transmit · Weightlessness



Across

- A scientist trained to make flights in space
- To send (as in a signal)
- Describes conditions that will support life
- Term given to the members who work together on a shuttle
- To watch or observe
- To put parts together
- A _____ pad is where shuttles take off from
- The result of being in zero-gravity
- Objects that orbit around another object

Down

- A scientist who studies the stars and planets
- Relating to the moon
- A tract or expanse of land
- To break up into parts
- The instruction or lessons needed to prepare for a task
- A magnification tool used to see objects that are far away



Comprehension Quiz

20

5

1. Put a check mark (✓) next to the answer that is most correct.

a) Which of the following is NOT part of astronaut training?

- A studying space
- B flight training
- C astrology
- D aeronautics

b) Which of the following is a type of telescope?

- A refractor
- B retractor
- C refresher
- D reducer

c) Which one of the following statements about spacecraft is true?

- A A flyby mission is a manned mission.
- B An orbiter spacecraft probes into the planet's surface.
- C Lander spacecraft are always manned missions.
- D Rover spacecraft are steered from Earth.

d) Which one of the following statements about satellites is true?

- A A satellite is an object that orbits around a planet.
- B The Earth is a satellite of the moon.
- C Satellites are always man-made.
- D none of the above are true

e) Which of the following is NOT a function of a satellite?

- A To send and receive internet and cell phone signals.
- B To send supplies to the International Space Station.
- C To broadcast radio and television.
- D To observe weather patterns.

An Astronaut's Weightlessness





Crossword Puzzle!

Word List

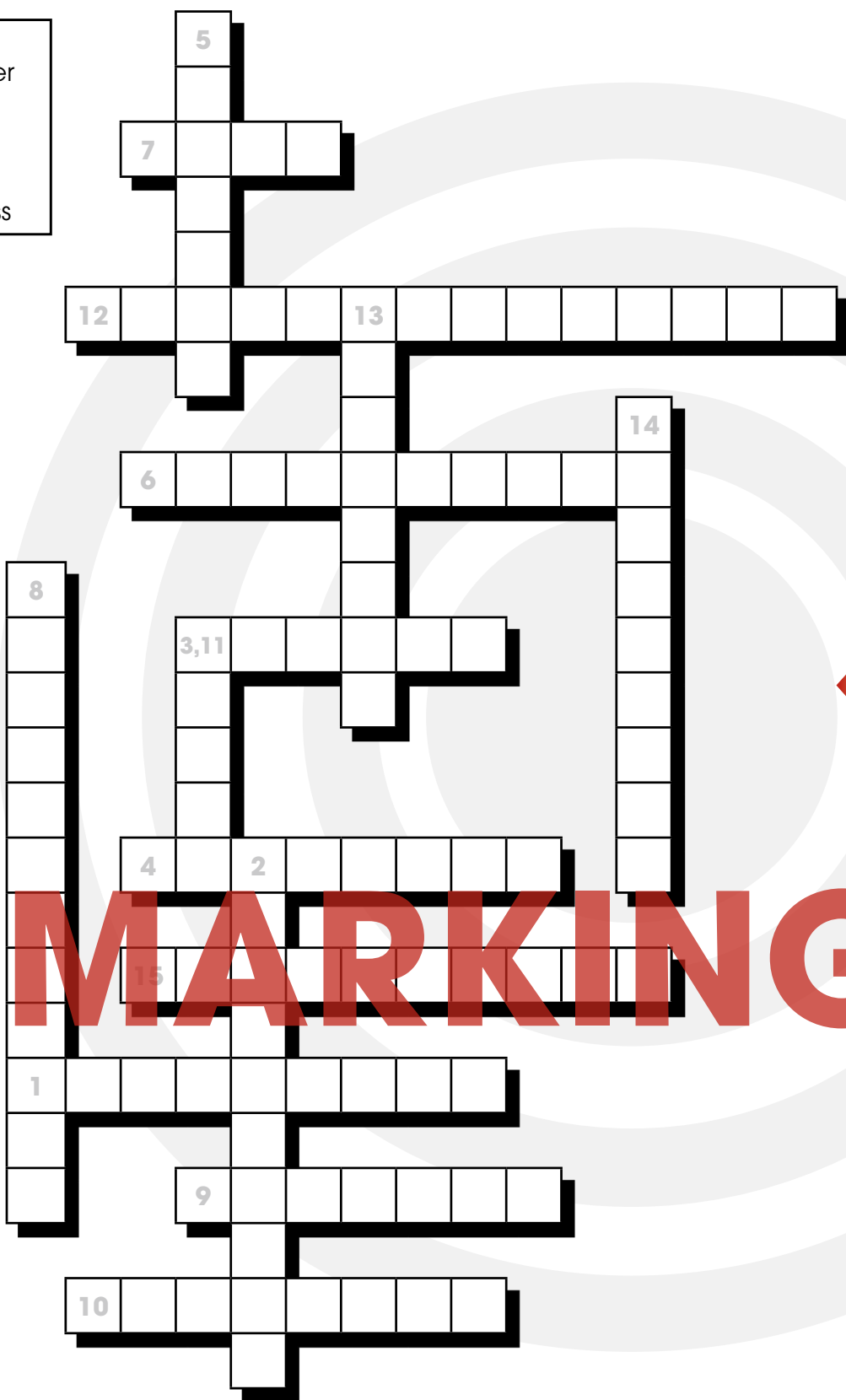
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Across

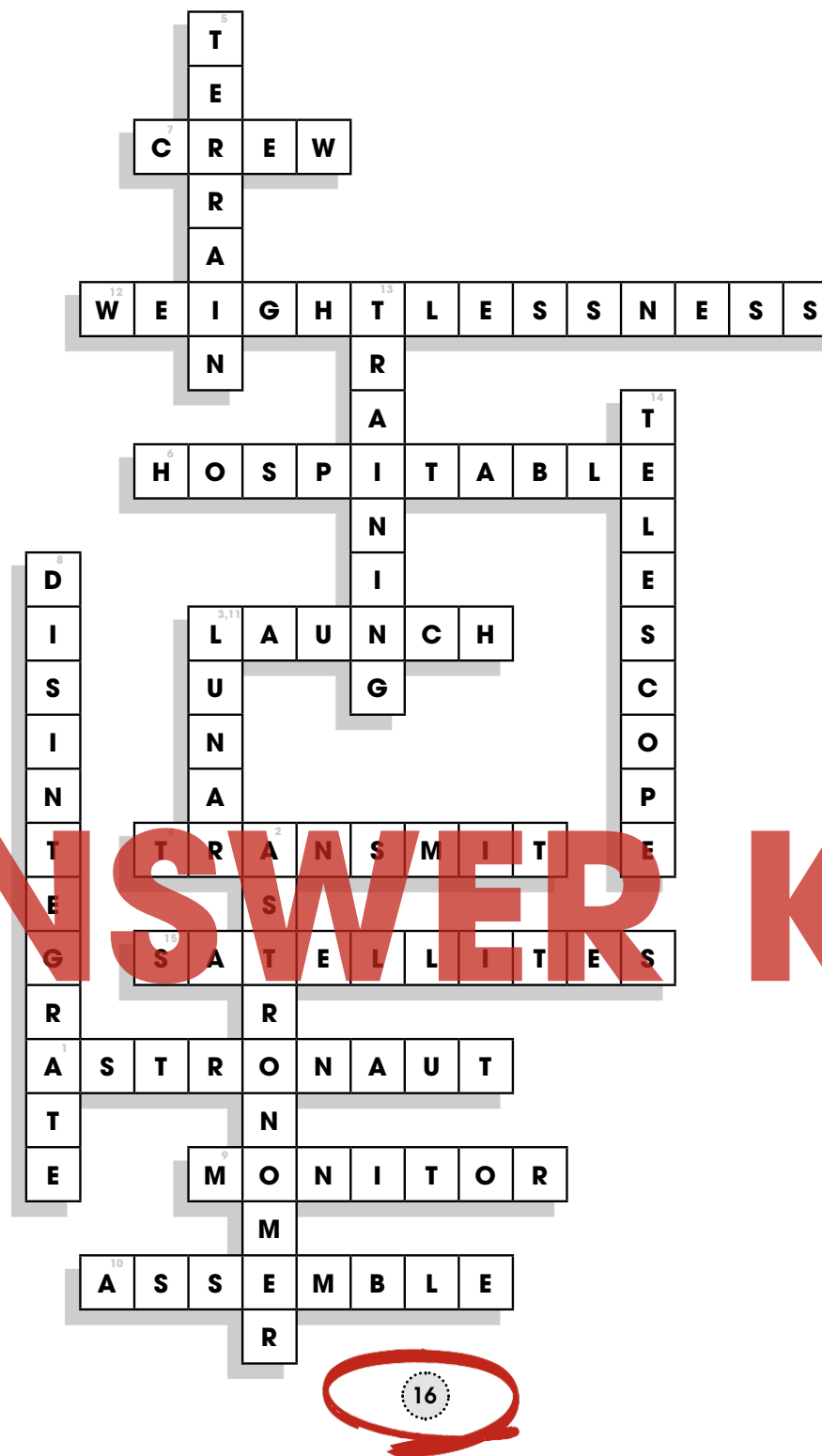
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6. Describes conditions that will support life
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Crossword Puzzle!



EASY MARKING ANSWER KEY