

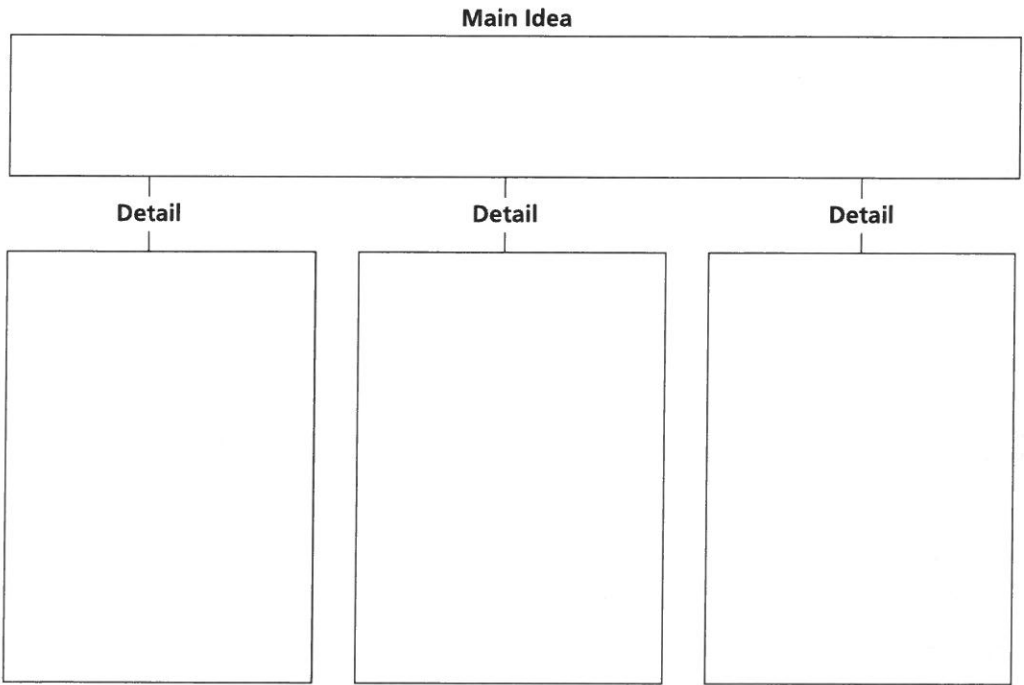
Forces ▪ *Guided Reading and Study*

Rockets and Satellites

This section explains how a rocket lifts off the ground and what keeps an object in orbit.

Use Target Reading Skills

*As you read the section under the heading **What is a Satellite?**, record the main idea in the graphic organizer. Then, find three details that support the main idea, and record them in the details section of the graphic organizer.*



How Do Rockets Lift Off?

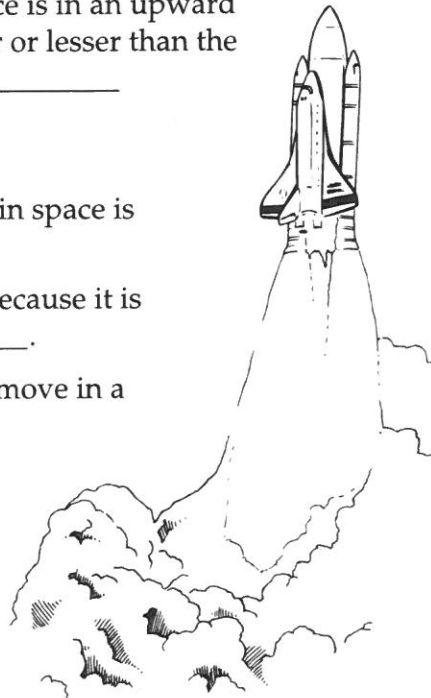
1. Which of Newton's laws explains the lifting of a rocket into space?

2. When a rocket rises, what causes the action force?

3. When a rocket rises, what causes the reaction force?

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4. On the diagram of a rocket lifting off the ground, draw and label arrows that show the action force and the reaction force.
5. When a rocket lifts off the ground, the net force is in an upward direction. Is the upward pushing force greater or lesser than the downward pull of gravity? _____



What Is a Satellite?

6. Any object that travels around another object in space is a(n) _____.
7. An object traveling in a circle is accelerating because it is constantly changing _____.
8. What is a force called that causes an object to move in a circle? _____
9. For a satellite, what is the centripetal force that causes it to move in a circle?

10. Is the following sentence true or false?
Satellites in orbit around Earth continually fall toward Earth. _____
11. Explain why a satellite in orbit around Earth does not fall into Earth.

12. A satellite is a projectile that falls _____ Earth rather than into Earth.
13. Why doesn't a satellite need fuel to keep moving?

14. What force continually changes a satellite's direction?
