

What is a Satellite?

Look up at the night sky. You might see a bright, moving light. That light is not a star — it is a satellite. A satellite is an object that travels around a bigger object in space. The Moon is a **natural** satellite of Earth. It has always been there, traveling around our planet. But humans also build **artificial** satellites. These are machines that travel around Earth in a path called an **orbit**. Engineers **launch** satellites into space using powerful rockets. Once a satellite reaches its orbit, it can **circle** Earth for many years without stopping.

The story of satellites began in 1957. On October 4, the Soviet Union sent the first satellite into space. Its name was Sputnik, and it was about the size of a beach ball. Sputnik could not do much. It only made a simple beeping sound. Still, this small **achievement** was huge news around the world. People were **amazed** that an object could travel above Earth. The United States felt sudden **pressure** to catch up quickly. Soon, both countries began a fast **competition** to build better satellites and explore space further. This exciting time in history led to huge **progress** in science and technology.

Getting a satellite into space is not easy. First, engineers build the satellite very carefully. Every part must work perfectly, because there is no way to fix it once it is in space. Next, a powerful rocket **carries** the satellite up through Earth's atmosphere. The rocket must reach an incredible **speed** to escape Earth's strong pull. Once the satellite is high enough, it begins to **revolve** around Earth. Gravity constantly pulls the satellite toward Earth, but the satellite is also moving forward very fast. This perfect **balance** keeps it from falling or flying away. Engineers on the ground carefully **monitor** every satellite, checking that it stays healthy and safe.

Not all satellites do the same job. Communication satellites help people talk and stay in touch around the world. They **receive** a **signal** from one place and send it to another, even across oceans. This is how live sports events can be watched on the other side of the planet. Other satellites help with **navigation**. The Global Positioning System, or GPS, uses many satellites working together. Your phone can **connect** to these satellites to show your exact location on a map. Without satellites, drivers, pilots, and sailors would find it much harder to know exactly where they are. These invisible helpers make modern travel safe and **convenient**.

Weather satellites also play an important role in our daily lives. They **observe** clouds, storms, and temperature changes from high above Earth. Scientists use this information to **predict** the weather several days in advance. This helps people prepare for dangerous storms like hurricanes. Weather satellites can capture **images** of an entire country in just one photograph. These pictures update constantly, giving forecasters a clear, current view. Without this technology, many communities would have far less **warning** before **severe** weather arrives. Thanks to satellites, experts can protect lives by sharing accurate forecasts with the public early.

Satellites might be far away, but they touch almost every part of our lives. They help us watch television, make phone calls, and use the internet from remote places. Farmers use satellite data to **manage** their crops more efficiently. Scientists use satellites to **track** changes in forests, oceans, and ice. Even everyday apps on your phone often **depend** on satellite information without you realizing it. As technology improves, satellites are becoming smaller, cheaper, and more **powerful**. In the future, they will likely play an even bigger role in **linking** our world. The next time you look up at the sky, remember: a quiet satellite might be passing by.

Beyond the Headlines

Here's something surprising: satellites do not last forever. When a satellite runs out of power, it becomes space junk, silently **drifting** through orbit. Right now, thousands of broken satellite parts move around Earth at incredible speed. If two pieces **collide**, they can create even more dangerous **debris**. To avoid this, old satellites are sometimes sent to a special **graveyard** orbit far away from working ones. Others simply fall back toward Earth and **burn up** completely in the atmosphere, disappearing in a bright flash. So the next time you see a shooting star, it might not be a star at all — it could be a satellite's final journey home!

Vocabulary

Paragraph 1

natural (adj.)	(adj.) not made by people; existing in nature. <i>“A natural satellite, like the Moon, was never built by humans.”</i>
artificial (adj.)	(adj.) made by people, not by nature. <i>“An artificial satellite is a machine built by engineers.”</i>
orbit (n.)	(n.) the curved path an object follows around another object in space. <i>“The satellite moves in a wide orbit around Earth.”</i>
launch (v.)	(v.) to send something powerfully into the air or space. <i>“Engineers launch new satellites almost every week.”</i>
circle (v.)	(v.) to move around something in a curved path. <i>“The space station will circle Earth many times today.”</i>

Paragraph 2

achievement (n.)	(n.) something important and difficult that a person or group succeeds at. <i>“Landing on the Moon was a remarkable achievement.”</i>
amazed (adj.)	(adj.) feeling great surprise or wonder. <i>“The children were amazed by the size of the rocket.”</i>
pressure (n.)	(n.) a strong feeling that you must do something quickly. <i>“The team worked under pressure to finish the project on time.”</i>
competition (n.)	(n.) a contest between people or groups trying to win something. <i>“The two companies are in fierce competition to build the best satellite.”</i>
progress (n.)	(n.) forward movement or improvement over time. <i>“Scientists have made great progress in space travel.”</i>

Paragraph 3

carries (v.)	(v.) moves or transports something from one place to another. <i>“The truck carries heavy equipment to the launch site.”</i>
speed (n.)	(n.) how fast something moves. <i>“The car increased its speed on the highway.”</i>
revolve (v.)	(v.) to move in a circle around a central point. <i>“Small moons often revolve around bigger planets.”</i>
balance (n.)	(n.) a state where two forces are equal and steady. <i>“A good diet keeps a healthy balance in your body.”</i>
monitor (v.)	(v.) to watch and check something carefully over time. <i>“Doctors monitor a patient’s health closely after surgery.”</i>

Paragraph 4

receive (v.)	(v.) to get or accept something that is sent to you. <i>“I receive many emails every day.”</i>
signal (n.)	(n.) a sound, light, or message sent to give information. <i>“The phone lost its signal inside the tunnel.”</i>

navigation (n.)	(n.) the process of planning and following a path to a place. <i>“Good navigation helped the ship reach its destination safely.”</i>
connect (v.)	(v.) to join or link with something. <i>“This app can connect your phone to the printer.”</i>
convenient (adj.)	(adj.) easy to use and helpful for saving time or effort. <i>“Online shopping is very convenient for busy people.”</i>

Paragraph 5

observe (v.)	(v.) to watch something carefully and notice details. <i>“Astronomers observe the stars through powerful telescopes.”</i>
predict (v.)	(v.) to say what will happen before it happens. <i>“It is hard to predict tomorrow’s weather exactly.”</i>
images (n.)	(n.) pictures or photos of something. <i>“The camera captured clear images of the mountains.”</i>
warning (n.)	(n.) a message that tells people about possible danger. <i>“The town received a warning about the coming storm.”</i>
severe (adj.)	(adj.) very serious, strong, or extreme. <i>“The area experienced severe flooding last spring.”</i>

Paragraph 6

manage (v.)	(v.) to control or organize something successfully. <i>“Farmers manage their fields using modern tools.”</i>
track (v.)	(v.) to follow and watch the movement of something. <i>“Scientists track the movement of large storms.”</i>
depend (v.)	(v.) to need something or someone in order to work correctly. <i>“Many apps depend on a strong internet connection.”</i>
powerful (adj.)	(adj.) having great strength or force. <i>“A powerful engine helps the rocket lift off the ground.”</i>
linking (v.)	(v.) joining two or more things together. <i>“This bridge is linking two parts of the city.”</i>

Beyond the Headlines

drifting (v.)	(v.) moving slowly without control, often pushed by outside forces. <i>“The empty boat was drifting quietly across the lake.”</i>
collide (v.)	(v.) to crash into something with force. <i>“The two boats might collide if they do not change direction soon.”</i>
debris (n.)	(n.) broken pieces or waste material left behind after something breaks apart. <i>“Workers cleaned up the debris after the storm.”</i>
graveyard (n.)	(n.) a place where old or unused things are kept. <i>“The old satellite now rests in a graveyard far from working ones.”</i>
burn up (phr. v.)	(phr. v.) to be completely destroyed by fire or intense heat. <i>“The old rocket part will burn up as it falls through the atmosphere.”</i>

Language Review

Exercise A — True or False

Read each statement. Write True or False on the line.

1. The Moon is a natural satellite of Earth. _____
2. Sputnik was launched by the United States in 1957. _____
3. A satellite stays in orbit because of a balance between gravity and speed. _____
4. GPS satellites help people know their exact location. _____
5. Weather satellites cannot help predict storms. _____
6. All satellites work forever and never become space junk. _____
7. Farmers do not use satellite data to help with their crops. _____
8. Old satellites are sometimes sent to a graveyard orbit far from working satellites.

Exercise B — Matching

Match each word in Column A with its meaning in Column B. Write the correct letter.

Column A	Column B
1. orbit	a. the force that pulls objects toward Earth
2. Sputnik	b. the first artificial satellite ever launched into space
3. GPS	c. broken pieces or unwanted material left behind
4. gravity	d. a system of satellites that shows a person's exact location
5. atmosphere	e. the layer of gases surrounding a planet
6. debris	f. people who study weather and predict what it will do
7. rockets	g. the curved path an object takes around another object in space
8. forecasters	h. powerful vehicles used to launch objects into space

Exercise C — Multiple Choice

Choose the best answer (a, b, c, or d) for each question.

1. What is the Moon an example of?
 - a. A natural satellite
 - b. An artificial satellite
 - c. A weather satellite
 - d. A GPS satellite
2. In what year was Sputnik launched?
 - a. 1947
 - b. 1957
 - c. 1967
 - d. 1977
3. What keeps a satellite from falling to Earth or flying away?
 - a. Its color
 - b. Its size
 - c. A balance between gravity and speed
 - d. Its weight
4. What does GPS help people do?
 - a. Know their exact location
 - b. Watch television
 - c. Predict the weather
 - d. Send emails
5. What do weather satellites help experts do?
 - a. Build rockets
 - b. Explore the Moon
 - c. Repair broken satellites
 - d. Predict storms and weather changes
6. How do farmers use satellite data?
 - a. Launch rockets
 - b. Manage their crops
 - c. Make phone calls
 - d. Predict elections
7. What happens when a satellite runs out of power?
 - a. It becomes brighter
 - b. It falls back to the Moon
 - c. It can become space junk
 - d. It stops orbiting immediately and disappears
8. What is a "graveyard orbit" used for?
 - a. Launching new satellites
 - b. Predicting the weather
 - c. Sending GPS signals

- d. Storing old, unused satellites far away

Exercise D — Discussion Questions

Talk about these questions with a partner or in a small group.

1. Have you ever seen a satellite or the International Space Station moving across the night sky? What was it like?
2. Which type of satellite do you think helps people the most: communication, weather, or GPS satellites? Why?
3. How would your daily life change if all satellites suddenly stopped working?
4. If you could design your own satellite, what would it do and why?
5. Do you think space junk is a serious problem for the future? Why or why not?