



Satellites

DIRECTIONS: Read the article. Use context clues to answer the questions.

A satellite is something that orbits the earth or another planet. For example, the moon is a satellite of the earth. But when you think about a satellite you probably think of something manmade - an artificial body that is placed in orbit around a planetary body, in order to collect information or facilitate communication.

A satellite receives radio signals sent from earth (called “uplinks”), and resends them back to earth. In the simplest satellite system, the signal simply “bounces” off of the satellite. It is possible to bounce a signal off of the surface of the moon and back down to earth, but the signal would have to be incredibly strong, since the moon is so far away. Not only that, but the time the bounced signal made it back to earth it would be very weak, and would require extremely sensitive equipment even to detect it.

In contrast, modern communications satellites return the signal back to earth (called “downlinks”) stronger than it was when they received it, a process called “amplification”. A modern satellite also usually converts the returned signal to a different frequency before returning it, so that the signal returning to earth is not confused with the signal being sent up.

Many types of information are moved around the world using the satellite system, for example audio (radio) and video (television) programming, telephone and the internet all use the satellite system to some extent. The area of the earth that is served by any particular satellite is called the satellite’s “footprint”. Some satellite footprints are shaped so that only certain areas of the earth are served, for example, by the use of what are called “spotbeams”. Spotbeams let satellites target only a very specific area of the earth, or allow the services that they provide to differ by area.

1. What does “orbit” mean?

2. What does “sensitive” mean?

3. What does “modern” mean?

4. What does “convert” mean?

5. What does “amplification” mean?

6. What does “audio” mean?

7. What does “video” mean?
