

1. What is the primary role of decomposers (like bacteria and fungi) in an ecosystem?
2. What is the primary function of the roots of a plant?
3. You hear a fire engine siren approaching you, and the pitch of the siren sounds higher. As it passes and moves away, the pitch sounds lower. What is this phenomenon called?
4. Why do objects float in water, while others sink? Explain using the concept of density.
5. A scientist observed that a specific type of bird eats only insects found under tree bark. If a disease wipes out most of these insects, what is the most likely long-term effect on the bird population?
6. A farmer notices that a patch of soil in his field has become very dry and hard, and plants are struggling to grow there. What simple change to the soil's composition could significantly improve its ability to retain water and support plant growth?
7. A scientist wants to study the effect of pollution on fish in a lake. They collect water samples and analyze them. Which scientific skill are they primarily using to gather information?
8. When you hear an echo in a large empty room, what phenomenon of sound waves are you experiencing?
9. What is the main difference between a renewable resource and a non-renewable resource? Give an example of each.
10. Imagine you are trying to pull a heavy box across a rough floor. What simple action could you take to reduce the friction and make it easier to move the box?
11. Why do nocturnal animals (active at night) often have large eyes and excellent hearing?
12. Imagine you are standing near a deep well and you drop a stone into it. You hear the splash after a few seconds. Why is there a delay between seeing the stone hit the water and hearing the splash?
13. You have a mixture of iron filings and sand. What is the easiest way to separate these two components?
14. What makes the inner core of the Earth solid, even though it is extremely hot (hotter than the surface of the sun)?
15. Why do certain materials, like metals, feel cold to the touch even when they are at room temperature, while wood feels warmer?
16. Why is it important for scientists to repeat experiments multiple times and for other scientists to try to replicate their findings?
17. Why is it important for humans to maintain a balanced diet and exercise regularly?
18. A healthy ecosystem has a wide variety of plants and animals. What is the scientific term for this variety of life, and why is it important for the health of an ecosystem?
19. Why do doctors often advise patients with a high fever to take a sponge bath with cool water?

- 20.** If you drop a feather and a stone from the same height in a vacuum (where there is no air), which one will hit the ground first and why?