

- 1 The table below shows the speed of sound in different materials.

Speed of Sound

Material	Speed (m/s)
Air	343
Copper	3250
Titanium	4870
Water	1481

Based on the data in the table, which of these sounds will have the **longest** wavelength?

- A a sound with a frequency of 100 hertz moving through air
- B a sound with a frequency of 100 hertz moving through copper
- C a sound with a frequency of 500 hertz moving through titanium
- D a sound with a frequency of 500 hertz moving through water

- 2 Which of the following **best** describes the mass of the iron oxide that is produced during a chemical reaction when a fixed amount of iron combines completely with a fixed amount of oxygen?

- A equal to the mass of the iron plus the mass of the oxygen
- B greater than the combined mass of the iron and the oxygen
- C equal to the mass of the iron minus the mass of the oxygen
- D less than the mass of the iron but greater than the mass of the oxygen

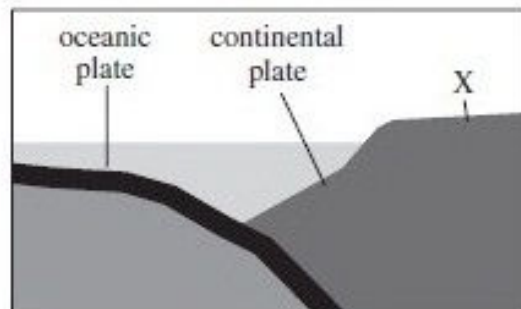
- 3 A planet in our solar system orbits the sun in approximately 225 Earth days. Which of these conclusions is **best** supported by this information?

- A The planet orbits closer to the sun than Earth does.
- B The planet's orbit is more circular than Earth's orbit.
- C The planet orbits the sun at a slower speed than Earth does.
- D The planet's orbit is more elliptical than Earth's orbit.

- 4 A student wants to test the effect of music on plant growth. He grows some plants in a bedroom window with music playing twenty-four hours per day. He grows a different variety of plants in his backyard with no music playing. What is the **main** problem with the design of this investigation?

- A There are too many variables.
- B There is no way to repeat the procedure.
- C There are too many ways to graph the data.
- D There is no way to accurately measure results.

- 5 The diagram below shows a boundary between an oceanic plate and a continental plate. An X marks one location on the continental plate.

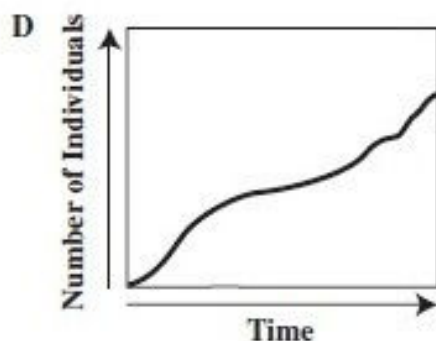
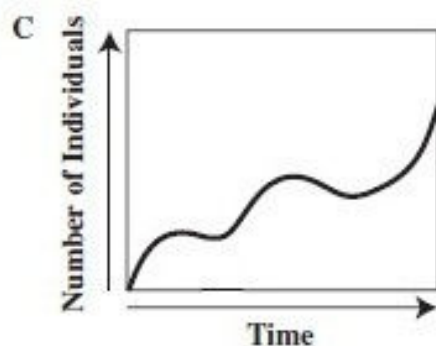
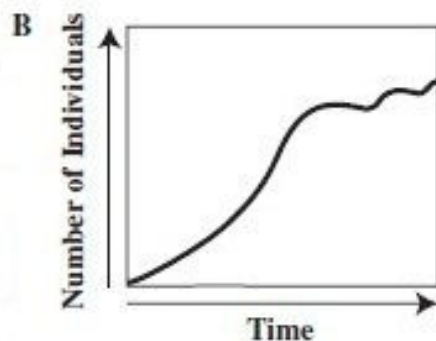
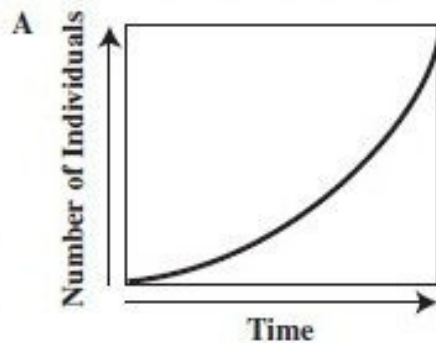


Which feature will **most** likely form at the location marked by an X?

- A a desert
- B a volcano
- C a rift valley
- D a transform fault

6

Which graph shows a population of organisms that is closest to reaching the carrying capacity of its environment?



7

Which part of a plant cell contains the chromosomes?

- A vacuole
- B ribosome
- C nucleus
- D cytoplasm

8

During an investigation, four plants were continuously exposed to various colors of light for a period of two weeks. The table below shows the increase in plant mass over the two-week period.

Plant Growth Investigation

Plant	Light Color	Temperature (°C)	Increase in Plant Mass (g)
1	red	22	18
2	blue	22	25
3	green	22	10
4	white	22	30

Which statement **best** explains why all of the plants were grown at a temperature of 22°C?

- A The main purpose of this investigation was to see how well plants grow at 22°C.
- B Because temperature was not the experimental variable in this investigation, it was kept the same for each plant.
- C The best temperature for the growth of this type of plant during an investigation was 22°C.
- D Because temperature was an environmental factor in this investigation, it was determined by the plant environment.

Answers:

1. B

2. A

3. A

4. A

5. B

6. B

7. C

8. B