1 During a classroom investigation, a teacher provided a group of students with four different containers of pure water. The students were asked to measure the mass and volume of the water in each container and to calculate its density based on their measurements. The table below shows the results of their investigation.

Results of a Student Investigation

Container	Mass (g)	Volume (mL)	Density (g/mL)
1	120.6	118.8	1.01
2	525.2	531.3	0.98
3	250.0	247.5	1.01
4	1001.7	991.8	1.00

Which of these statements is **best** supported by the data in the table?

A The density of pure water is independent of the container used to hold the water.
B The density of pure water decreases as the mass of water in each container increases.
C The density of pure water increases as the volume of water in each container decreases.
D The density of pure water is dependent on the shape of each container holding the water.

2 Which of these would be **best** to use to separate small iron filings from a mixture with sand?

A a magnet
B filter paper
C a hot plate
D running water

3 During an investigation, a black piece of cloth is placed on a sidewalk on a sunny day. The temperature of the cloth is measured every five minutes for 20 minutes The graph below shows the results of the investigation.

Cloth Temperature
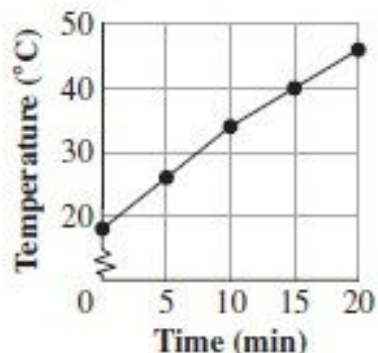

Which of these statements **best** explains the results shown in the graph?

A The sun gives off heat energy, which is transferred to the sidewalk, and then the sidewalk transfers heat to the cloth.
B The cloth reflects light energy from the sun, which expands the molecules in the cloth, and this expansion raises the cloth's temperature.
C The sun gives off heat energy, which is transferred to the atmosphere, and the surrounding air transfers heat to the cloth.
D The cloth absorbs electromagnetic energy from the sun, which increases the movement of molecules in the cloth, and this process raises the cloth's temperature.

4 All living organisms are composed of which of the following?

A cells
B organs
C tissues
D muscles

5 The diagram below shows the orbits of some of the objects that orbit the sun within our solar system.
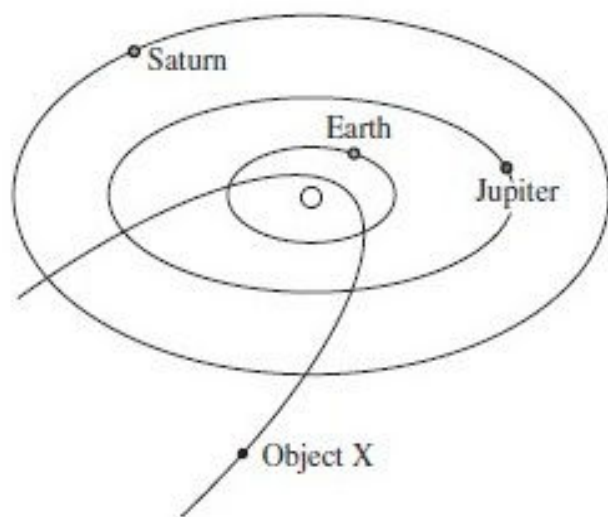
Object X in the diagram is **most** likely to be which type of astronomical object?

A a moon
B a planet
C a comet
D a meteorite

6 The box below lists the approximate percentages of gases that compose Earth's atmosphere.

Nitrogen—78%

Oxygen—20.8%

Water vapor—1%

Argon—0.93%

Carbon dioxide—0.03%

Other—0.002%

All of the following would be appropriate ways to display the information in these statements **except**

A a bar graph.
B a pie chart.
C a line graph.
D a data table.

7 A science class measured the total amount of rainfall at their school each month from September through May. The total rainfall data is shown in the table below.

Rainfall Data

Month	Rainfall (cm)
September	0.2
October	0.5
November	1.4
December	2.2
January	3.3
February	2.1
March	1.7
April	1.0
May	0.9

Based on the data in the table, which of these statements is an **opinion**, rather than a fact?

A January is the month that had the most rainfall.
B May is the last month that rainfall data was collected.
C September is the first month of the rainfall investigation.
D April is the month that received the perfect amount of rainfall.

8 Which of these situations does **not** involve a transfer of energy?

A A gas grill burns propane fuel.
B The sun radiates light into space.
C A large crate is pushed up a ramp.
D A helium balloon on a string floats in place.

Answers:

1. A

2. A

3. D

4. A

5. C

6. C

7. D

8. D