

IEA - Data Enhancement Project

Questionnaire printing

Study: SC2

Population: 1

Instrument: STM\_1

Student Science Achievement Test (1M)

Population 1

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1 The Sun is the only body in our solar system that gives off large amounts of light and heat. Why can we see the Moon?

- A It is reflecting light from the Sun.
- B It is without an atmosphere.
- C It is a star.
- D It is the biggest object in the solar system.
- E It is nearer the Earth than the Sun.

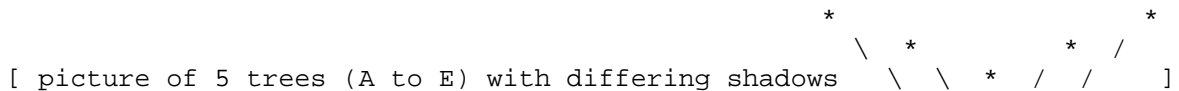
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P1M01  
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2 About how long would it take a rocket ship to reach the Moon?

- A two hours
- B several hours
- C a few days
- D a light-year
- E several years

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P1M02  
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3 At different times during a sunny day a tree was seen to have cast a shadow of different length as shown in the diagrams below. Which diagram shows the shadow at mid-day (12 noon)?



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P1M03  
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The next three questions refer to the following chart which shows some temperature readings made at different times on three days.

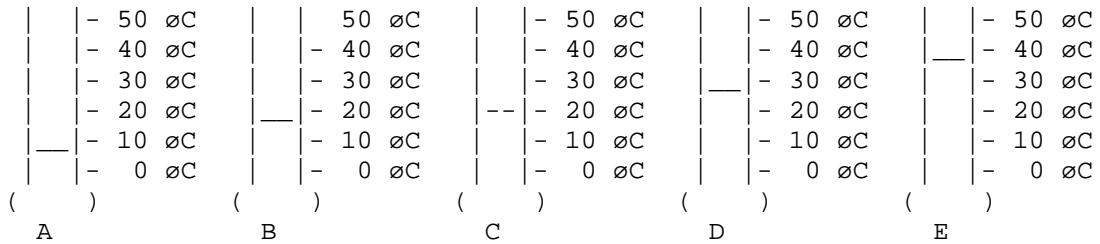
	6 a.m.	9 a.m.	12 noon	3 p.m.	6 p.m.
Monday	15 °C	17 °C	20 °C	21 °C	19 °C
Tuesday	15 °C	15 °C	15 °C	10 °C	9 °C
Wednesday	8 °C	10 °C	14 °C	14 °C	13 °C

4 When was the highest temperature recorded?

- A Noon on Monday
- B 3 p.m. on Monday
- C Noon on Tuesday
- D Noon on Wednesday
- E 6 p.m. on Wednesday

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P1M04  
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5 Which of the following shows the temperature at 6 a.m. on Wednesday?



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P1M05  
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6 On one day a cool wind began to blow. When do you think this happened?

- A Monday morning
- B Monday afternoon
- C Tuesday morning
- D Tuesday afternoon
- E Wednesday afternoon

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P1M06  
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7 A boy sitting under a tree watched a bird getting insects from between the cracks of the bark. Which drawing shows the kind of beak this bird had?

[ 5 pictures of birds heads with different types of beaks. ]

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P1M07  
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8 A girl found the skull of an animal. She did not know what the animal was but she was sure that it preyed on other animals for its food.

Which clue led to this conclusion?

- A The eye sockets faced sideways.
- B The skull was much longer than it was wide.
- C There was a projecting ridge along the top of the skull.
- D Four of the teeth were long and pointed.
- E The jaws could move sideways as well as up and down.

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P1M08  
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9 Immediately before and after a 50 metre race, your pulse and breathing rates are taken. What changes would you expect to find?

- A no change in pulse but a decrease in breathing rate
- B an increase in pulse but no change in breathing rate
- C an increase in pulse and breathing rate
- D a decrease in pulse and breathing rate
- E no change in either

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P1M09  
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10 A girl wanted to learn which of three types of soil (clay, sand and loam) would be best for growing beans. She found three flower pots and filled each with a different type of soil. She then planted the same number of beans in each, as shown in the drawing. She placed them side by side on a window sill and gave each pot the same amount of water.

[ 3 pictures of pots each filled with a different type of soil:  
loam, clay or sand. The pots have different sizes. ]

Why was the experiment not a good one for the purpose?

- A The plants in one pot got more sunlight than the plants in the other pots.
- B The amount of soil in each pot was not the same.
- C One pot should have been placed in the dark.
- D Different amounts of water should have been used.
- E The plants would get too hot on the window sill.

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P1M10  
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11 Which of the following statements is true about seeds?

- A Every plant produces seeds.
- B All fruits contain a large number of seeds.
- C All seeds are good to eat.
- D Every seed contains a young plant, stored food and a seed coat.
- E The food stored in seeds is always in the cotyledon.

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P1M11  
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12 Flowers cannot usually produce seeds unless

- A they are visited by insects.
- B they appear in the summer.
- C they are on plants growing in good soil.
- D they produce nectar.
- E suitable pollen is placed on their stigmas.

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P1M12  
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13 Some seeds germinate (start to grow) best in the dark, others in the light, while others germinate equally well in the dark or the light. A girl wanted to find out by means of an experiment to which group a certain kind of seed belonged. She should put some of the seeds on damp newspaper and

- A keep them in a warm place in the dark.
- B keep one batch in the light and another in the dark.
- C keep them in a warm place in the light.
- D put some on dry newspaper and keep them in the light.
- E put some on dry newspaper and keep them in the dark.

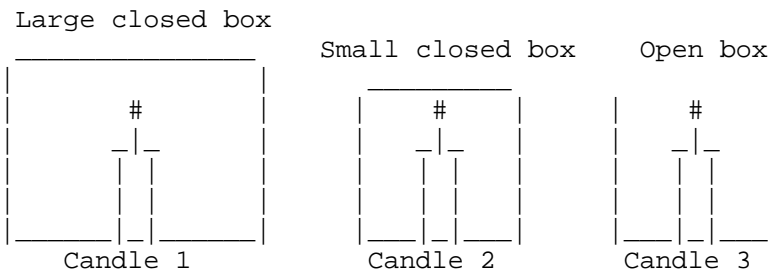
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P1M13  
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14 Milk kept in a refrigerator does not go sour. Why?

- A The cold changes the water of the milk into ice.
- B The cold separates the cream.
- C The cold slows down the action of bacteria.
- D The cold keeps flies away.
- E The cold causes a skin to form on the surface of the milk.

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P1M14  
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15 Three candles, which are exactly the same, are placed in different boxes as shown in the diagram. Each candle is lit at the same time.



In what order are the candle flames most likely to go out?

- A 1, 2, 3
- B 2, 1, 3
- C 2, 3, 1
- D 1, 3, 2
- E 3, 2, 1

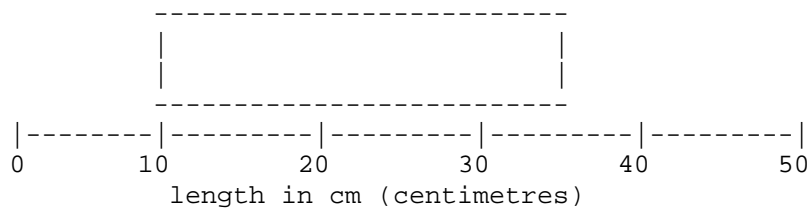
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P1M15  
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16 Paint applied to an iron surface prevents the iron from rusting.  
Which one of the following provides the best reason?

- A It prevents nitrogen from coming in contact with the iron.
- B It reacts chemically with the iron.
- C It prevents carbon dioxide from coming in contact with the iron.
- D It makes the surface of the iron smoother.
- E It prevents oxygen and moisture from coming in contact with the iron.

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P1M16  
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17 How long is the block of wood shown in the diagram?



- A 10 cm
- B 20 cm
- C 25 cm
- D 30 cm
- E 35 cm

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P1M17  
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18 Mary and Jane each bought the same kind of rubber ball. Mary said, "My ball bounces better than yours." Jane replied, "I'd like to see you prove that."

What should Mary do?

- A Drop both balls from the same height and notice which bounces higher.
- B Throw both balls against a wall and see how far each ball bounces off the wall.
- C Drop the two balls from different heights and notice which bounces higher.
- D Throw the balls down against the floor and see how high they bounce.
- E Feel the balls by hand to find which is the harder.

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P1M18  
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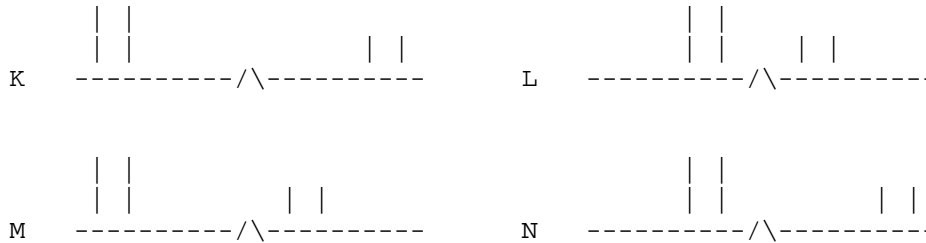
19 Why are \*two\* holes often punched in a can of juice before pouring it?

- A to let the juice pour out of the can more slowly
- B to let the air go into one hole while the juice pours out of the other
- C to let the air get into the can before the juice is poured
- D to let the juice pour out of the can more quietly
- E to watch how the juice is pouring out

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P1M19  
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20 A girl wanted to seesaw with her little brother.

Which picture shows the best way for the girl, who weighed 50 kg (kilograms), to balance her brother, who weighed 25 kg?



- A picture K
- B picture L
- C picture M
- D picture N
- E none of these

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P1M20  
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21 A boy used a hand pump to put more air into a bicycle tyre. After a while it becomes harder to use the pump. Why?

- A Air in the tyre pushes against the pump.
- B Air starts to leak out of the pump.
- C The pump gets too hot to hold.
- D The pump gets too sticky to push.
- E The tyre is bigger than the pump.

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P1M21  
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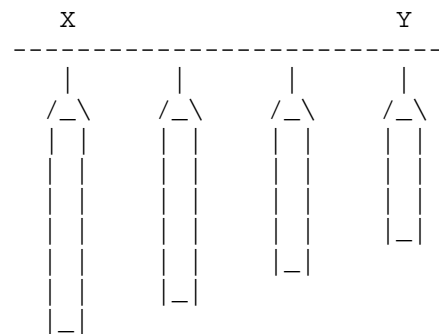
22 A cupful of water and a similar cupful of petrol were placed on a table near a window on a hot sunny day. A few hours later it was observed that both the cups had less liquid in them but that there was less petrol left than water. What does this experiment show?

- A All liquids evaporate.
- B Petrol gets hotter than water.
- C Some liquids evaporate faster than others.
- D Liquids will only evaporate in sunshine.
- E Water gets hotter than petrol.

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P1M22  
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23 A set of chimes was made by cutting four pieces of pipe of different lengths from a long metal pipe and hanging them as shown in the picture below. Which of the pipes gave the lowest note when struck with a hammer?

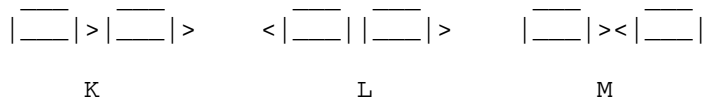
- A Pipe X
- B Pipe Y
- C All gave the same note.
- D You cannot tell without trying.
- E It depends on where you hit it.



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P1M23  
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24 A flashlight holds two batteries. In order to make it work, in which of the following ways must we place the batteries?

- A as in diagram K
- B as in diagram L
- C as in diagram M
- D either as in diagram L or in diagram M
- E none of these would do



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P1M24  
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