

Science 5 - Cassise SOL 5.1 [Exam ID:2905]

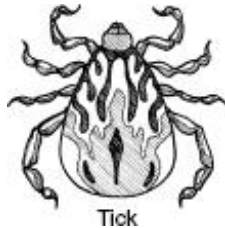
1

Insect and Arachnid Identification

Animal Type	Insect	Arachnid
Body parts	3	2
Pairs of legs	3	4
Antennae	Yes	No

According to the table, which animal is an arachnid?

A



Tick

B



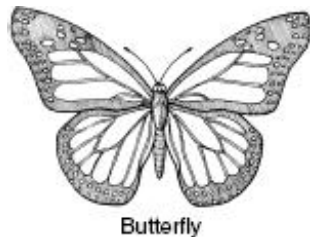
Termite

C



Ant

D



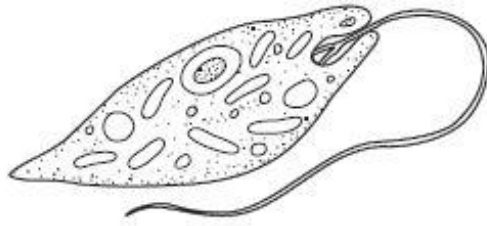
Butterfly



Based on the bird of prey key, which bird is shown in the picture?

Adult Bird of Prey Key		
1a	Bill straight	Not a bird of prey
1b	Bill curved and sharp	Go to 2
2a	Both eyes on front of head	Owl
2b	Eyes on sides of head	Go to 3
3a	Feathers on head	Go to 4
3b	No feathers on head	Vulture
4a	Feathers on head are all dark	Golden Eagle
4b	Feathers on head are all white	Bald Eagle

- F** Owl
- G** Bald eagle
- H** Vulture
- J** Golden eagle

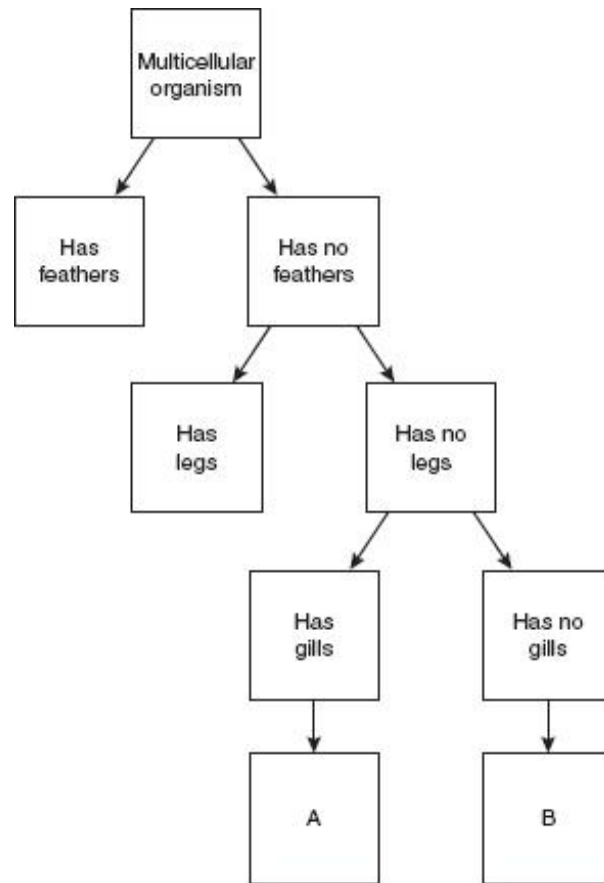
**Lab: Microscopic Organisms**

1 a. Has many tiny hairs	Go to 2
b. Has no tiny hairs	Go to 3
2 a. Has hairs all along edge	<i>Paramecium</i>
b. Has hairs along one end	<i>Vorticella</i>
3 a. Has one long tail	<i>Euglena</i>
b. Has many arm-like shapes	<i>Amoeba</i>

Lee uses a microscope during science class. He sees this organism in a drop of water. Which organism did he *most likely* see?

- A *Amoeba*
- B *Paramecium*
- C *Euglena*
- D *Vorticella*

4



Which of these belongs in square A of this flow chart?

- F** Fish
- G** Bird
- H** Toad
- J** Snake

5

Mineral Identification Chart

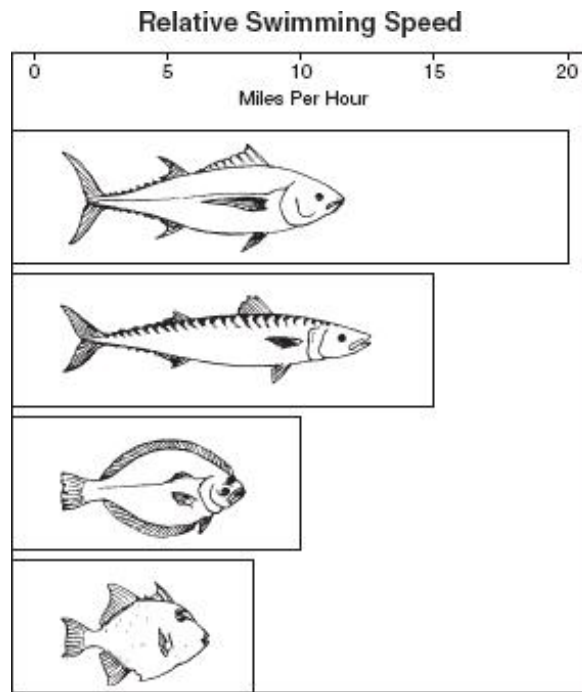
Mineral	Color	Hardness
Amphibole	Green to black	Less hard than a nail
Feldspar	White, pink, gray, green	Harder than glass
Garnet	Dark red	Harder than glass
Quartz	Colorless, gray, white	Harder than glass

A student observes a mineral that is colorless and harder than glass. Based on the chart, which mineral is the student observing?

- A Garnet
- B Amphibole
- C Quartz
- D Feldspar

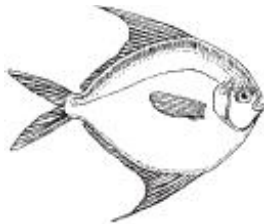
6 By August, a student noticed that the sunflowers outside his house were as tall as the back door of his house. About how tall were the sunflowers?

- F 20 meters
- G 0.2 meters
- H 200 meters
- J 2 meters



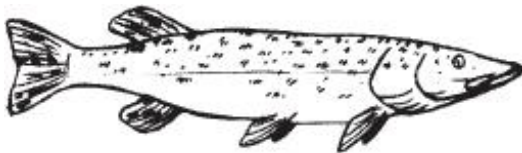
Which of these is probably the slowest fish?

A



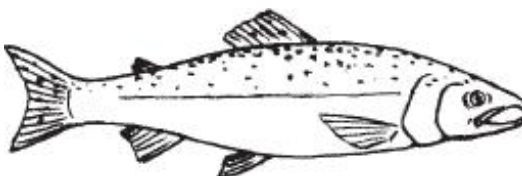
Butterfish

B



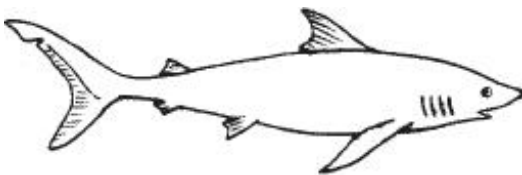
Pike

C



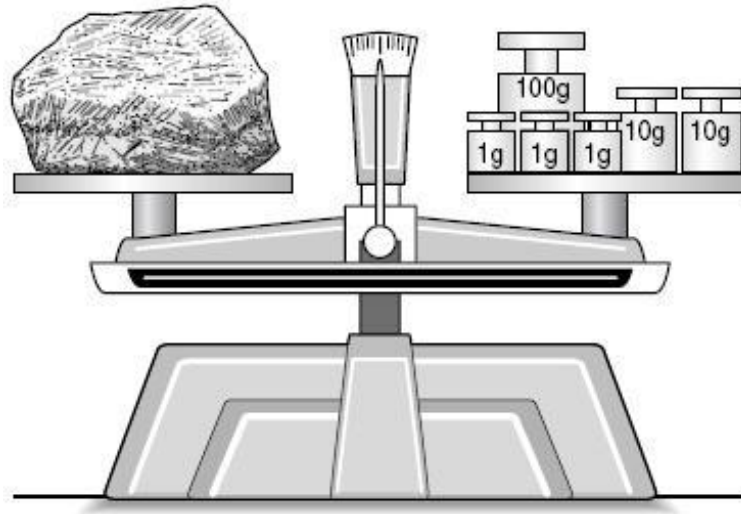
Salmon

D



Shark

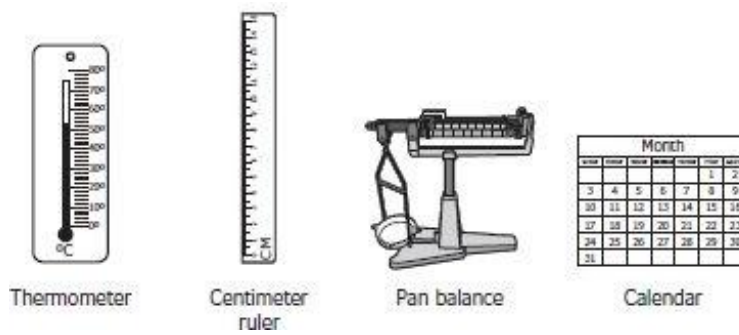
8



Which of these is the *most* accurate reading of the mass of the rock on the balance scale pictured?

- F 33 g
- G 303 g
- H 123 g
- J 120.3 g

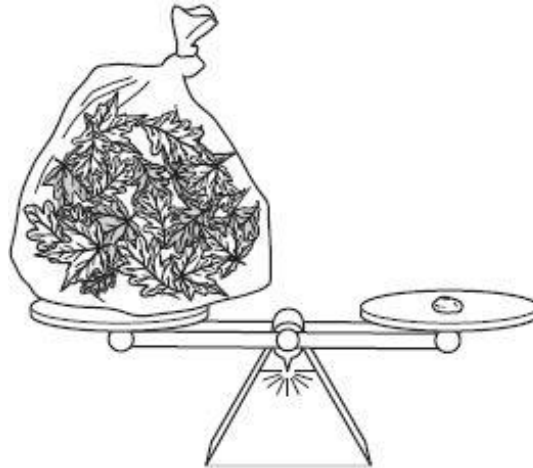
9



Juan is doing an experiment to see how long it takes an acorn to grow into a 0.5-meter-tall oak tree. Which two instruments should he choose?

- A Thermometer and centimeter ruler
- B Thermometer and calendar
- C Centimeter ruler and calendar
- D Centimeter ruler and pan balance

10

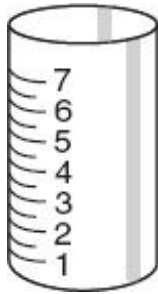


Based on the picture, the bag of leaves has —

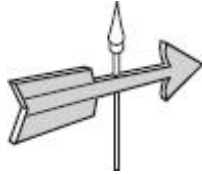
- F less mass than the pebble
- G the same volume as the pebble
- H the same mass as the pebble
- J less volume than the pebble

11 Which of these instruments measures wind speed?

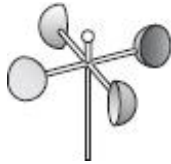
A



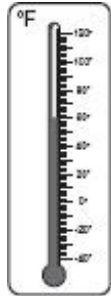
B



C



D



12 Which tools are *best* used to determine the speed of a turtle as it walks along a path?

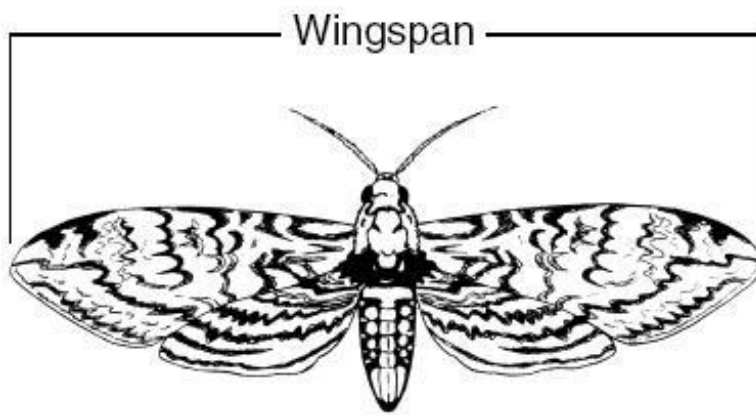
F Meter stick and graduated cylinder

G Balance and stopwatch

H Balance and metric ruler

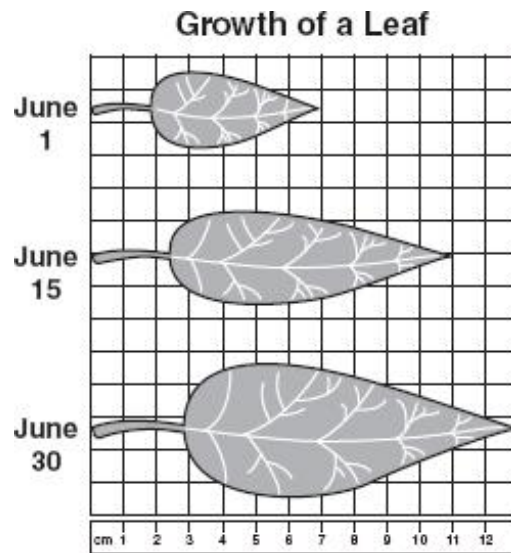
J Stopwatch and meter stick

13



The wingspan of this moth is *about* —

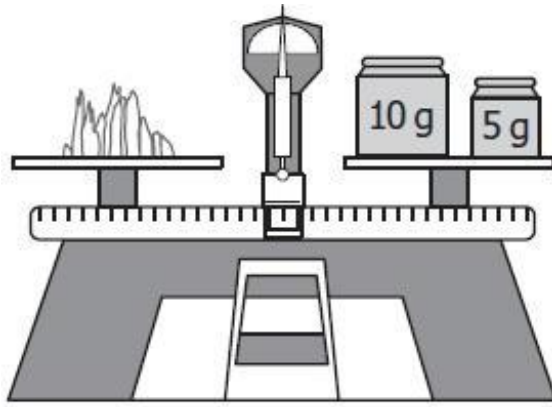
- A** 8 mm
- B** 7 mm
- C** 7 cm
- D** 8 cm



Three measurements of the same leaf were taken during June. Based on the graph, how much did the leaf grow in length from June 1 to June 30?

- F** 6 cm
- G** 13 cm
- H** 7 cm
- J** 11 cm

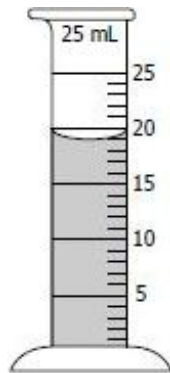
15



What is the mass of this mineral?

- A 20 grams
- B 5 grams
- C 15 grams
- D 10 grams

16



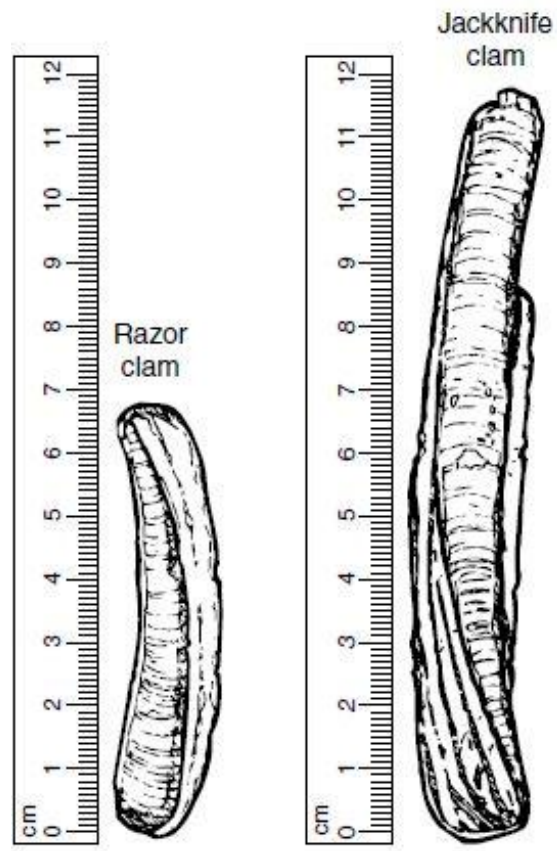
Students filled a graduated cylinder with the amount of water shown. How much more water needs to be added to the cylinder to measure 25 mL?

- F 6 mL
- G 4 mL
- H 2 mL
- J 9 mL



According to the picture, which measurement *best* identifies the length of the leaf?

- A** 7.0 cm
- B** 6.0 cm
- C** 6.5 cm
- D** 5.0 cm



About how much longer is the jackknife clam than the razor clam?

- F** 12 centimeters
- G** 7 centimeters
- H** 10 centimeters
- J** 5 centimeters

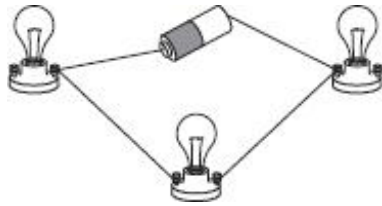
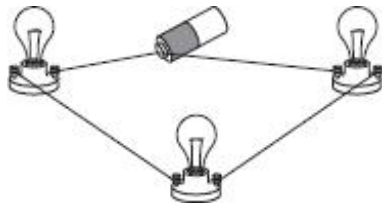
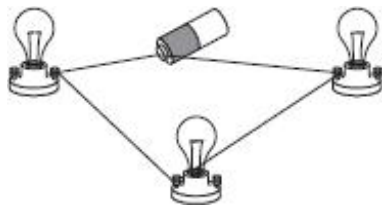
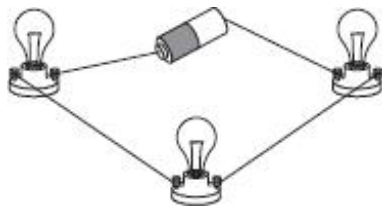
Characteristics of Types of Feeding

Carnivore	<ul style="list-style-type: none">- Meat eaters- Live alone or in small groups- Preyed on only by other carnivores
Herbivore	<ul style="list-style-type: none">- Strictly plant eaters- Can be large, hoofed mammals- Preyed on by carnivores
Omnivore	<ul style="list-style-type: none">- Feed on both plants and animals- Can be both primary and secondary consumers in a food web

Based on the chart above, which of these animals would be considered a herbivore?

- A** Human being
- B** Deer
- C** Grizzly bear
- D** Lion

A class prepared some electric circuits using a battery, connecting wires, and three light bulbs. Which of these circuits can make the three bulbs light?

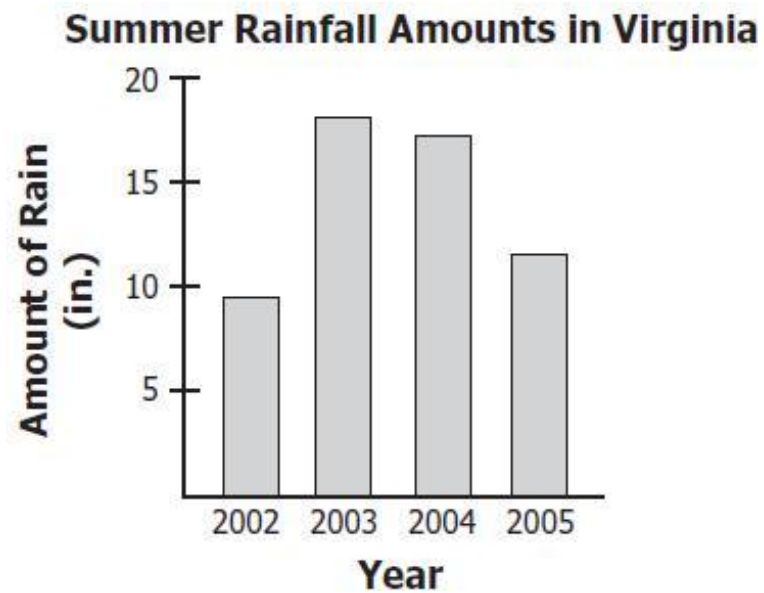
F**G****H****J**

Puppy Growth Chart

Age (weeks)	Weight (kg)
8	8.0
9	8.5
10	9.0
11	9.5
12	11.0
13	11.5

Based on the chart, between which two weeks did the growth pattern of the puppy change?

- A** 11–12 weeks
- B** 10–11 weeks
- C** 8–9 weeks
- D** 9–10 weeks

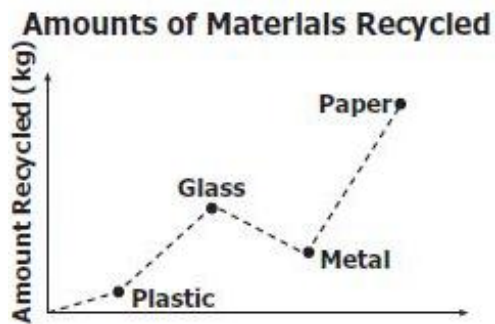


The graph shows the amount of rain that fell during the summer for each of four years. Weather data show that the average rainfall during the summer is about 12 inches. Based on the graph, rainfall was closest to the average during —

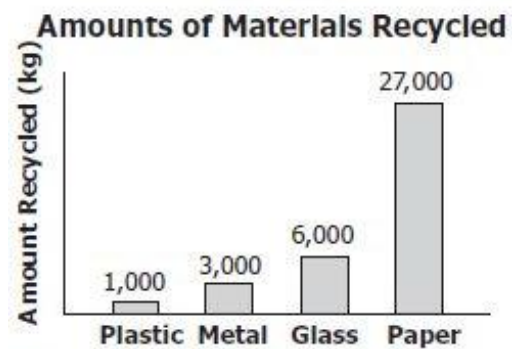
- F 2004
- G 2005
- H 2002
- J 2003

A student is writing a report on recycling. The student learns that different kinds of material are recycled in different amounts. Which graph *best* shows the data?

A



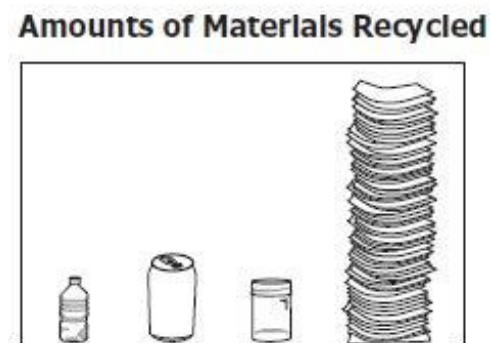
B

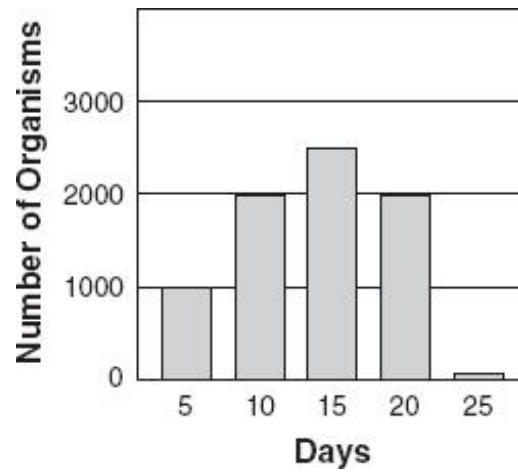


C



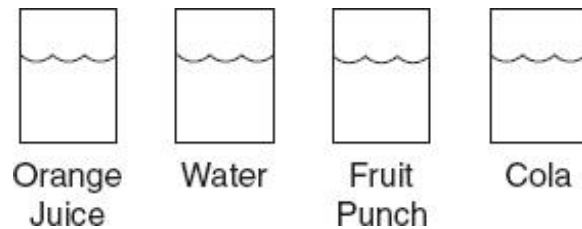
D





Jack grew some very small organisms in a jar of pond water. Each day, he counted the number of organisms he saw on a slide. Then he estimated how many organisms were in the jar. About how many organisms did he estimate were in the jar on day 15?

- F 1500
- G 2000
- H 2500
- J 1000



A student thinks that orange juice will freeze faster than any other substance. She fills identical containers with the same amount of different liquids, then places each in the freezer. She checks them every five minutes and discovers that the orange juice is the last one to freeze and the water is the first to freeze. Which should the student do next?

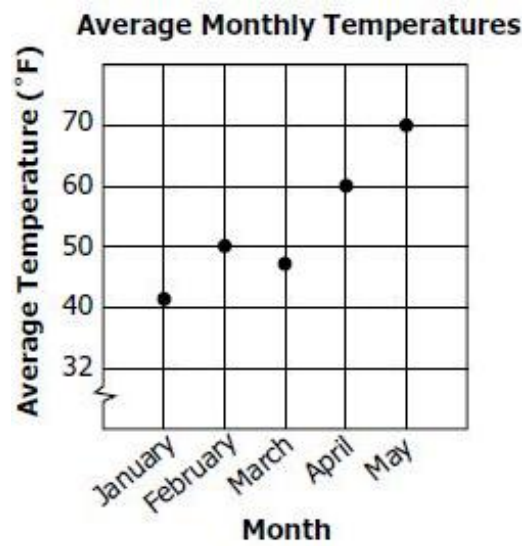
- A** Tell her friends that investigations at school work better than at home.
- B** Repeat her investigation to see if her results are the same.
- C** Change her results to match her original hypothesis.
- D** Conclude that investigations can only be performed on water.

**Virginia Long-Term Average Temperature
and Precipitation (1895–1998)**

Month	Average Temperature (°F)	Average Precipitation (inches)
January	35.9	3.13
February	37.2	3.08
March	45.5	3.86
April	54.9	3.29
May	64.0	3.99
June	71.5	3.69

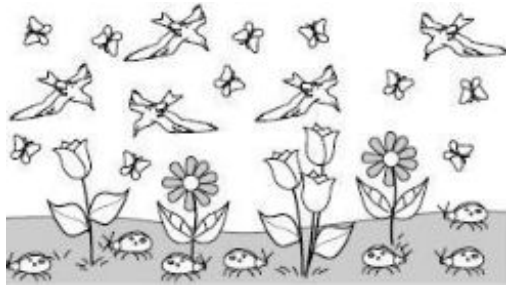
A teacher asked his class to help plan their science field trip schedule from January to June. Based on the table, which month with an average temperature above 50°F has the *least* amount of average precipitation?

- F** March
- G** June
- H** May
- J** April



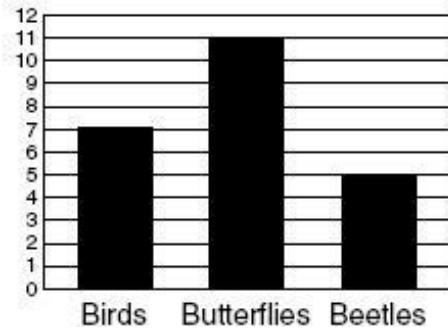
Temperatures normally increase every month from January through August. During which month was the average temperature *most* unusual?

- A March
- B April
- C February
- D January

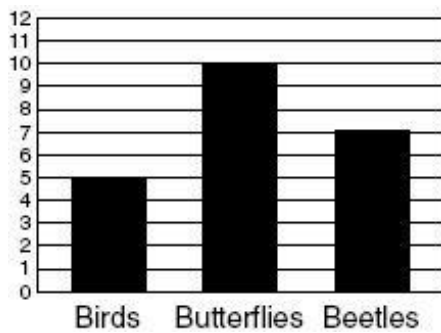


The picture shows some animals. Which graph most accurately shows the number of animals in the picture?

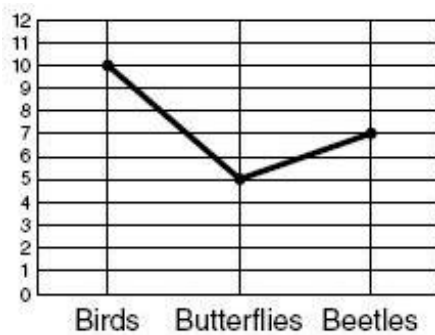
F



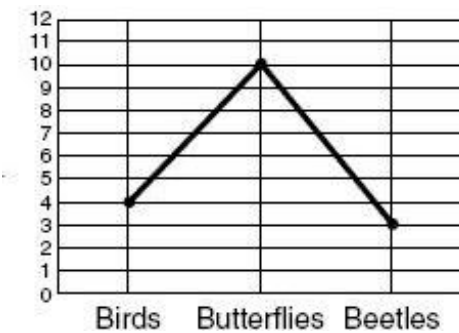
G



H



J



Temperature Log

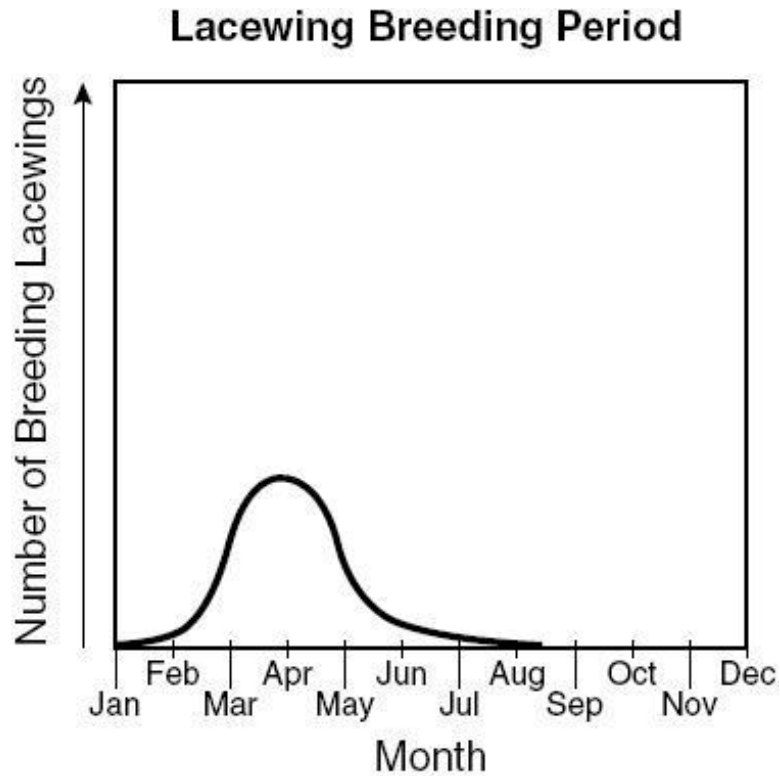
After Getting up in the Morning	After Reading a Book	After Math Class	After Playing Outside
36.8°C	37.1°C	32.2°C	37.7°C

A student used a thermometer to take his temperature at different times. He wrote down his measurements in a table. When did the student *most likely* record the temperature inaccurately?

- A After getting up in the morning
- B After math class
- C After playing outside
- D After reading a book

30 A student set up an experiment to test how much bean plants will grow in soil with salt in it. The student grew 50 plants in one group and 50 plants in the other group. The only thing that can be different in the two groups is the amount of —

- F salt in the soil in each plant pot
- G soil in each plant pot
- H water given to each plant
- J fertilizer given to each plant



The lacewing is a common small insect. The graph shows the breeding period of one species of lacewing. During what season would most of these lacewings breed?

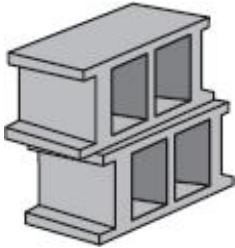
- A Spring
- B Fall
- C Winter
- D Summer

32 Which of these has kinetic energy?

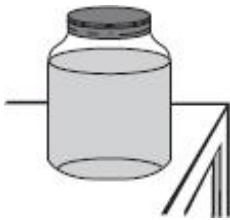
F



G



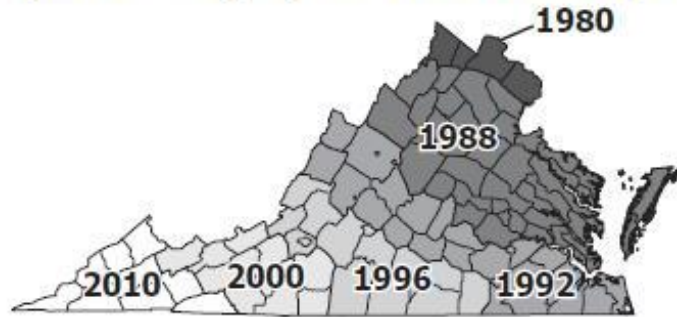
H



J



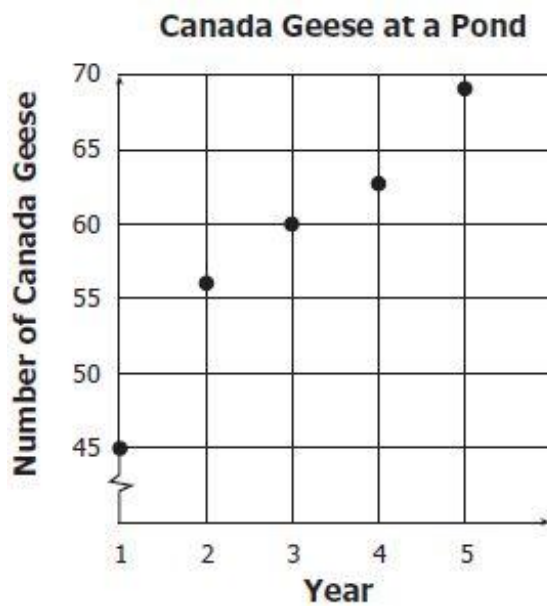
Spread of Gypsy Moths Across Virginia



The map shows how gypsy moths have spread across Virginia over the years. Based on the map, gypsy moths —

- A** live in every state in the United States
- B** first came to Virginia in 1960
- C** stopped spreading in 1996
- D** will be in all of Virginia by 2010

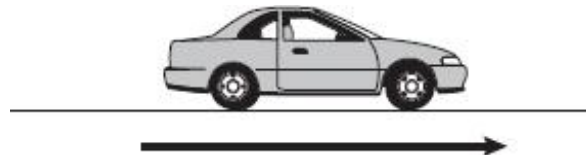
34



A student counted the number of Canada geese that have lived on a pond for the past five years. Based on the graph, how many geese will probably live on the pond in year 6?

- F 65
- G 70
- H 60
- J 75

35



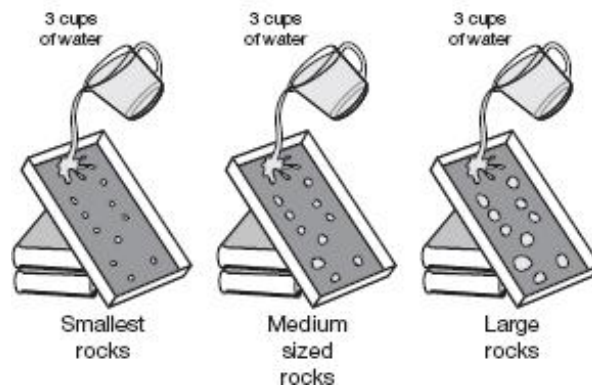
To describe this car's motion, a student should use its —

- A volume and direction
- B speed and color
- C direction and speed
- D mass and volume

- 36 **A group of students was preparing an activity to determine whether certain materials will float or sink when placed on water. Before the experiment started, one student said, "I think the sponge will float." This statement was —**

F a conclusion
G a fact
H an observation
J a prediction

37 **Jackson's Experiment**



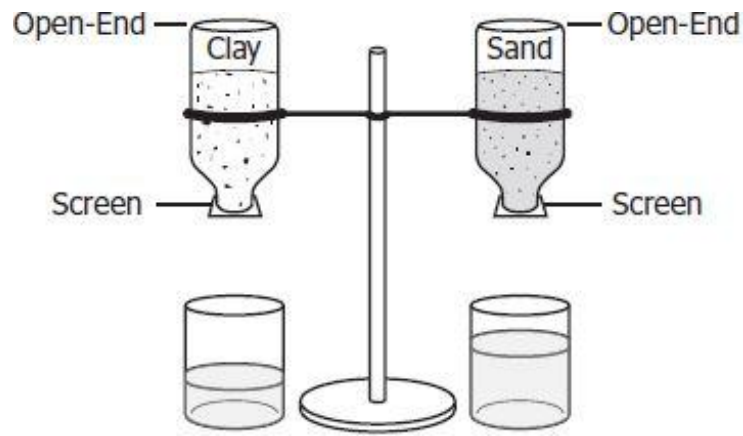
In an experiment, Jackson tested to see how the size of rocks affects the amount of dirt that washes away when water flows downhill. Which variable was manipulated?

A Size of the rocks
B Amount of water
C Slope of the hill
D Type of dirt

38 **Sandy is conducting an investigation to find out which food his dog likes best. Which is the manipulated variable in his investigation?**

- F The color of his dog's food dish
- G The kind of food he gives his dog
- H The time of day he feeds his dog
- J The amount of food he gives his dog

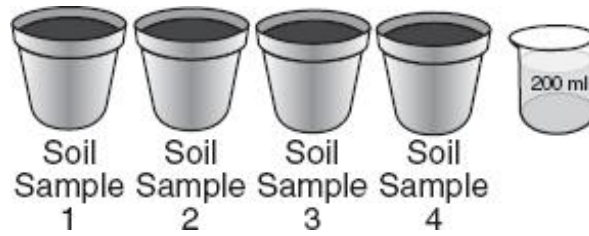
39



Students want to learn which of two soils holds more water. They put clay in one bottle and sand in the other. Then they put equal amounts of water in the bottles. Some of the water drained into beakers. Which of these is the manipulated, independent variable?

- A Amount of water
- B Type of beaker
- C Number of bottles
- D Type of soil

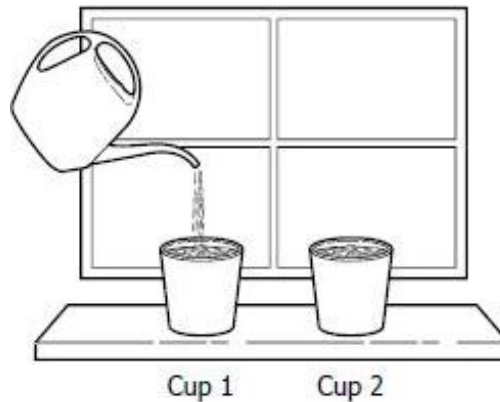
40



To find out which soil absorbs (holds) moisture *best*, each container shown must —

- F contain the same amount of soil
- G have soil from the same place
- H be tested by the same person
- J be made of a different material

41



Students planted bean seeds in the same kind of soil in separate cups. The cups were put next to each other on a sunny windowsill. Cup 1 was given 10 mL of water every other day. Cup 2 was given no water. Which of these is the independent (manipulated) variable in the experiment?

- A The type of seed
- B The type of soil
- C The amount of sunlight
- D The amount of water

42 Which of the following is an observation about grasshoppers that a science class could have made on their nature walk?

- F** The grasshoppers will probably eat more grass than tree leaves.
- G** The grasshoppers will live longest in a container filled with plants.
- H** The grasshoppers all hatched from eggs laid the year before.
- J** The grasshoppers are green with long back legs and antennae.