Oklahoma School Testing Program

OKLAHOMA STATE DEPARTMENT OF EDUCATION

JANET BARRESI

STATE SUPERINTENDENT OF PUBLIC INSTRUCTION

Oklahoma Core Curriculum Tests

2014–2015 Released Items

Aligned to PASS 2011/OAS

Grade 5

Science

Oklahoma State Department of Education
Oklahoma City, Oklahoma

Web Version

Science

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Directions

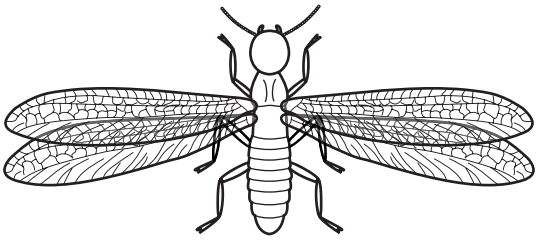
Read each question and choose the best answer.

1

Insect Identification Key

Steps	Observation	Directions/ Identification
1a	Insect has two pairs of wings.	Go to step 2.
1b	Insect has one pair of wings.	wasp
2a	Insect has one pair of antennae longer than its legs.	giant stonefly
2b	Insect has one pair of antennae shorter than its legs.	Go to step 3.
3a	Insect abdomen is shorter than its wings.	termite
3b	Insect abdomen is as long as its wings.	webspinner

Students were asked to identify an insect that they found outside. The students observed the insect below.



GO ON ▶

Which is the most likely identification of the insect observed by the students?

A wasp

B giant stonefly

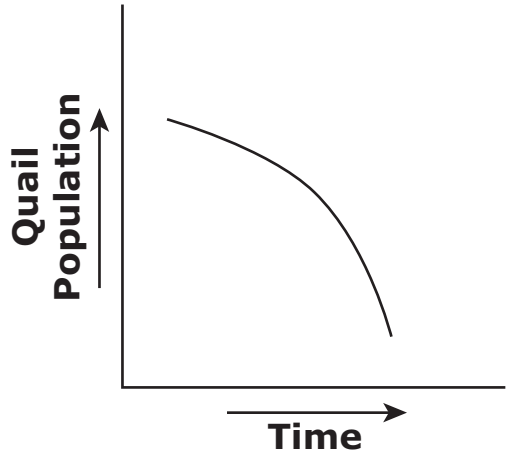
C termite

D webspinner

2 **Quail are birds that benefit from farm crops and grassland.**

Which graph <u>best</u> shows an increase in the quail population where farmers have planted crops and grasses?

A



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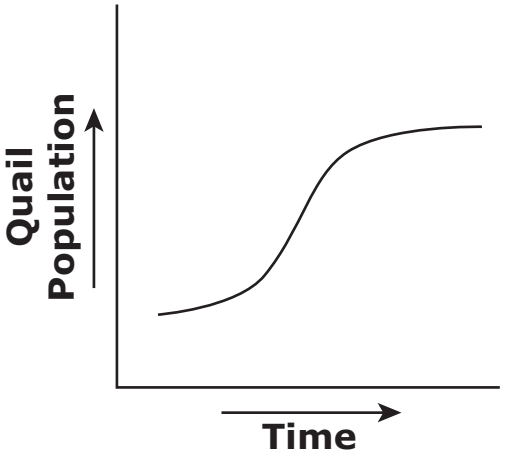

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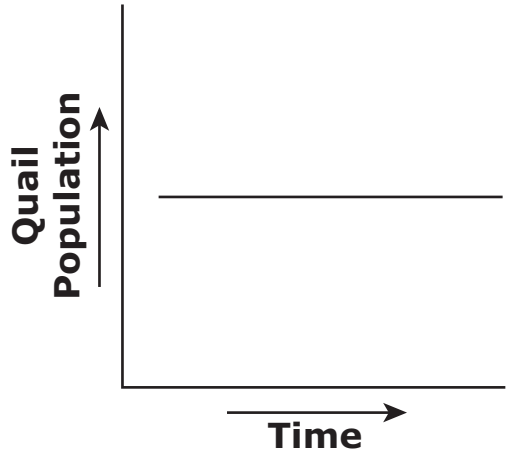

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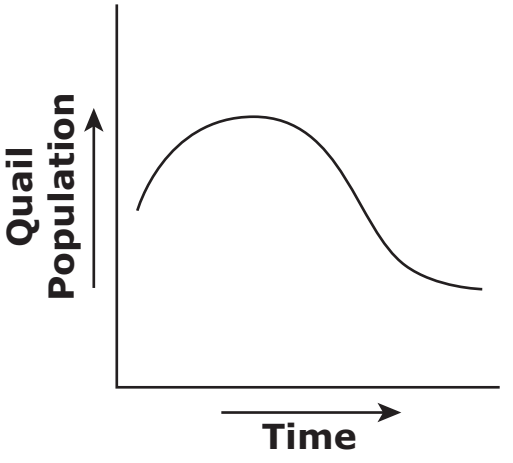


3 **When left in sunlight, dark-colored objects heat up faster than light-colored objects. The table shows the time it takes for ice cubes to melt on four plastic test boards of different colors.**

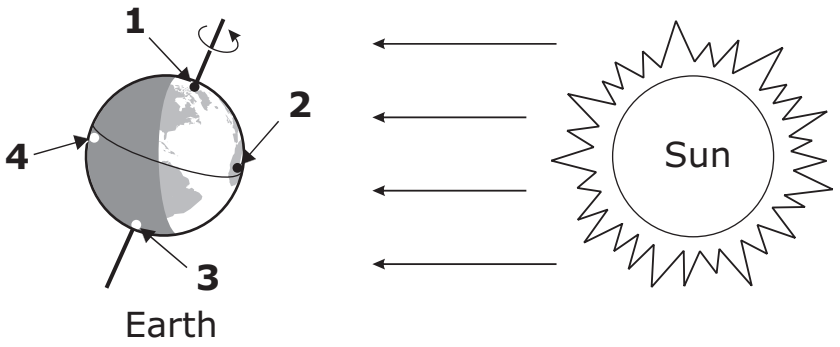
Ice Melting Times

Plastic Test Boards	Melt Times (minutes)
Board 1	12
Board 2	8
Board 3	15
Board 4	16

Which of the test boards was most likely the darkest color?

A Board 1
B Board 2
C Board 3
D Board 4

4 **A group of satellites orbiting Earth collected temperature data from four locations on Earth at the same time.**



Which location <u>most likely</u> has the highest temperature?

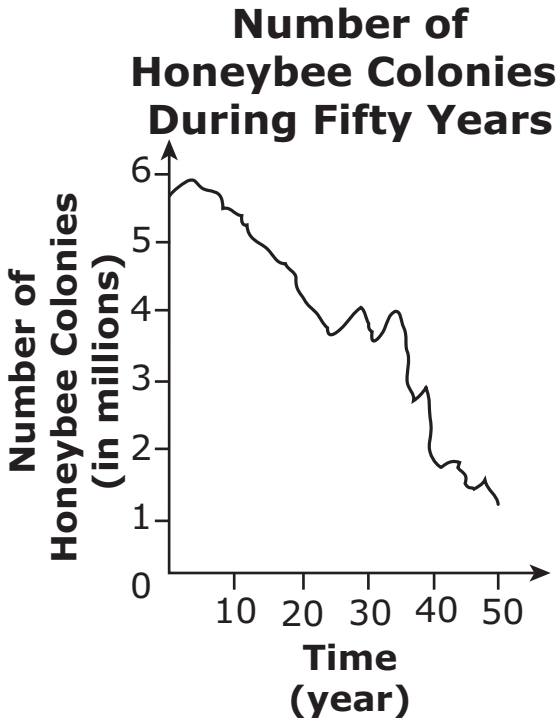
A location 1

B location 2

C location 3

D location 4

5 **In recent years, the number of honeybee colonies has changed. Many crops need honeybees for their fruit production.**



Crop Information

Crop	Percentage of Crop Pollinated by:		
	Honeybees	Other Insects	Other Sources
oranges	27%	2%	71%
peaches	48%	12%	40%

Which crop would be <u>most</u> affected if the number of honeybee colonies continued in the same pattern shown in the graph?

A oranges because the number of honeybee colonies is decreasing

B oranges because the number of honeybee colonies is increasing

C peaches because the number of honeybee colonies is decreasing

D peaches because the number of honeybee colonies is increasing

GO ON ▶

6 **Students are studying tiny plants living in pond water. The teacher gives each student a sample of pond water containing tiny plants. Students need to first measure the temperature of the pond water and then observe the different shapes of the tiny plants. Four students identified possible ways to collect data.**

Possible Ways to Collect Data

Student	Tool to Measure Pond Water Temperature	Tool to Observe Tiny Plants
1	thermometer	microscope
2	thermometer	metric ruler
3	metric balance	microscope
4	metric balance	metric ruler

Which student has the best way to collect data for this investigation?

A Student 1

B Student 2

C Student 3

D Student 4

7 **During a science investigation, a student chips the top of a glass beaker.**

Which of these is the <u>safest</u> choice regarding the beaker?

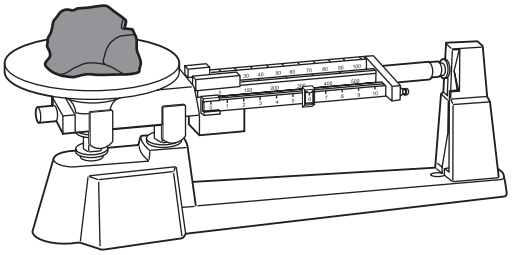
A Put the beaker in a broken glassware container.

B Put the beaker aside and only use it if necessary.

C Use the beaker because the chip will not affect the results.

D Use the side of the beaker that is not chipped to avoid being cut.

8 **A rock is being measured as shown.**



Which <u>best</u> describes this event?

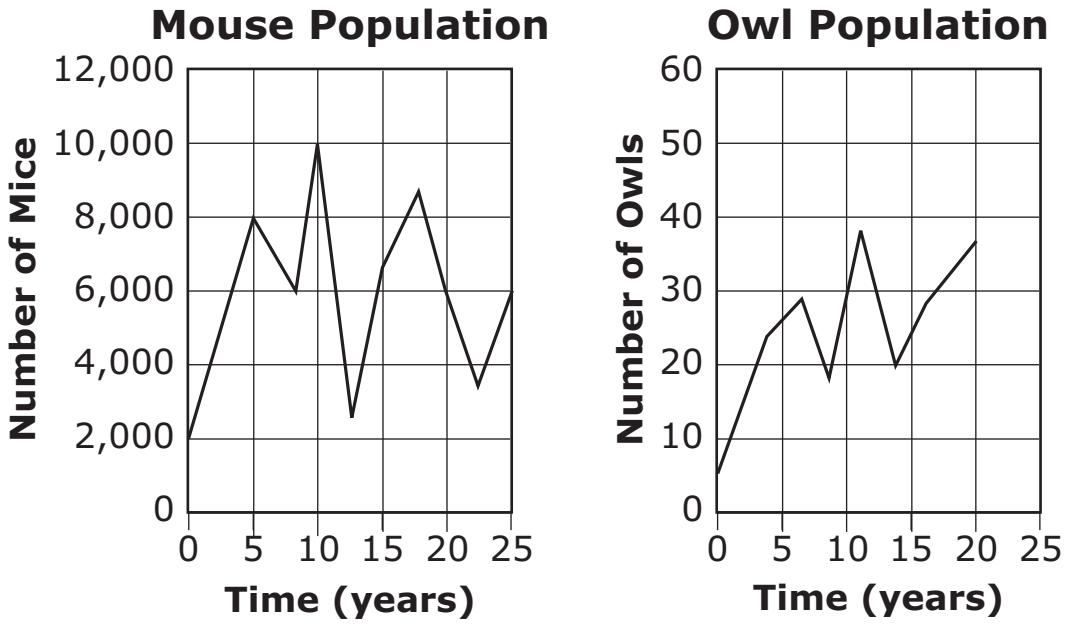
A The volume of the rock, in liters, is measured with a spring scale.

B The mass of the rock, in grams, is measured with a metric balance.

C The volume of the rock, in grams, is measured with a spring scale.

D The mass of the rock, in milliliters, is measured with a metric balance.

9



Which statement <u>best</u> predicts how the owl population will change from year 20 to year 25?

A The owl population will decrease because the mouse population increases.

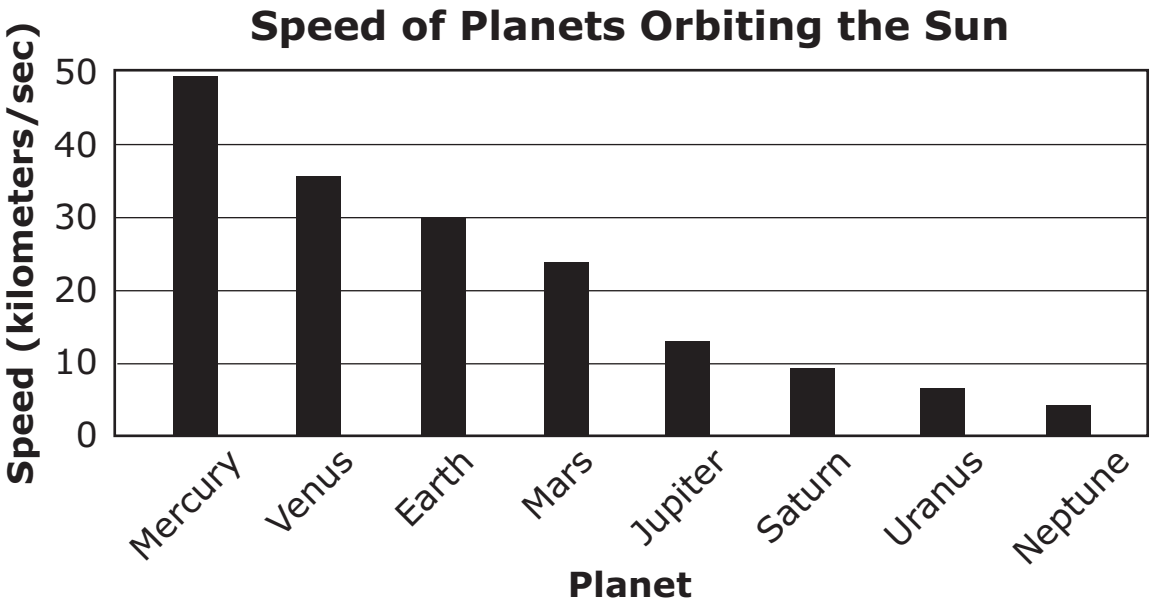
B The owl population will increase because the mouse population decreases.

C The owl population will decrease and then increase because the mouse population decreases and then increases.

D The owl population will increase and then decrease because the mouse population increases and then decreases.

GO ON ▶

10 **A student made a graph showing the speeds at which the planets in our solar system orbit the Sun.**



Which statement <u>best</u> describes the speed of orbiting planets in our solar system?

A The farther a planet is from the Sun, the faster it orbits the Sun.

B The closer a planet is to the Sun, the faster it orbits the Sun.

C The larger the planet, the slower it orbits the Sun.

D The smaller the planet, the slower it orbits the Sun.

GO ON ▶

11 **Students are given information in a data table about three substances that are liquids at room temperature, degrees Celsius (20 °C). The students can use the data table to investigate the temperatures at which these liquids will change.**

Information of Three Liquids

Liquid Substance	Lowest Temperature to Stay a Liquid (ºC)	Highest Temperature to Stay a Liquid (ºC)
water	0	100.0
bromine	-7.2	58.8
olive oil	-6.0	300.0

As heat is added, which list puts these liquids in the order at which they will begin to boil?

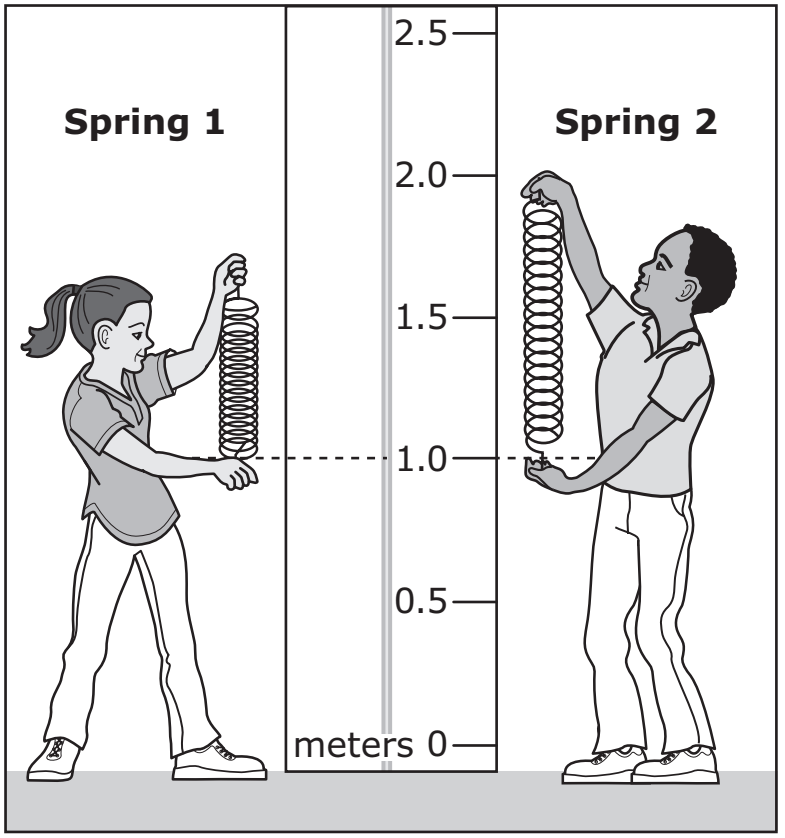
A olive oil, bromine, water

B olive oil, water, bromine

C bromine, olive oil, water

D bromine, water, olive oil

12 **Two students held identical springs one meter from the ground but stretched the springs with different amounts of force, as shown.**



Based on the diagram, which statement <u>correctly</u> compares the energy present in the springs?

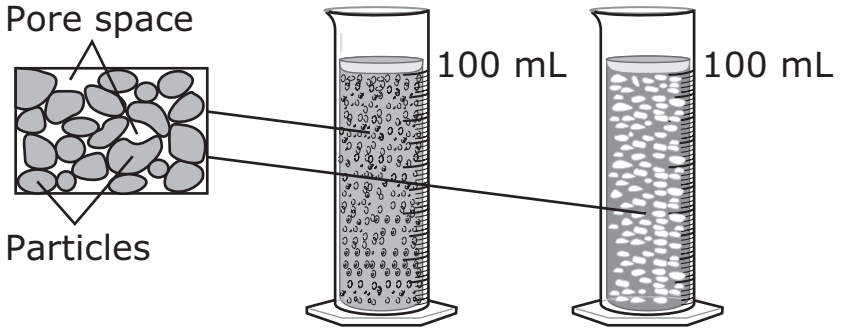
A Both of the springs have only kinetic energy.

B Both of the springs have only potential energy.

C Spring 1 has less kinetic energy than Spring 2.

D Spring 1 has greater potential energy than Spring 2.

13 **A group of students conducts a porosity test to compare the amount of pore space between particles in two different types of soil. The students fill two graduated cylinders with two different types of soil. They pour water into each sample until the water just covers the top of the soil particles.**



Porosity Test

Soil Type	Average Particle Size (millimeters)	Volume of Water Added (milliliters)
X	1.0	10
Y	2.5	25

Based on the data, which conclusion about the amount of pore space in the two types of soil is <u>most likely</u> correct?

A The Type X soil sample has less pore space than Type Y because less water fits in the large spaces between small particles.

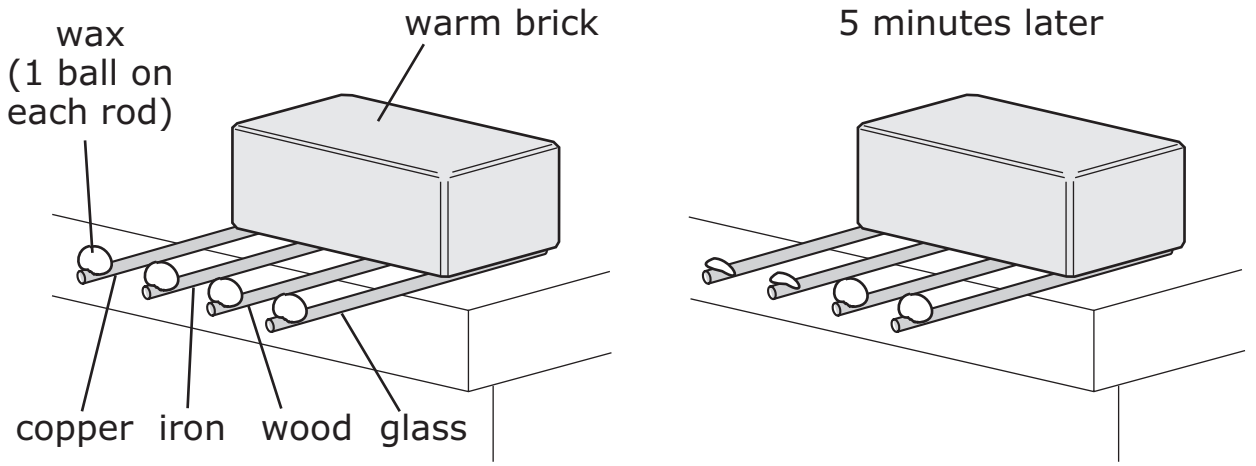
B The Type X soil sample has more pore space than Type Y because less water fits in the small spaces between small particles.

C The Type Y soil sample has less pore space than Type X because more water fits in the small spaces between large particles.

D The Type Y soil sample has more pore space than Type X because more water fits in the large spaces between large particles.

GO ON ▶

14 **Samples of wax are placed on four rods made of the materials shown.**



Which of the rods from the diagram are the best conductors of heat energy?

A copper, wood, and glass

B iron and glass

C iron, wood, and glass

D copper and iron

15 **Which list correctly orders parts of our solar system from closest to the Sun to farthest from the Sun?**

A Mercury → Mars → Earth

B Mars → Earth → Mercury

C Mercury → Earth → Mars

D Mars → Mercury → Earth

GO ON ▶

16 **Students wanted to learn more about monthly weather patterns in their area. They made a data table to record the daily weather for six months.**

Student Weather Record

Observation	Student Results
month	
day	
air temperature	
amount of cloud cover	
wind speed and direction	
?	

Which additional observation is <u>most</u> helpful in studying monthly weather patterns?

A color of the sky

B time the Sun sets

C number of clouds

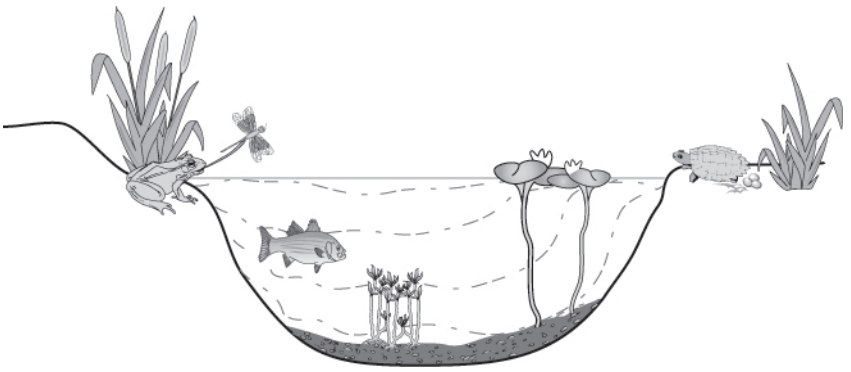
D amount of precipitation

17 **Students have several test tubes half filled with clear liquids.**

As they add another liquid to each test tube, which safety action is <u>most</u> important for them to follow?

A wearing aprons
B wearing goggles
C using a first-aid kit
D using a fire blanket

18 **The picture shows a pond ecosystem.**



Which <u>best</u> shows how organisms depend on other organisms for survival?

A fish swimming
B frogs eating insects
C turtles burying eggs in the sand
D lily pads using sunlight to grow

19 **The table lists different soil types and the flow rates—that is, the rates at which water moves through the soil.**

Soil Porosity

Type of Soil	Flow Rate + (slow) ... +++++ (fast)
clay	+
gravel	+++++
loam	+++
sand	+++

Based on information in the Soil Porosity table, which of the soils most likely has the highest porosity?

A clay

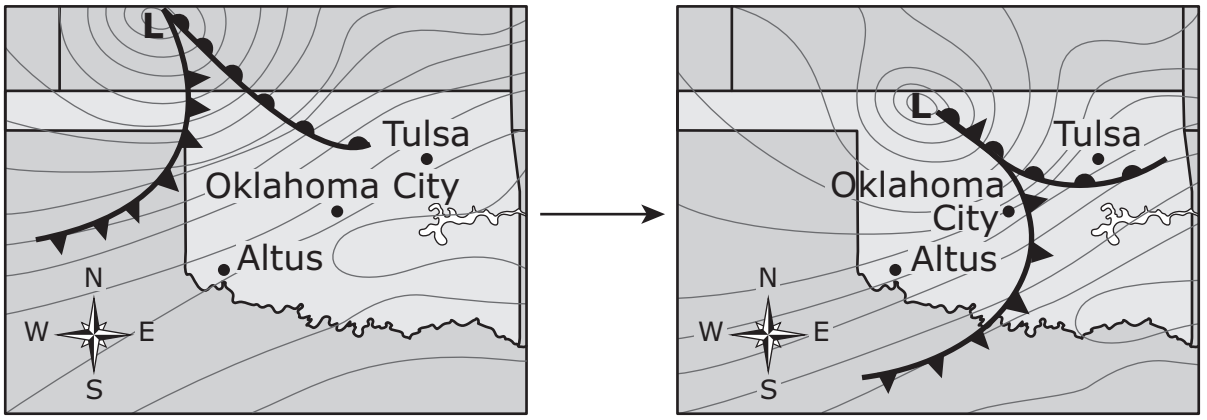
B gravel

C loam

D sand

20 **The weather maps show predicted changes in weather conditions over parts of Oklahoma on a certain day.**

Weather Changes for Oklahoma



Based on the maps, what type of weather can be predicted for Oklahoma City?

A The weather will change from cold and dry with gentle winds to warm and dry with strong winds.

B The weather will change from cold and dry with strong winds to warm and dry with gentle winds.

C The weather will change from warm and dry with strong winds to cool with precipitation and strong winds.

D The weather will change from warm and dry with strong winds to cool with precipitation and gentle winds.

STOP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