

MEAP GRADE 8 SCIENCE

- 4 Morris and Katie both drive trucks. Morris drives a 1-ton truck and Katie drives a 2-ton truck. Both vehicles have motors and tires that are the same size. Morris and Katie are at a stoplight and both step on the gas at the same time. Morris pulls away faster. Why does Morris' vehicle take off faster?
- A because Katie's truck is heavier
 - B because Morris's truck has more gas
 - C because Morris's tires cause greater friction
 - D because Katie used a different type of gas than Morris
- 5 Doreen was sitting on her bed doing her homework one afternoon. She noticed a small spot of light on her bedroom wall which moved with her arm. What could be causing this spot of light on the wall?
- A light from her watch refracting on the wall
 - B light from the window being absorbed by the wall
 - C light from the window being refracted by her watch band
 - D light from the window reflecting off the face of her watch
- 13 Katie has red hair, green eyes, and freckles, just like her mother. Her father has brown hair, brown eyes, and no freckles. Why does Katie look more like her mother than she does like her father?
- A because Katie's father is older than her mother
 - B because Katie's father doesn't have any freckles
 - C because Katie inherited more traits from her mother than her father
 - D because daughters always resemble their mothers more than their fathers

Use the following information to answer questions 24 through 27.

Archaeopteryx (ar-kay-op-ter-icks) is the name given to a creature that lived about 145 million years ago. This creature had feathered wings that enabled it to fly, but its skeleton resembled that of a small carnivorous dinosaur. It is believed to have been cold-blooded. This creature was first discovered in Germany in a layer of ground associated with the Jurassic period.



Archaeopteryx Fossil

- 24 Based on the information in the passage, how should Archaeopteryx be classified?
- A vertebrate and single-celled
 - B vertebrate and cold-blooded
 - C invertebrate and multi-cellular
 - D invertebrate and warm-blooded
- 25 Based on the information in the passage, what is **MOST LIKELY** true of Archaeopteryx's place in the ecosystem?
- A It was parasitic.
 - B It was a predator.
 - C It was a plant-eating dinosaur.
 - D It spent most of its time underwater.

26 Which of the following conclusions is **MOST** accurate based on the fossilized remains of Archaeopteryx?

- A Birds are not related to dinosaurs.
- B All dinosaurs were capable of flight.
- C Archaeopteryx existed only in Germany.
- D Archaeopteryx is possibly the ancestor of modern birds.

- 27 • Identify one trait of Archaeopteryx that it shares with modern birds.
• Identify one trait of Archaeopteryx that it does **NOT** share with modern birds.
• Explain how one of these traits might have changed over millions of years.

ANSWER THIS ITEM IN YOUR ANSWER FOLDER.

NOTHING WRITTEN IN THE SPACE BELOW WILL BE SCORED.

Use the following information to answer questions 40 through 43.

Anna's science class has been studying the water cycle and its relationship to changes in the weather. They are learning about factors that affect weather patterns and how weather forecasts are made.



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40 After a storm there was a lot of water vapor in the air. It was a hot day and Anna noticed that her shirt felt a little damp. What caused this dampness?

- A wind
- B clouds
- C pressure
- D humidity

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- 41 While studying weather forecasting, Anna's teacher shows the class the following weather map. Which of the following is a correct interpretation of the map?



KEY	
	cold front
	warm front
	Michigan

- A A cold front is heading toward Michigan.
- B A warm front is heading toward Michigan.
- C A cold front has just passed through Michigan.
- D A warm front has just passed through Michigan.

42 While studying weather forecasting, Anna’s teacher shows the class the following weather map. On the local news, Anna notices that the weather forecast calls for high winds and heavy rainfall to be coming her way. Which of the following is **MOST LIKELY** to be the cause of this predicted weather?



- A A cold air mass is remaining stationary for an extended period of time.
- B A cold air mass is colliding with a moist, warm air mass.
- C A warm air mass is remaining stationary for an extended period of time.
- D A moist, warm air mass is colliding with a dry air mass of the same temperature.

43 A local weather station reported the following conditions in Lansing, Michigan:

Barometric Pressure	30.3 inches Hg
Wind Direction	from the southwest
Wind Speed	9 mph
Temperature	28°C
Sky	Clear
Relative Humidity	35%
Precipitation	none

- Describe the weather for this day using the information from the table.

ANSWER THIS ITEM IN YOUR ANSWER FOLDER.

NOTHING WRITTEN IN THE SPACE BELOW WILL BE SCORED.

MEAP KEY

HIGH SCHOOL KEY

<u>Item</u>	<u>Answer</u>	<u>Benchmark</u>
4	D	III.3.h.3
8	D	III.2.h.4
10	D	III.1.h.2
11	C	II.1.h.1
12	A	II.1.h.1
13	Constructed Response	I.1.h.2
18	B	IV.2.h.5
21	D	IV.4.h.4
22	D	IV.4.h.3
23	C	IV.4.h.4
24	Constructed Response	I.1.h.2
36	C	IV.2.h.4
37	C	IV.2.h.5
38	D	III.3.h.2
39	Constructed Response	II.1.h.1
40	C	I.1.h.4
41	D	V.3.h.3
42	C	V.3.h.2
43	Constructed Response	V.3.h.3
45	D	V.1.h.3

MIDDLE SCHOOL KEY

<u>Item</u>	<u>Answer</u>	<u>Benchmark</u>
4	A	IV.3.m.2
5	D	IV.4.m.4
13	C	III.3.m.1
24	B	III.2.m.1
25	B	II.1.m.1
26	D	III.4.m.1
27	Constructed Response	I.1.m.5
40	D	V.3.m.3
41	A	V.3.m.1
42	B	V.3.m.1
43	Constructed Response	I.1.m.5

ELEMENTARY SCHOOL KEY

<u>Item</u>	<u>Answer</u>	<u>Benchmark</u>
5	B	III.4.e.2
6	D	III.5.e.1
7	A	III.2.e.2
17	C	IV.3.e.3
18	D	IV.3.e.3
19	D	IV.3.e.3
20	Constructed Response	IV.1.e.1
29	D	V.1.e.5
30	D	IV.1.e.4 (this item was not scored on the 2003 test due to a printing error)
31	D	IV.1.e.5
32	Constructed Response	IV.2.e.3
38	B	V.1.e.5