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**RELEASED MEAP 2002 ITEMS**  
*5th Grade Science*

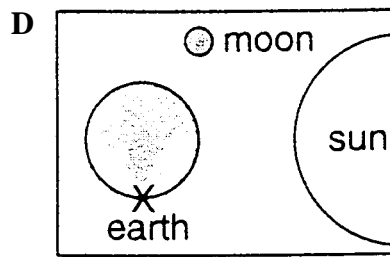
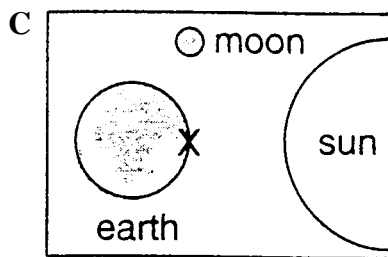
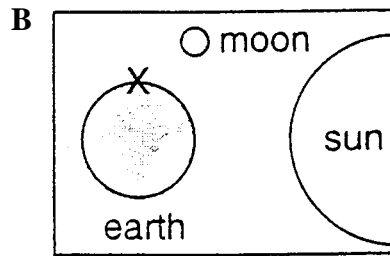
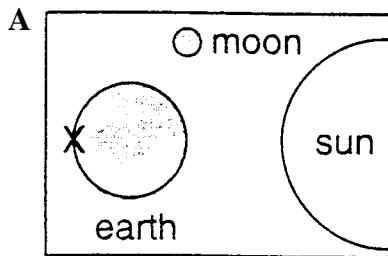
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# 5th Grade Science

5 Potholes often appear in our roads and highways. What is one major cause of potholes?

- A air pollution
- B wind erosion
- C frozen water in the cracks
- D sand wearing down the surface

6 Which position marked with an X in the diagram below **BEST** represents a location that is experiencing night?



11 An animal with a backbone is

- A a non-vertebrate.
- B a vertebrate.
- C a plant.
- D an insect.

12 What is the **BEST** evidence scientists have concerning the existence of dinosaurs?

- A fossilized bones of dinosaurs
- B cave paintings of ancient dinosaurs
- C stories passed down from generation to generation
- D photographs of similar animals, like the Loch Ness Monster

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- 14 A biologist studying birds made the following observations. She concluded that the birds would **NOT** compete for food.

Bird	Food	When They Feed	Where They Feed
Bird 1	insects	dawn, dusk	trees, middle
Bird 2	insects	dawn, dusk	trees, lower
Bird 3	insects	dawn, dusk	trees, upper

What evidence supports her conclusion?

- A Insects are plentiful.
  - B The birds feed at different times.
  - C The birds lay eggs at different times.
  - D The birds feed in different parts of the trees.
- 23 Which of the following is the **BEST** way to investigate the effect of Fertilizers on tomato plants?
- A Put several plants outdoors and several indoors.
  - B Add fertilizer to several plants and change the amount of water given to each.
  - C Grow several plants under the same conditions, but change the amount of fertilizer added to each.
  - D Grow several plants under various temperature conditions, but keep the amount of fertilizer the same for each.
- 25 Which of the following characteristics is **LEAST** likely to be passed from a mother to her daughter?
- A hair color
  - B eye color
  - C skin color
  - D favorite color

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- 27 A TV commercial said that “Longlife” batteries last longer than any other kind. Does a “Longlife” battery really last longer than any other kind?
- A Maybe. You could find out by doing an experiment with some “Longlife” batteries and several other kinds of batteries.
  - B Yes, because the commercial says it is so.
  - C No, because all batteries are made the same and really last the same amount of time.
  - D Maybe, but it would be impossible to prove.

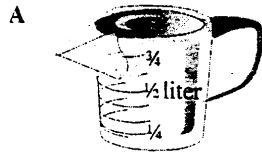
*Use the information below to answer questions 28 through 31.*

Mary’s class went on a field trip to a local apple orchard. The students learned about how apples grow, where they grow, and different ways that people use apples in cooking.

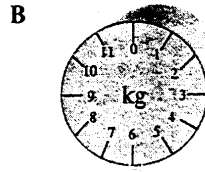


- 28 The tour guide at the orchard told the students that many of the apples are sold to make applesauce. The apples are peeled and then cooked. What form of energy is used to cook the apples?
- A heat energy
  - B food energy
  - C light energy
  - D sound energy
- 29 When an apple seed is planted, an apple tree grows. Identify stages of growth to produce fruit.
- A seed → flower → fruit → plant
  - B plant → flower → seed → fruit
  - C seed → plant → flower → fruit
  - D flower → plant → fruit → seed

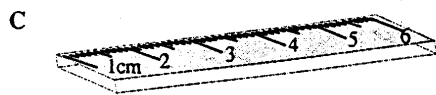
30 Mary has \$2.00. Apples cost \$1.30 per kilogram (kg). Which device does Mary need to find out how many apples she can buy?



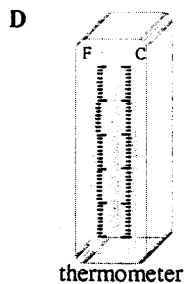
measuring cup



scale



ruler



thermometer

31 3 points

Mary likes sweet apples. She decides to compare different types of apples to see which one is the best buy. She buys three different apples. She measures the size of each apple, records the price, and then tastes each one. She records her data in the following table:

Apple Type	Apple Color	Taste	Price Per Apple	Average Size in Centimeters
Golden	Yellow	Sweet	\$0.35	6 cm
Granny Smith	Green	Tart	\$0.25	8 cm
Macintosh	Red	Sweet	\$0.30	7 cm

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Mary decides that the Macintosh apples are the best apple for her to buy the next time. Identify **three** pieces of evidence from the chart that support Mary's decision.

ANSWER THIS ITEM IN YOUR ANSWER BOOKLET.

NOTHING WRITTEN IN THIS TEST BOOKLET WILL BE SCORED.

**37** Which of the following increases friction?

- A wax on floors
- B wheels on skates
- C rainwater on a road
- D rubber soles on shoes

**39** When Roberto and his dog Perro walk to the corner, their shadows are behind them. Where will the shadows be located when Roberto and his dog immediately turn around and walk back?

- A There will be no shadows.
- B The shadows will be behind them.
- C The shadows will be beside them.
- D The shadows will be in front of them.

*Key to MEAP 5th Grade on next page*

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## Key to MEAP 5th Grade

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Item	Benchmark	Answer
5	V.1.e.4	C
6	V.4.e.2	A
11	III.2.e.1	B
12	II.1.e.1	A
14	II.1.e.1	D
23	I.1.e.2	C
25	III.3.e.1	D
27	II.1.e.1	A
28	IV.1.e.3	A
29	III.2.e.3	C
30	I.1.e.4	B
31	I.1.e.1	constructed
37	IV.3.e.2	D
39	IV.4.e.4	D