

NATIONAL SCIENCE LEAGUE – 2015

GRADE 5 and GRADE 6 CONTEST

- ANSWER KEY -

1. _____ B _____
2. _____ C _____
3. _____ A _____
4. _____ D _____
5. _____ D _____
6. _____ A _____
7. _____ C _____
8. _____ A _____
9. _____ A _____
10. _____ C _____
11. _____ D _____
12. _____ C _____
13. _____ C _____
14. _____ B _____
15. _____ D _____
16. _____ A _____
17. _____ B _____
18. _____ C _____
19. _____ A _____
20. _____ B _____

21. _____ A _____
22. _____ B _____
23. _____ B _____
24. _____ B _____
25. _____ D _____
26. _____ A _____
27. _____ C _____
28. _____ B _____
29. _____ C _____
30. _____ C _____
31. _____ D _____
32. _____ C _____
33. _____ D _____
34. _____ A _____
35. _____ A _____
36. _____ D _____
37. _____ C _____
38. _____ D _____
39. _____ A _____
40. _____ B _____

NATIONAL SCIENCE

Grades 5 and 6

DIRECTIONS: On the answer sheet, write the letter of the choice that best answers or completes the question.

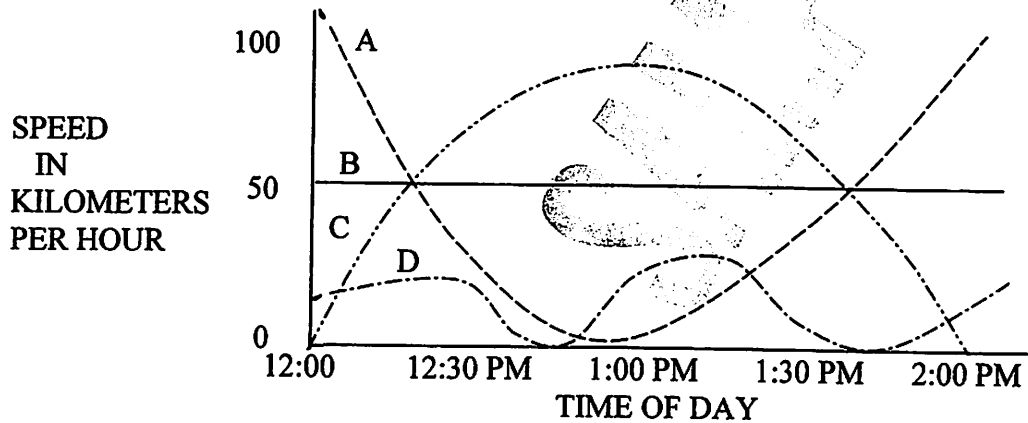
1. Which of these represents the longest distance?
A. 245 cm
B. 245 km
C. 245 mm
D. 245 m
2. Which of these pieces of equipment is used by geologists to study earthquakes?
A. the microscope
B. the barometer
C. the seismograph
D. the telescope
3. An animal that eats only green plants is called
A. an herbivore.
B. an omnivore.
C. a carnivore.
D. a decomposer.
4. During the process of photosynthesis, green plants
A. make more cells.
B. move food from the leaves to the roots.
C. give off carbon dioxide and water.
D. make food and oxygen.
5. Which job does your digestive system do?
A. It removes wastes from your body cells.
B. It controls all of the activities of your body cells.
C. It brings oxygen to your body cells.
D. It changes food you eat into a form that your cells can use.
6. When a low pressure air mass moves into an area, the weather is most likely to become
A. warmer and stormy.
B. cooler and stormy.
C. cooler and sunny.
D. warmer and sunny.
7. Which of the following statements about the food you eat is true?
A. Milk is a very good source of Vitamin C.
B. All vegetables are an excellent source of fats.
C. A piece of chicken meat is a good source of protein.
D. Bread and cereal are excellent sources of water.
8. Red blood cells are part of your
A. circulatory system.
B. respiratory system.
C. nervous system.
D. excretory system.
9. A prism breaks a beam of white light into many colors because of
A. refraction.
B. reflection.
C. absorption.
D. diffusion.
10. Which of these gases is used by the cells in your body?
A. carbon dioxide
B. nitrogen
C. oxygen
D. hydrogen

11. A good example of a renewable energy source is
A. oil. C. natural gas.
B. coal. D. sunlight.
12. Which of these living things can live in water and on land but lays eggs on dry land?
A. frogs C. alligators
B. lobsters D. earthworms
13. All living things
A. are able to make their own food.
B. need oxygen gas and light to live.
C. are made of at least one cell.
D. can move from place to place.
14. A girl has a 6-volt battery, an iron nail, and 100 cm of insulated copper wire. Which of these could she build with these parts?
A. a generator C. a motor
B. an electromagnet D. a solar cell
15. Which of the following elements is attracted to a magnet?
A. silver C. carbon
B. copper D. iron
16. What do cats and clams have in common?
A. They are both animals.
B. They are both mammals.
C. They are both vertebrates.
D. They are both cold-blooded.
17. Only the cells that make up a plant leaf have
A. a nucleus. C. a cell membrane.
B. chloroplasts. D. cytoplasm.
18. Flowers are used by plants to
A. get carbon dioxide. C. reproduce.
B. make food. D. get water.
19. Which is an example of a chemical change?
A. a rusting bridge over a river
B. a glass window being broken by a baseball
C. a light bulb giving off light
D. alcohol evaporating from a small beaker
20. One of the most common rock-forming minerals is
A. gold. C. shale.
B. quartz. D. pumice.

21. Which is a true statement about astronomy?
A. The solar system is part of the Milky Way Galaxy.
B. The distance between galaxies is measured in kilometers.
C. Red stars are the hottest stars.
D. Mars is larger than Jupiter.
22. There is no weather on the moon because it
A. does not rotate on its axis. C. is too small.
B. does not have an atmosphere. D. is too cold.
23. A compound light microscope with 200 power magnification can be used to observe
A. viruses.
B. the cells that make up your body.
C. an entire grasshopper.
D. the atoms that make up a penny.
24. Which of these is part of your respiratory system?
A. the stomach C. the kidneys
B. the lungs D. the heart
25. Objects made of plastic are
A. good conductors of heat.
B. very difficult to melt.
C. attracted to a magnet.
D. poor conductors of electricity.
26. The activity that causes the fastest change on the surface of the earth is
A. an earthquake.
B. ocean waves crashing on a beach.
C. a glacier moving down the side of a mountain.
D. rain water breaking down limestone rock.
27. Making bread depends on the activities of
A. algae. C. yeast.
B. viruses. D. protozoans.
28. Which gas is used in the Goodyear blimp?
A. carbon dioxide C. oxygen
B. helium D. hydrogen
29. During the month of January,
A. the equinox occurs.
B. the sun is the highest it can be in the sky at noon in the United States.
C. it is summer in the Southern Hemisphere.
D. there are nine hours of daylight and fifteen hours of darkness everywhere on earth.
30. At which temperature could ice exist?
A. 32°C C. 0°F
B. 100°F D. 212°C

USE THE FOLLOWING INFORMATION AND YOUR KNOWLEDGE OF SCIENCE TO ANSWER QUESTIONS 31 TO 33:

The graph below shows the speed in kilometers per hour of four trains for a period of two hours.



31. According to the graph, which train was stopped at a station just after 1:30 P.M.?
- A. Train A
B. Train B
C. Train C
D. Train D
32. According to the graph, which train was going fastest at 12:30 P.M.?
- A. Train A
B. Train B
C. Train C
D. Train D
33. According to the graph, which train slowed down and speeded up the largest number of times?
- A. Train A
B. Train B
C. Train C
D. Train D
34. A student had 1 liter of ice, 1 liter of liquid water, and 1 liter of water vapor. Which is a true statement about all three?
- A. They have a definite mass.
B. They have a definite shape.
C. They have a definite volume.
D. They can be compressed.
35. Metamorphic rock is made when
- A. existing rock is squeezed and heated.
B. a shallow ocean evaporates and the bottom dries out.
C. lava from a volcano cools and hardens.
D. small pieces of other types of rock are cemented together.

USE THE FOLLOWING INFORMATION AND YOUR KNOWLEDGE OF SCIENCE TO ANSWER QUESTIONS 36 AND 37:

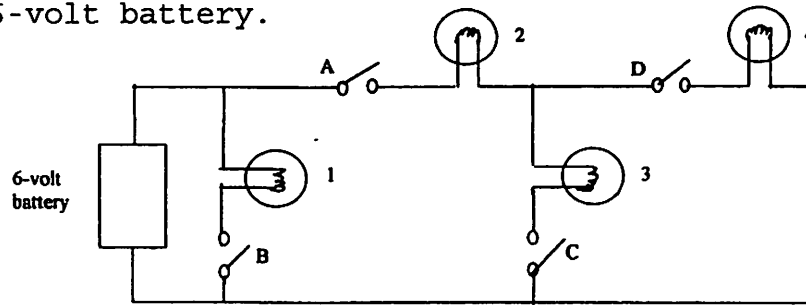
The chart below shows the average temperatures of four locations on the North American continent. Note that the temperatures for four months out of the entire year are shown on the chart.

LOCATION	DECEMBER	MARCH	JUNE	SEPTEMBER
A	26	33	68	62
B	55	61	79	78
C	13	24	55	48
D	74	73	79	80

36. Which location is nearest to the Equator?
 A. Location A
 B. Location B
 C. Location C
 D. Location D
37. Which location could be Fairbanks, Alaska?
 A. Location A
 B. Location B
 C. Location C
 D. Location D

USE THE FOLLOWING INFORMATION AND YOUR KNOWLEDGE OF SCIENCE TO ANSWER QUESTIONS 38 to 40:

The diagram below shows a circuit made of four 6-volt light bulbs, four switches, and a 6-volt battery.



38. The number of switches needed to be closed in order to make all four bulbs light is
 A. 1.
 B. 2.
 C. 3.
 D. 4.
39. If bulb 2 burned out and didn't work and all switches were closed, how many light bulbs would light?
 A. 1
 B. 2
 C. 3
 D. 4
40. How many bulbs would light if only switches A and D were closed?
 A. 1
 B. 2
 C. 3
 D. 4