

Released Form

EDG Review 2

Student Name: _____

Spring 2013
North Carolina
Measures of Student Learning:
NC's Common Exams
Grade 7 Science—Form A

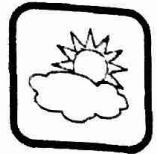


Student Booklet



Public Schools of North Carolina
State Board of Education
Department of Public Instruction
Raleigh, North Carolina 27699-6314

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- 1 Steven threw four balls into the air and recorded their heights. The chart below shows the maximum height for each ball.

Maximum Height Reached by Four Balls

| Ball | Maximum Height (m) |
|------|--------------------|
| M | 2.0 |
| N | 1.5 |
| O | 4.2 |
| P | 3.0 |

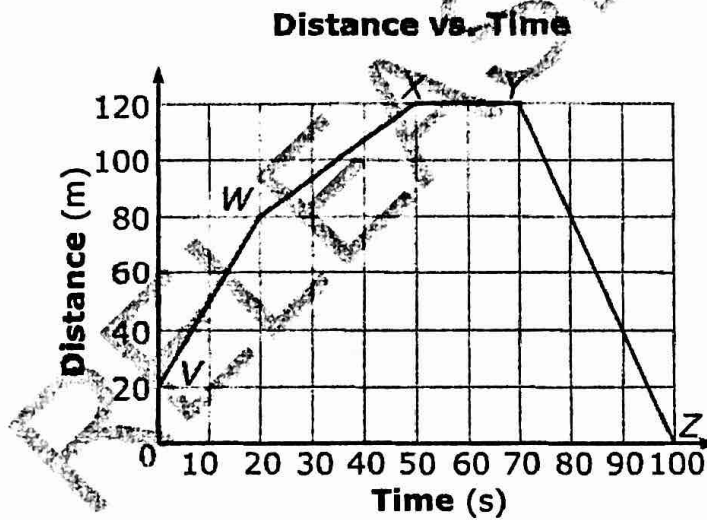
Which describes their motion?

- A Ball P went twice as high as Ball N.
 - B Ball M went twice as high as Ball N.
 - C Ball P went two meters higher than Ball O.
 - D Ball N went two meters higher than Ball O.
- 2 John wants to build a racetrack that will allow his toy cars to travel fast when force is applied. Which material should he use?
- A carpet, because friction will be high
 - B gravel, because friction will be high
 - C plastic, because friction will be low
 - D sandpaper, because friction will be low



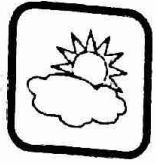
- 3 A magnet is placed near a pile of steel paper clips. Which will *most likely* occur?
- A The magnet will provide a balanced force, causing the paper clips to spin in circles.
 - B The magnet will provide an unbalanced force, keeping the paper clips stationary.
 - C The magnet will provide a balanced force, pushing the paper clips away from it.
 - D The magnet will provide an unbalanced force, pulling the paper clips toward it.

- 4 The graph below shows the distance traveled by an object over 100 seconds.



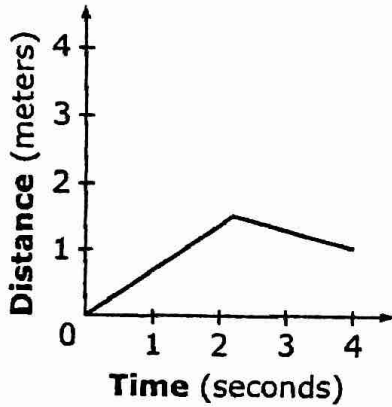
What happened to the motion of the object between $t = 50$ s and $t = 70$ s?

- A The object increased its speed.
- B The object decreased its speed.
- C The object stopped moving.
- D The object changed directions.

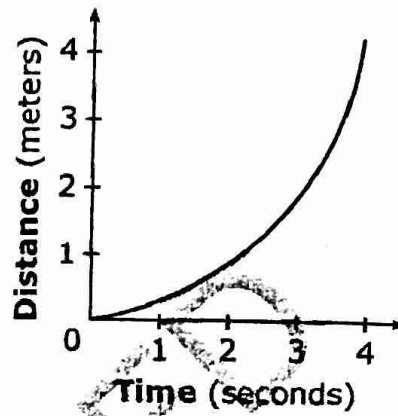


5 Which graph represents a moving object with a constant speed throughout its entire travel time?

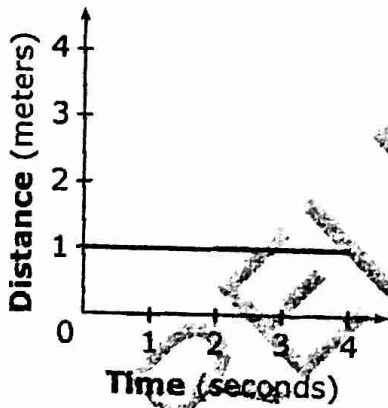
A



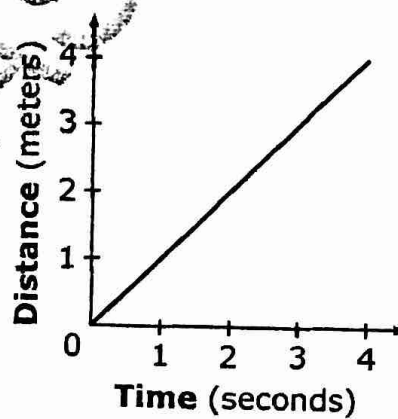
B



C

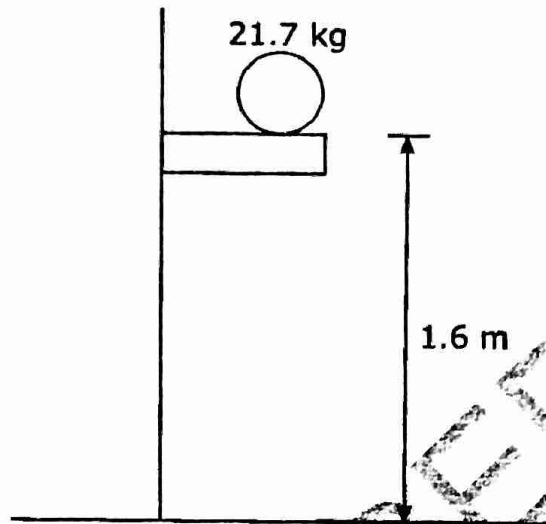


D





- 6 The diagram shows a 21.7-kg ball located on a shelf 1.6 m above the ground.

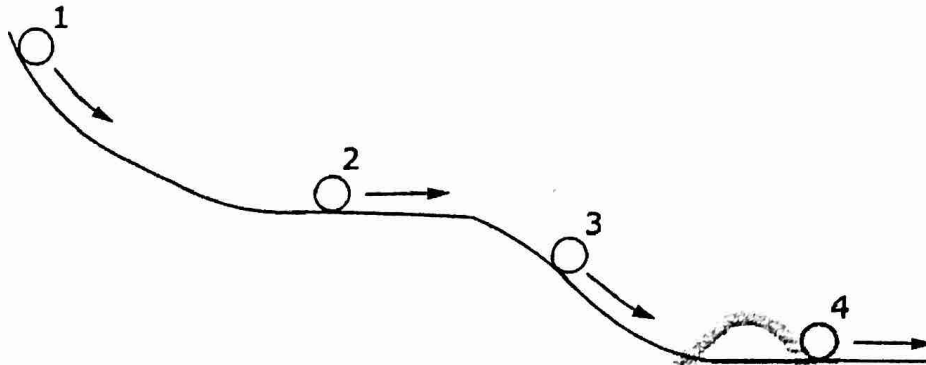


Which **best** describes the energy of the ball?

- A Its energy is lost once it falls off the shelf.
- B Its energy depends upon the speed the ball will travel.
- C It has mechanical energy in the form of potential energy.
- D It has mechanical energy in the form of kinetic energy.



- 7 This diagram shows the motion of a ball down a hill.

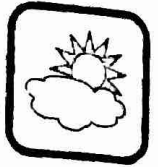


What happened to the ball's energy from Point 1 to Point 4?

- A Stored energy was transformed into energy of motion.
 - B Energy of motion was transformed into chemical energy.
 - C Stored energy in the ball applied a force to get the ball to move.
 - D Internal energy caused the ball to move until the energy was gone.
- 8 As a roller coaster car travels down a hill, which type of change in energy allows it to speed up?
- A potential energy changing into heat energy
 - B potential energy changing into kinetic energy
 - C kinetic energy changing into heat energy
 - D kinetic energy changing into potential energy



- 9 Which form of energy does a car's engine convert into mechanical energy?
- A light
 - B wind
 - C chemical
 - D gravitational
- 10 Which type of energy is changed by plants into chemical energy?
- A solar
 - B nuclear
 - C thermal
 - D gravitational
- 11 How can an inclined plane make work easier?
- A by increasing the amount of friction necessary for the task
 - B by increasing the effort necessary to raise an object
 - C by decreasing the effort required to raise an object
 - D by decreasing the efficiency of the task



- 12 Which simple machine would be the **most** efficient for lifting an object 30 m off the ground?
- A pulley
 - B screw
 - C wedge
 - D lever
- 13 Why does air pressure decrease from the troposphere to the exosphere?
- A because there are fewer air molecules as altitude increases
 - B because there are more air molecules as altitude increases
 - C because there are higher temperatures as altitude increases
 - D because there are lower temperatures as altitude increases
- 14 How does the temperature of the stratosphere compare to the mesosphere?
- A It is colder than the mesosphere because the stratosphere contains the ozone layer.
 - B It is warmer than the mesosphere because the stratosphere contains the ozone layer.
 - C It is colder than the mesosphere because the stratosphere contains the ionosphere.
 - D It is warmer than the mesosphere because the stratosphere contains the ionosphere.



15 Which occurs within a high-pressure system?

- A the formation of tornadoes
- B the formation of hurricanes
- C large clouds, as air rises
- D calm weather, as air sinks

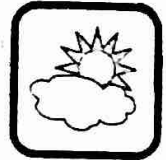
16 The data table below shows the weather conditions for City X over the course of one day.

Weather Conditions for City X

| Day and Time | Tuesday at 8:00 a.m. | Tuesday at 2:00 p.m. |
|--------------|----------------------|--------------------------|
| Temperature | 60°F | 40°F |
| Pressure | 30.28 in. | 29.97 in. |
| winds | Southwest | Northwest |
| skies | Partly Cloudy | Cloudy; Rain and Thunder |

What has **most likely** occurred in this area?

- A A warm front has passed.
- B A cold front has passed.
- C A blizzard has taken place.
- D A high-pressure system has stalled.



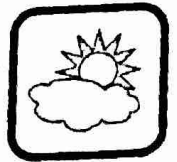
- 17 The chart below shows the recorded temperatures in a city for several days at the same time.

Four-Day Temperature Recordings at 3:00 p.m.

| Day | Temperature (°F) |
|----------|------------------|
| Thursday | 59 |
| Friday | 63 |
| Saturday | 72 |
| Sunday | 64 |

On which day could the air have held the **greatest** amount of water vapor at 3:00 p.m.?

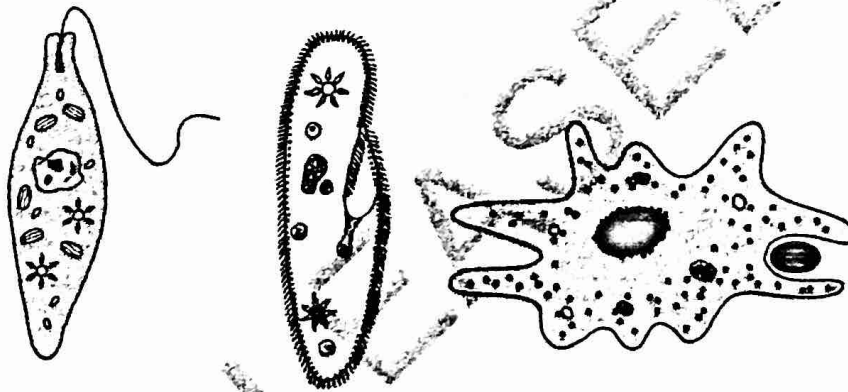
- A Thursday
 - B Friday
 - C Saturday
 - D Sunday
- 18 How does the convection of air produce thunderstorms?
- A by causing warm air to sink and cold air to rise
 - B by causing warm air to rise and cold air to sink
 - C by causing both warm air and cold air to rise
 - D by causing both warm air and cold air to sink
- 19 Which **best** explains how the Coriolis effect influences weather conditions?
- A It causes winds to rotate, forming tornadoes on Earth.
 - B It causes winds to move to the right in the southern hemisphere.
 - C It causes winds to turn to the right in the northern hemisphere.
 - D It causes winds to follow a straight-line path around Earth.



20 Why is it important for the United States to monitor air pollution levels in other countries?

- A Air pollution can improve the ozone layer amounts in the atmosphere.
- B Air pollution can travel to the United States and affect people's health.
- C The United States is the only country able to monitor the air quality.
- D The United States has clean air and is able to help other countries.

21 The illustrations below are of a euglena, a paramecium, and an amoeba.

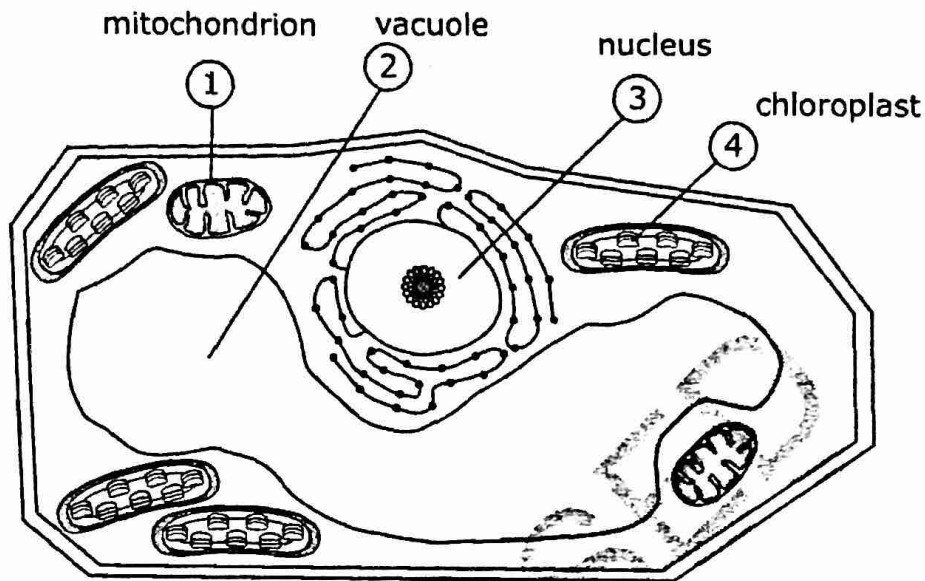


How do these organisms compare?

- A They use different structures for movement.
- B They use different structures to control cell activity.
- C They all make their own food by photosynthesis.
- D They all have eyespots to sense sunlight.



22 This is a diagram of a plant cell.



Which organelle is used to transfer energy and can also be found in an animal cell?

- A (1)
- B (2)
- C (3)
- D (4)

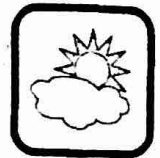
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23 The cell membrane is unable to work properly. How could this affect plant and animal cells?

- A It could affect their ability to absorb sunlight.
- B It could affect their ability to make proteins.
- C It could affect their ability to store water.
- D It could affect their ability to remove waste.



- 24 Which **best** summarizes organ systems?
- A a group of organelles working together to perform a certain job
 - B a group of tissues working together to perform a certain job
 - C a group of organs working together to perform a certain job
 - D a group of cells working together to perform a certain job
- 25 Which function summarizes the excretory system?
- A It removes waste.
 - B It collects oxygen.
 - C It attacks diseases.
 - D It delivers nutrients.
- 26 How do the respiratory and circulatory systems work together?
- A The respiratory system takes in carbon dioxide, while the circulatory system delivers carbon dioxide to the cells.
 - B The circulatory system takes in carbon dioxide, while the respiratory system delivers carbon dioxide to the cells.
 - C The respiratory system takes in oxygen, while the circulatory system delivers oxygen to the cells.
 - D The circulatory system takes in oxygen, while the respiratory system delivers oxygen to the cells.



- 27 A scientist noticed that all of the offspring of the yeast fungus are identical to the parent. However, the offspring of a cat all look different. What **most likely** caused this to occur?
- A Yeast produced offspring through asexual reproduction, while the cat produced offspring through sexual reproduction.
 - B Yeast produced offspring through sexual reproduction, while the cat produced offspring through asexual reproduction.
 - C Both yeast and the cat produced offspring through asexual reproduction.
 - D Both yeast and the cat produced offspring through sexual reproduction.
- 28 How does mitosis compare to meiosis?
- A Mitosis produces two identical daughter cells, while meiosis produces sex cells with half the genetic information.
 - B Mitosis produces sex cells with half the genetic information, while meiosis produces two identical daughter cells.
 - C Mitosis only occurs in single-celled organisms, while meiosis only occurs in animals.
 - D Mitosis only occurs in animals, while meiosis only occurs in single-celled organisms.



- 29 Sarah's family has a long history of people who developed diabetes. Which lifestyle change should she make to try to prevent becoming diabetic?
- A watch television and drink water
 - B exercise frequently and watch her diet
 - C play video games and sit on the couch
 - D drink sodas daily and eat fried foods
- 30 How does smoking cigarettes affect the body?
- A It causes damage to various cells.
 - B It improves the function of the lungs.
 - C It lowers carbon dioxide amounts.
 - D It reduces the chance of cancer.

This is the end of the multiple-choice portion of the test.

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