

PONY

سلسلة كتب الاستاذ

# SCIENCE

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FINAL

REVISION

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4

PRIMARY  
FIRST TERM

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# Concept

# 1.1

## Adaptation and Survival

Evaluation Weeks 1, 2, & 3

Q1

Choose the correct answer:

- 1 Polar bears have white fur to .....  
a. live in the desert  
b. see in the dark  
c. stay warm  
d. hide from predators or prey
- 2 A penguin's feet stay warm due to its .....  
a. fat layer  
b. blood vessels  
c. features  
d. fur
- 3 A panther chameleon changes its color to blend with the surrounding environment, this is known as .....  
a. echolocation  
b. respiration  
c. camouflage  
d. digestion
- 4 Bull sharks can survive or live in .....  
a. fresh water only  
b. salt water only  
c. both fresh and salt water  
d. seas, rivers, and mud
- 5 In a penguin's body, dense feathers and the thick layer of fat help the penguin to be .....  
a. warm  
b. cold  
c. predator  
d. prey
- 6 An example of a behavioral adaptation in panther chameleons is .....  
a. having a long and sticky tongue  
b. puffing up its body when in danger  
c. having V-shaped feet  
d. having brightly colored scales
- 7 The thick, white fur is a type of adaptation in .....  
a. panther chameleons  
b. polar bears  
c. fennec foxes  
d. caracals
- 8 A fennec fox has ..... to enable blending in the desert.  
a. dark colored fur  
b. thick, white fur  
c. sandy-colored fur  
d. colored scales
- 9 Adaptations help living organisms to .....  
a. go extinct  
b. survive  
c. reproduce  
d. both b and c
- 10 Camouflage means that an organism is .....  
a. easy to be seen by predators  
b. difficult to be seen  
c. easy to be seen by the prey  
d. easy to be eaten

- 11 The penguin's feet stay warm due to .....
- the movement of blood in its blood vessels
  - the thick layers of fat
  - the dense feathers
  - the dense fur
- 12 A Barbary fig has ..... to prevent animals from eating it.
- roots
  - a soft stem
  - sharp spines
  - colored leaves
- 13 The long roots in acacia trees is considered a ..... adaptation.
- structural
  - behavioral
  - physiological
  - both structural and behavioral
- 14 ..... grow in the desert.
- Acacia trees
  - Palm trees
  - Water lilies
  - Mangrove trees
- 15 An organ which mixes food with saliva and crushes it with the teeth is the .....
- mouth**
  - stomach
  - small intestine
  - pharynx
- 16 An organ that stores undigested food and expels it out from the body is the .....
- esophagus
  - large intestines
  - stomach
  - small intestines
- 17 The leaves in the ..... tree change into needles to prevent it from losing water.
- acacia
  - kapok
  - pine
  - mangrove
- 18 Producing poison in acacia trees is considered a ..... adaptation.
- structural
  - behavioral
  - physiological
  - both structural and behavioral
- 19 ..... trees grow in salt water.
- Kapok
  - Palm
  - Mangrove
  - Pine
- 20 The digestive system starts with the .....
- Throat
  - nose
  - anus
  - mouth
- 21 Carbon dioxide is a ..... gas to the body if we don't get rid of it.
- beneficial
  - harmful
  - useful
  - a and c



- 7 An ecosystem can be restored by eliminating pollution. ( )
- 8 The bodies of amphibians are covered with skin that allows water and gas to pass through. ( )
- 9 The Egyptian frog lives in ponds and streams. ( )
- 10 Fish breathe through the lungs. ( )
- 11 Inhaled air is rich in carbon dioxide. ( )
- 12 Carbon dioxide gas is expelled from the body during exhalation. ( )
- 13 Fish need clean and pure water to survive. ( )
- 14 Frogs can breathe through the lungs. ( )
- 15 Cutting down forests can cause environmental changes. ( )

### Q3 Complete the following sentences:

- 1 An organ that pushes the food to the stomach is the .....
- 2 The muscle that helps in respiration process is the .....
- 3 Amphibians breathe using their ..... and .....
- 4 Some of the changes that affect ecosystems are ..... and .....
- 5 During exhalation, ..... gas is released, while during inhalation, ..... gas is taken in.
- 6 The diaphragm moves upward during ..... and downward during .....
- 7 The pharynx is an organ of the ..... system, while the lungs are organs of the ..... system.
- 8 Fish extract the ..... gas dissolved in water, and humans use this gas during the ..... process.
- 9 ..... helps polar animals hide in the snow.
- 10 Bull sharks live in .....
- 11 ..... help the kapok tree to hold in the soil.
- 12 ..... is among the organs of the digestive system.
- 13 ..... is among the organs of the respiratory system.
- 14 The gills in fish are considered a ..... adaptation.
- 15 Animals that can live both in water and on land are called .....

**Q4 Write the scientific term:**

- 1 It is a type of adaptation that helps animals hide from a predator or sneak up on its prey. (.....)
- 2 They are characteristics that help living organisms survive and reproduce in the ecosystem. (.....)
- 3 It is a change in the structure of an animal's body. (.....)
- 4 It is a process in which the lungs expand and fill with air. (.....)
- 5 It is the system responsible for getting rid of harmful air from the body. (.....)
- 6 It consists of organs that work together. (.....)
- 7 They are trees that grow in Amazon rainforests. (.....)
- 8 It is a tree that can live and survive securely in water. (.....)
- 9 It is a tree that lives in Savannah forests. (.....)
- 10 They are animals that can live on both land and water. (.....)
- 11 It is the continuous decrease in the number of individuals of an organism until the death of all its members. (.....)
- 12 They are special organs in fish that allow them to extract the oxygen dissolved in water and remove carbon dioxide. (.....)
- 13 They are organs in humans that work to extract oxygen from the air. (.....)
- 14 It is a pollution caused by the exhausts of cars and factories. (.....)

**Q5 What is meant by:**

Camouflage

.....

.....

**Q6 Determine the type of adaptation in the following:**

- 1 Panther chameleons have V-shaped feet. (.....)
- 2 Fennec foxes live in burrows to stay cool. (.....)
- 3 Polar bears have thick white fur. (.....)
- 4 A panther chameleon puffs up its body to look fierce. (.....)

- 5 Bull sharks hunt in the day as well as the night.(.....)

Q7

**Give an example of:**

- 1 An adaptation that enables an animal to hide in its environment.

.....

- 2 A structural adaptation of living organisms.

.....

- 3 A behavioral adaptation in acacia trees.

.....

- 4 A behavioral adaptation in kapok trees.

.....

- 5 A structural adaption in water lilies.

.....

Q8

**Answer the following questions:**

- 1 Determine some human activities that negatively affect the air.

.....

- 2 Determine some human activities that negatively affect the water.

.....

- 3 Determine some human activities that negatively affect the soil.

.....

- 4 Explain how amphibians adapt to the environment.

.....

.....

- 5 Mention the role of the diaphragm in the respiratory process.

.....

.....

.....

.....

**Q9 Give reasons for:**

- 1 A fennec fox has sandy-colored fur.  
.....
- 2 A penguin is covered with dense feathers.  
.....
- 3 A fennec fox has extra-large ears.  
.....
- 4 Palm trees have long and strong roots.  
.....
- 5 Animals don't eat acacia trees' leaves.  
.....
- 6 A Barbary fig has spiny leaves.  
.....
- 7 A kapok tree stay upright in the soggy soil.  
.....
- 8 Water lilies have wide leaves.  
.....
- 9 A pine tree has a triangular shape.  
.....
- 10 Fish die when they leave the water.  
.....
- 11 Humans must replant forests that they cut.  
.....
- 12 Humans and fish are similar in some characteristics.  
.....
- 13 Amphibians can live both in water and on land.  
.....  
.....

**Q10 What happens if:**

- 1 The panther chameleon has no V-shaped feet?  
.....

2 Living organisms cannot adapt with environmental or ecosystem changes?

3 A fennec fox has short ears?

4 The Arctic fox doesn't have thick white fur?

5 Humans don't chew the food?

6 You stop breathing for a long time?

7 A plant was transferred from one environment to another?

8 Palm trees have no thick and strong roots?

9 Acacia trees don't produce a poison?

10 Humans' lungs are replaced by gills?

11 People cut down forests and plow grasslands?

12 Many communities are built and agriculture is neglected?

13 Saliva is not secreted during digestion?

14 The small intestine is not part of the digestive system?

Q1

Choose the correct answer:

- 1 The main control center of the body is the .....  
 a. nerves                      b. brain                      c. spinal cord                      d. stomach
- 2 Echolocation helps dolphins identify the ..... of their prey.  
 a. color                      b. location                      c. smell                      d. taste
- 3 Feeling hot or cold depends on the sensory receptors in the .....  
 a. skin                      b. eyes                      c. ears                      d. stomach
- 4 The organ that processes the information collected from the eyes is the .....  
 a. eye                      b. spinal cord                      c. nerves                      d. brain
- 5 The time it takes for the body to react to different information (danger) is called the ..... time.  
 a. absorption                      b. digestion                      c. reaction                      d. respiration
- 6 Ants communicate with each other using .....  
 a. sight                      b. smell                      c. touch                      d. hearing
- 7 The ..... system collects information about what is happening inside and outside the body.  
 a. respiratory                      b. digestive                      c. nervous                      d. urinary
- 8 Some messages are sent by the nervous system so fast that you are barely aware of them; these are known as .....  
 a. heart                      b. brain                      c. reflexes                      d. stomach
- 9 A blind person's cane emits ..... to tell him the directions.  
 a. smells                      b. lights                      c. vibrations                      d. tones
- 10 Humpback whales communicate with each other through .....  
 a. dancing                      b. flashing                      c. singing                      d. light
- 11 Sensory receptors collect information from the surroundings and send it to the ..... for processing.  
 a. lungs                      b. spinal cord                      c. nerves                      d. brain
- 12 The ..... is the organ responsible for hearing.  
 a. eye                      b. ear                      c. tongue                      d. mouth

- 13 The ..... system receives and translates information.  
 a. digestive      b. nervous      c. respiratory      d. urinary
- 14 Sharp sounds are .....-pitched sounds.  
 a. no      b. low      c. medium      d. high

**Q2 Put (✓) or (X):**

- 1 Dolphins have a stronger sense of hearing than humans. ( )
- 2 Bats rely on echolocation to find food. ( )
- 3 The spinal cord is the main control center in the human body. ( )
- 4 We can differentiate between hot and cold objects using the digestive system. ( )
- 5 Animals that are active at night are called nocturnal animals. ( )
- 6 Ants can communicate with each other by singing. ( )
- 7 Egyptian jerboas depend on echolocation to find food. ( )
- 8 The brain is the main control center in the human body. ( )
- 9 We can differentiate between hot and cold objects by the sensory receptors. ( )
- 10 The scientific idea of a blind person's cane is echolocation. ( )

**Q3 Complete the following sentences:**

- 1 The nervous system consists of the ....., ....., and .....
- 2 ..... and ..... are examples of nocturnal animals.
- 3 Among the organisms that have the ability to locate their prey by echolocation are ..... and .....
- 4 The brain is part of the ..... system.
- 5 The ..... is like the command for the human body.
- 6 ..... send(s) messages to the brain.
- 7 Dolphins use ..... to know the location of their prey.
- 8 The ..... processes and interprets data.

Q4

Complete the following sentences using the words between the brackets:

(nerves – echolocation – smelly messages – brain – hearing)

- 1 When the Egyptian jerboa feels danger, the brain sends messages to its legs through the .....
- 2 Ants communicate with each other by sending .....
- 3 Bats can locate their prey using .....
- 4 Sense organs collect information from the surroundings and send it to the ..... to be interpreted.
- 5 Humpback whales communicate with each other through .....

Q5

Write the scientific term:

- 1 It is the property by which dolphins and bats can locate their prey. (.....)
- 2 They are animals that are active at night. (.....)
- 3 It is the body system that controls all body functions and nerves are part of it. (.....)
- 4 It is a bird that can turn its head backwards and has a bowl-shaped head with large eyes. (.....)
- 5 It is the main control unit in the human body. (.....)
- 6 They are nerves connected directly to the brain. (.....)
- 7 It is a property used in blind people canes to help them detect their surroundings. (.....)
- 8 It is the time taken by the body to react to different information, such as danger. (.....)
- 9 It is the time taken by the body to receive information from the environment. (.....)
- 10 They are organisms that communicate with each other through the sense of smell. (.....)

Q6

**What is meant by:**

- Response time

.....

Q7

**Mention one function of:**

- 1 The brain in the human body.

.....

- 2 The spinal cord in the human body.

.....

- 3 The nerves in the human body.

.....

- 4 The nervous system in the human body.

.....

- 5 The cane used by a blind person.

.....

Q8

**Mention the similarities between a bat and a blind person cane:**

.....

.....

.....

Q9

**Explain how a bat uses echolocation:**

.....

.....

.....

.....

.....

Q10

Choose from column (A) what suits it in column (B):

A

Column (A)	Column (B)
1 The brain	a. carry messages from the brain to the spinal cord and other parts of the body.
2 Spinal cord	b. is the main control center of the body.
3 Nerves	c. is a big nerve that runs through the backbone.

1 ..... 2 ..... 3 .....

B

Column (A)	Column (B)
1 Bats	a. send smelly messages to communicate.
2 Humpback whales	b. use echolocation to locate their prey.
3 Ants	c. are desert rodents with long hind legs.
4 Egyptian jerboas	d. can sing underwater to communicate with each other.

1 ..... 2 ..... 3 ..... 4 .....

Q11

Give reasons for:

1 Bats can locate their prey in the dark.

.....

2 The Egyptian mongoose makes sounds.

.....

3 Dolphins can hear different types of sounds.

.....

4 Animals that live in hot places become active at night.

.....  
 .....

5 Humpback whales sing underwater.

.....

6 A blind person can detect his surroundings.

.....  
 .....

7 The Egyptian jerboa jumps quickly when it senses danger.

.....  
 .....

Q12

### What happens if:

1 Owls don't have large ears? سلسلة كتب ال

.....

2 Nerves are not part of the human body?

.....  
 .....

3 Animals cannot locate their prey?

.....

4 The Egyptian jerboa hears a snake moving towards it?

.....

5 Your hand touches the thorns of a cactus plant? سلسلة كتب الاستاذ

.....

6 The Egyptian jerboa does not have a long leg?

.....

7 The jerboa does not have an ear that is sensitive to sound?

.....  
 .....

8 Humpback whales cannot sing underwater?

.....

Q1

Choose the correct answer:

- 1 Light is a form of .....  
 a. force                      b. work                      c. matter                      d. energy
- 2 Which of the following is an opaque object?  
 a. Air                      b. Water                      c. Wood                      d. Glass
- 3 When light falls on a mirror, it is .....  
 a. absorbed                      b. refracted                      c. scattered                      d. reflected
- 4 Among natural sources of light is the .....  
 a. lamp                      b. moon                      c. candle                      d. Sun
- 5 If Hossam wants to make a box to see its contents from the outside, which of the following materials can he use?  
 a. Cardboard                      b. Transparent glass  
 c. Opaque plastic                      d. Carton
- 6 Light travels in ..... lines.  
 a. zigzag                      b. straight                      c. circular                      d. curved
- 7 The process of vision occurs as a result of the ..... of light.  
 a. scattering                      b. reflection                      c. absorption                      d. refraction
- 8 Which of the following materials reflect light best?  
 a. Wood                      b. Cloth                      c. Mirrors                      d. Rock
- 9 Man uses ..... to communicate.  
 a. echolocation                      b. camouflage  
 c. sight and hearing                      d. sleeping
- 10 Your eyes use ..... to collect information.  
 a. sound                      b. smell                      c. sound and light                      d. light
- 11 Travelers use ..... to attract the attention of helicopter pilots to rescue them.  
 a. sound                      b. mirrors                      c. wood                      d. food
- 12 Writing and reading are ways to communication between .....  
 a. plants                      b. animals                      c. humans                      d. ants



**Q4 Write the scientific term:**

- 1 It is the organ affected by light and responsible for vision. (.....)
- 2 They are materials that allow light to pass through them. (.....)
- 3 They are objects through which light is emitted. (.....)
- 4 They are materials that we can't see through. (.....)
- 5 It is a pattern that has a meaning. (.....)
- 6 They can communicate together by flashing (lighting). (.....)
- 7 It includes raising your thumb up or down. (.....)

**Q5 What is meant by:**

- Code .....

**Q6 Answer the following questions:**

- 1 Mention two examples of codes used by humans in their daily lives.  
.....  
.....
- 2 Explain how bats communicate with each other.  
.....  
.....
- 3 Mention an example of behavioral adaptation in fireflies.  
.....  
.....
- 4 Mention one benefit of the flashes emitted by fireflies.  
.....  
.....

**Q7 Give reasons for:**

- 1 The moon is not a source of light.  
.....
- 2 Fireflies emit a luminous flash.  
.....

3 Humans sometimes use codes.

.....

4 Glass is a transparent material.

.....

.....

5 Wood is an opaque material.

.....

.....

Q3

**What happens if:**

1 Light falls on a rough surface, such as wood or paper?

.....

2 Light falls on a smooth surface, such as a mirror?

.....

3 The backcountry hikers do not have mirrors?

.....

4 Codes have no meaning?

.....

5 Fireflies do not emit flashes?

.....

.....

.....

Q1

Put (✓) or (X):

- 1 Objects do not move if no force affects them. ( )
- 2 The body is static when it moves from one place to another. ( )
- 3 The engine of a jet plane is weaker than the engine of a car. ( )
- 4 The movement of planets can be seen in the sky. ( )
- 5 Friction acts in the same direction of the motion of the body. ( )
- 6 If a balanced force acts on a body, it moves. ( )
- 7 Opening the desk drawer is a pulling force. ( )
- 8 An object moves a greater distance if a greater pushing force is exerted on it. ( )

Q2

Complete the following sentences:

- 1 The body whose position does not change is in a ..... state.
- 2 ..... causes the movement of static bodies.
- 3 The fastest truck in the world is the ..... truck.
- 4 The Shockwave truck is stopped by .....
- 5 Opening the door handle is a ..... force.
- 6 The speeds of trucks differ according to the .....
- 7 Kicking the ball is a ..... force, while tightening the hook is a pulling force.
- 8 There are two types of forces: ..... and ..... forces.
- 9 A moving object is acted on by ..... forces, while a body at rest is acted on by balanced forces.
- 10 There are two types of forces: ..... and .....
- 11 An apple falling from a tree is caused by the ....., while kicking a ball is an example of a .....
- 12 When an unbalanced force acts on a body, it .....
- 13 An apple falling from the tree is caused by the force of .....
- 14 When a force acts against the direction of motion of an object, its speed .....
- 15 An object moves when an ..... force acts on it.

Q3

**Write the scientific term:**

- 1 It is the change in the place of the body from one place to another. (.....)
- 2 It is a force that pulls objects down toward the Earth. (.....)
- 3 It is the amount of energy required to move an object through the force acting on it. (.....)
- 4 It is a force that arises between the surfaces of two bodies in contact. (.....)
- 5 It is the ability to do work. (.....)

Q4

**What is meant by:**

- 1 Pushing force ..... سلسلة كتب الأستاذ  
.....
- 2 Pulling force  
.....
- 3 Movement (Motion)  
.....  
.....
- 4 Gravity ..... سلسلة كتب الأستاذ  
.....
- 5 Energy  
.....
- 6 Force  
.....  
.....

**Q5 Answer the following questions:**

1 Give an example of an easily seen movement and another that cannot be seen.

.....  
.....

2 Give an example of both a pushing force and a pulling force.

.....  
.....

3 Give an example of an object that is affected by unbalanced forces.

.....  
.....

4 Mention an example of an object that has balanced forces acting on it.

.....  
.....

5 Mention the state of the body when balanced and other unbalanced forces affect it.

.....  
.....

6 Explain the difference in the distance traveled by two cars of different masses.

.....  
.....

**Q6 Give reasons for:**

1 A body does not move when it is acted upon by balanced forces.

.....  
.....

2 A cart starts moving when the gases come out of the fire extinguishers.

.....  
.....

3 The speed of a jet plane is greater than the speed of a truck.

.....  
.....

4 The distance traveled by a car varies according to its mass.

.....

.....

5 An object moves when unbalanced forces act on it.

.....

.....

6 The speed of a car decreases when the brakes are applied.

.....

.....

Q7

### What happens if:

1 An object is affected by unbalanced forces?

.....

.....

2 An object is affected by balanced forces?

.....

.....

3 We increase the number of fire extinguishers on the cart?

.....

.....

4 We kick the ball with a certain force?

.....

.....

5 We press the brakes of the car?

.....

.....

Q1

Put (✓) or (x):

- 1 Kinetic energy is transferred when a moving car collides with another at rest. ( )
- 2 The kinetic energy of objects increases as their speed increases. ( )
- 3 A ball at rest on the ground has kinetic energy. ( )
- 4 When a roller coaster reaches the top, it stores kinetic energy. ( )
- 5 When an electric heater is turned on, it produces thermal energy. ( )
- 6 The energy stored in food is chemical energy. ( )
- 7 The energy stored in a spring is kinetic energy. ( )
- 8 Electrical energy is converted into light energy in the heater. ( )

Q2

Correct the underlined words:

- 1 A person at the top of a tower has the most kinetic energy. (.....)
- 2 Potential energy is transferred from your foot to the ball when you kick it. (.....)
- 3 The ability to do work or make a change is known as power. (.....)
- 4 Kinetic energy is the energy stored inside the body. (.....)
- 5 In an electric fan, electrical energy is converted into chemical energy. (.....)
- 6 An example of kinetic energy is gravitational energy. (.....)
- 7 An example of potential energy is sound energy. (.....)
- 8 The gasoline inside a car stores kinetic energy. (.....)

Q3

Complete the following sentences:

- 1 An object at the top of a hill has no ..... energy.
- 2 Energy is what affects different objects and makes them change their .....
- 3 The speed of a roller coaster increases as it moves towards the ..... of the ramp.
- 4 ..... energy increases as the speed of the object increases.

- 5 The energy used to carry a roller coaster up is .....
- 6 When a skateboarder reaches the top of a hill and stops, his kinetic energy is .....
- 7 When you push a small box with your foot, energy is transferred from ..... to .....
- 8 A ..... has chemical potential energy.
- 9 As the mass of an object increases, the ..... energy increases.
- 10 In a flashlight, ..... energy is converted into ..... energy.
- 11 As the height of an object increases, the ..... energy increases.
- 12 Chemical energy is considered ..... energy.
- 13 Light energy is considered ..... energy.
- 14 The forms of energy are divided into two main types: ..... and .....
- 15 When you clap your hands, ..... energy is converted into ..... energy.
- 16 In an electric fan, ..... energy is converted into ..... energy.
- 17 The factors affecting kinetic energy are ..... and .....

**Q4 Write the scientific term:**

- 1 It is the energy stored inside objects. (.....)
- 2 It is the energy possessed by an object due to its motion. (.....)
- 3 It is the energy that gasoline stores inside the car. (.....)
- 4 It is an energy that includes light energy. (.....)
- 5 It is the force that is affected by the heights of objects. (.....)

**Q5 What is meant by:**

- 1 Energy  
.....
- 2 Kinetic energy  
.....
- 3 Potential energy  
.....

**Q6 Answer the following questions:**

1 Mention the type of energy in the following:

a. A book on a table. ....

b. The energy stored in batteries. ....

2 Mention one form of kinetic energy.

**Movement of sound waves in the air – Movement of light waves in the air**

3 Mention one form of potential energy.

.....

**Q7 Give reasons for:**

1 A book on the table has energy.

.....  
.....

2 The food we eat has energy.

.....

3 A car on the road has energy.

.....

**Q8 What happens when:**

1 We turn on the gas oven.

.....

2 We turn on the fan in the house.

.....

3 We squeeze a spring.

.....  
.....

#### Q1 Put (✓) or (X):

- 1 The greater the angle of inclination, the greater the speed of the moving object is. ( )
- 2 When the speed of a car increases, its kinetic energy decreases. ( )
- 3 When a car stops suddenly, the passengers rush backward. ( )
- 4 The risks resulting from a collision increase with the increase in mass. ( )
- 5 Mass is one of the factors that affect speed. ( )
- 6 The direction of movement of an object affects the force of its collision. ( )
- 7 Energy before collision is different from energy after collision. ( )
- 8 The thermal energy produced by the pendulum is due to the force of gravity. ( )
- 9 The more speed doubles, the greater the kinetic energy. ( )

#### Q2 Correct the underlined words:

- 1 The speed decreases by increasing the distance. (.....)
- 2 The wrecking ball is a ball of light mass. (.....)
- 3 The material moves when the collision between two bodies occurs. (.....)
- 4 When the speed of a body increases, the force of the collision decreases. (.....)

#### Q3 Complete the following sentences:

- 1 A wrecking ball is made of .....
- 2 The speed increases by increasing the .....
- 3 The unit of speed is ..... or .....
- 4 Energy is transferred when ..... occurs.
- 5 A wrecking ball is used in .....
- 6 When a tennis ball hits the racket, we hear .....
- 7 The kinetic energy of a body increases with increasing its .....
- 8 The distance traveled by a body is measured in .....
- 9 Kinetic energy increases with the ..... and .....

- 10 Among the security and safety equipment in the car are the ..... and .....
- 11 Speed depends on two main factors, which are ..... and .....
- 12 The stronger ..... increases the risk during collision.
- 13 When the mass of a body increases, the force of collision .....
- 14 Fuel consumption increases in ..... cars.
- 15 The total energy before the collision is ..... the total energy after the collision.
- 16 The risk of collision increases by increasing the ..... and .....
- 17 Newton's cradle loses energy in the form of ..... and ..... energy.

Q4

**Write the scientific term:**

- 1 It's a physical quantity determined by distance and time. (.....)
- 2 It's the distance traveled during a unit of time. (.....)
- 3 It's a very heavy ball used to knock down buildings. (.....)
- 4 It is a safety equipment that prevents the body from moving forward when a car crashes. (.....)
- 5 It occurs when two things bump or crash each other. (.....)
- 6 It's a tool used to show energy transitions during collision. (.....)
- 7 It's an audible energy produced during a collision. (.....)
- 8 It's the energy stored in Newton's cradle when lifting a ball upwards. (.....)

Q5

**Answer the following questions:**

- 1 Mention a means of safety in the car.  
.....
- 2 Mention the equation by which the speed of a car can be determined.  
.....

3 Mention the energy transitions in Newton's cradle.

.....  
 .....

4 Mention the relationship between energy before collision and energy after collision.

.....  
 .....

5 Mention the relationship between the speed of the body and its kinetic energy.

.....  
 .....

6 Mention the relationship between the speed of the body and the force of collision.

.....  
 .....

7 A car traveled a distance of 200 kilometers in two hours. Calculate its speed.

.....  
 .....

8 Calculate the speed of a car that travels a distance of 500 km every 5 hours.

.....  
 .....

Q6

Give reasons for:

1 A driver uses the seatbelt while driving.

.....  
 .....

2 A larger body in mass causes more damage in collision.

.....  
 .....

3 The airbag is very important in the car.

.....  
 .....

4 In a Newton's cradle, energy loss occurs in the form of thermal energy.

.....  
 .....

- 5 The collision increases with increasing the mass.

.....  
.....

Q7

**What happens if:**

- 1 A ball collides with the tennis bat?

.....  
.....

- 2 The angle of inclination of a moving object increases?

.....  
.....

- 3 Two cars moving in the same direction collide?

.....  
.....

- 4 Two cars moving in opposite directions collide?

.....  
.....

- 5 Two bodies collide with each other?

.....  
.....

- 6 The speed of a body increases? (According to its kinetic energy)

.....  
.....

