Complete the following sentences:

1. The moving object is affected by the forces ..... while the static object is affected by the forces of .....
2. There are two types of forces, ... force and ..... force.
3. Kicking the ball is ..... force while using the hook is ..... force.
4. Humans use codes to transfer .....
5. Firefly are found on ..... trees.
6. Changing the Firefly to the pattern in which they flash is considered an ..... adaptation.
7. Travelers are used ..... to get the attention of the helicopter pilots to rescue them.
8. Raise the thumb up or down are a type of .....
9. One of the common methods of communication between humans and animals is the use of .....
10. ..... is consider as a code, the order of the letters carries meaning and transfer information.
11. Vehicles equipped with extinguishers move when air is emitted due to the force of .....
12. In order for any object to move, it needs ..... effects on it.
13. The umbrellas provided to the jet truck help to reduce .....
14. To move a car more quickly, you must ..... the thrust (قدرته) of the engine.
15. Objects moving in the air are affected by a friction force in ..... direction of its movement.
16. When a car moves forward, we infer (يستدل) its movement by changing its .....
17. Objects whose position does not change are considered ..... objects
18. During a tug-of-war game, if each team pulls the tug-of-war with equal force, the forces are .....
19. The bag on your back is affected by two forces ..... and .....
20. The fall of the apple from the tree is the ..... force, while kicking the ball is ..... force.
21. There are two types of forces ..... and .....
22. ..... is a stored energy.
23. Scientists divide energy into two types, ... energy and ..... energy.
24. ..... is the force that causes objects to move a certain distance.
25. In the electric fan, the ..... energy is changed into ..... energy.
26. In the flashlight, the ..... energy is changed into ..... energy.
27. Factors affecting kinetic energy ..... and .....
28. Speed measurement unit ..... and .....
29. From the safety and security equipment in the car ..... and .....
30. Speed depends on two main factors ..... and .....
31. The danger of collision increases with the increase of the ..... and .....
32. As the object's ..... and ..... increased, the danger of collision .....
33. A Newton's cradle loses energy in the form of ..... energy and ..... energy.
34. Chemical energy is considered as ..... energy.
35. Light energy is considered as ..... energy.

36. When increasing body mass, its potential energy .....
37. Energy forms are divided into two basic types: ..... and .....
38. When you clap your hands, the ..... energy is transformed to ..... energy.
39. The wrecking ball is used in .....
40. When the tennis ball hits the racket, we hear .....
41. The kinetic energy of the body increases with the increase of .....
42. The distance travelled by the object is measured in units of .....
43. As the force of ..... increases, risks have increased.
44. As the object's mass increases, the force of collision .....
45. When balls of a Newton's cradle collide, ... energy and ..... energy are produced.
46. Total energies before collision ..... total energies after collision.
47. There are two basic types of force which are ..... and .....
48. The potential energy depends on ..... and .....

Write the scientific term:

1. The forces that pull objects downward in the direction of the Earth. (.....)
2. Changing the position of an object relative to a fixed point. (.....)
3. The movement of the body from one place to another. (.....)
4. The force that arises between the surfaces of two objects in contact and affects in an opposite direction to the movement of the object. (.....)
5. The ability to do work. (.....)
6. The amount of energy required to move an object a distance through the force acting on it. (.....)
7. The influence which changes the energy to be able to do work. (.....)
8. Stored energy inside an object. (.....)
9. A force that arises between the surfaces of two objects in contact. (.....)
10. A force that pulls objects down towards the ground. (.....)
11. The energy that the body possesses due to its movement. (.....)
12. Energy that helps to moving from one place to another. (.....)
13. The energy that contributes to the movement of an object. (.....)
14. The force that is affected by the height of the objects. (.....)
15. A huge ball made of steel. (.....)
16. The distance traveled during the unit of time. (.....)
17. A very heavy ball used to destroy buildings. (.....)
18. A physical quantity determined by distance and time. (.....)
19. Safety equipment that prevents the body from moving forward when the car collides. (.....)
20. Hitting an object with another object. (.....)
21. Audible (can be heard) energy produced during a collision. (.....)
22. Energy stored by the pendulum when lifting a ball up. (.....)

23. The energy that gasoline stores inside the car. (.....)
24. Distance traveled during the unit of time. (.....)
25. A tool used to clarify energy transformations during a collision. (.....)
26. An effect that changes the state of the body from static to movement or vice versa. (.....)
27. The force that moves things away from you. (.....)
28. The force that moves objects towards you. (.....)
29. A force that arises between two touching surfaces. (.....)
30. A force that arises between two touching surfaces, and affects in an opposite direction to the direction of movement of the body. (.....)
31. A system that helps a person to realize and avoid danger. (.....)

Correct the underlined words:

1. Animals can communicate by writing. (.....)
2. Firefly communicate with each other using the sense of smell. (.....)
3. From codes that help those around us to know if we are happy or angry is the fire. (.....)
4. The light used in the communication between the Firefly is produced by reflecting the moonlight. (.....)
5. Human communicates by echolocation. (.....)
6. Writing is one of the common ways of communication between humans and animals. (.....)
7. When exerted pushing force on the body increases, the body mass increases. (.....)
8. The speed of the bike decreases when you press the brakes due to the force of gravity. (.....)
9. The leaves of trees move due to the repulsion force of air. (.....)
10. When a force affects in opposite direction to movement of the object, its speed increases. (.....)
11. A car is moving at a speed of (80km/ h) and after 3 hours it has travelled a distance of (380 km). (.....)
12. The form of energy that can be seen is thermal energy. (.....)
13. Upon collision, part of the energy is lost in the form of **light** energy. (.....)

Give reasons for:

1. The speed of the jet plane is greater than the speed of the truck.

   .....

2. The car begins to move when the gases come out of the fire extinguishers fixed on it.

   .....

3. The object does not move when it is affected by balanced forces.

   .....

4. The car stops moving when it collides with a concrete bumper.

   .....

5. The effect of friction in each car is different from the other.

   .....

6. Travelers are make sure to have mirrors with them on their trips.

.....

7. When a ball hits the floor of the room, it stops after a while.

.....

8. The ball returns again after being thrown upwards.

.....

9. The beginning of the movement of the roller coaster needs motors equipped with electricity.

.....

10. The roller coaster does not need electricity when moving down the ramp.

.....

11. The car speed decreases or stops when the brakes (الفرامل) are applied.

.....

12. The body moves when unbalanced forces affect it.

.....

13. The distance traveled by the car varies according to its mass at the same time.

.....

14. The book on a table has energy.

.....

15. The roller coaster does not need electricity during its fall.

.....

16. There are energy changes inside the roller coaster.

.....

.....

17. All things around us have stored potential energy.

.....

18. Natural gas is a stored chemical energy.

.....

19. The book on a table has energy.

.....

20. The food we eat has energy.

.....

21. The car on the road has energy.

.....

22. It is always advisable to wear a seat belt while driving.

.....

23. There is a is a relationship between speed and kinetic energy.

.....

24. Drivers are advised to wear a seat belt while driving.

.....

25. The largest object in the mass causes greater damage upon collision.

.....

26. The airbag is very important in the car.

.....

27. It is advised not to use fast drive for cars.

.....

28. In Newtonian cradle, a loss of energy occurs in form of thermal energy.

.....

29. There is a loss of energy when the balls of the Newton's cradle collide.

.....

30. The risk of collision increases with the increase in mass.

.....

31. The car takes less time than the bike for the same distance.

.....

32. Glass is from transparent materials.

.....

33. Construction workers use a wrecking ball in their work.

.....

Mention the type of power as follows:

1. The book on a table. .....
2. Energy stored in batteries. .....

Mention the scientific reason:

1. The apple falls down in the direction of the ground.

.....

2. The pendulum balls stop after some time.

.....

3. Serious damage results from the collision of two objects moving in opposite directions.

.....

4. The ball moving on a surface moves a distance and then stops.

.....

What happens if\ when:

1. A suitable force acts on a static object?

   .....

2. Increase the number of fire extinguishers fixed on the vehicle?

   .....

3. An unbalanced force acts on an object.

   .....

4. You put a book on a high shelf and it falls?

   .....

5. The roller coaster climbs up the ramp.

   .....

6. The classroom door is opened.

   .....

7. Pressing on the car brakes.

   .....

8. Kick the ball with suitable force.

   .....

9. The train moves downhill.

   .....

10. A player kicks a ball.

    .....

11. The ball falls from the top of a slope.

    .....

12. The compressed spring releases.

    .....

13. There was no energy on Earth planet.

    .....

14. The gas oven is turned on.

    .....

15. The fan is turned on at home.

    .....

16. A spring is pressed.

    .....

17. The car stopped while driving suddenly.

    .....

18. Reduce the time it takes a car to travel a specific distance.

    .....

19. The ball hits the tennis racket.

.....

20. Increasing the angle of inclination of the moving object.

.....

21. Two objects collide with each other?

.....

22. A truck and a car collide moving in the opposite direction?

.....

23. Two cars collide moving in the same direction.

.....

24. Two cars collide moving in the opposite direction.

.....

25. Increasing the speed of an object relative to its kinetic energy.

.....

Mention an example of:

1. Pushing and pulling force.

.....

.....

2. A movement that can be easily seen and another that cannot be seen.

.....

.....

3. An object that is affected by balanced forces. .....
4. An object affected by unbalanced forces. .....
5. Types of energy that cannot be seen but can be measured. .....

Mention (State):

1. One of the forms of kinetic energy.

.....

2. The difference between potential energy and kinetic energy.

.....

.....

3. The difference in the distance traveled by two different cars in the mass for a time of 30 minutes.

.....

4. The importance of: Seat belt- airbag.

.....

.....

Explain

1. The state of the body when it is affected by balanced and unbalanced forces.

.....

.....

2. The difference between balanced forces and unbalanced forces through a tug-of-war game.

.....

.....

3. How bats can locate the position of their prey?

.....

.....

4. What are the energy transformations that occur upon collision.

.....

5. The relationship between energy before the collision and energy after the collision.

.....

6. The relationship between the speed of the object and its kinetic energy.

.....

7. The relationship between the object and the force of the collision.

.....

Compare between:

1. Pushing force and pulling force with examples?

.....

.....

.....

.....

2. Potential energy and kinetic energy with examples.

.....

.....

.....

.....

3. Potential energy and kinetic energy.

.....

.....

4. Energy changes during the rise and fall of the roller coaster.

.....

.....

5. Acacia tree and kapok tree in terms of:

   Acacia tree have ..... leaves and its importance .....

   Kapok tree have ..... leaves and its importance .....

6. Transparent objects and opaque objects in terms of: Definition

   Transparent objects .....

   Opaque objects .....

7. Balanced and unbalanced forces in terms of: Definition

   Balanced forces .....

   Unbalanced forces .....

8. The force of collision in the following cases:

   A. Two cars are moving in the same direction. .....

   B. Two cars are moving in the opposite direction. .....

9. The collision of two cars moving in the same direction and two cars moving in the opposite direction in terms of (the severity of the damage caused them in both cases).

   .....

   .....

Calculate:

1. The speed of a bicycle moving a distance of 200 meters in 5 minutes.

   .....

2. The speed of a car traveling a distance of 200 kilometers every two hours.

   .....

3. The speed of a car traveling a distance of 500 kilometers every 5 hours.

   .....

4. A car travels 200 kilometers in two hours, Calculate the speed at which the car moves.

   .....

5. The speed of a train traveling a distance of 200 kilometers in a time of two hours.

   .....

6. The speed of a car traveling a distance of 300 kilometers in a time of 3 hours.

   .....

7. The speed of a bicycle traveling a distance of 100 meters in a time of two minutes.

   .....

Answer the questions.

1. The shockwave truck is the fastest truck in the world**, State the reason.**

   .....

2. **What happens to:** The static object when it is affected by balanced forces? .....

3. **What** are the conditions that must be existed for the body to be in motion? .....

4. **When** you sit on the chair without moving, **what is the name of the force that affects you down?**

.....

5. **What** is the force that affects the movement or stopping of the car?

.....

6. **What is the relationship between energy and work?**

.....

7. **What** are the properties of energy?

.....

8. **Determine** the type of energy that the roller coaster has when it reaches the top of the ramp?

.....

9. **What** factors does gravitational potential energy depend on?

.....

10. **What** is the energy form which changes into when the roller coaster rushes on the sloping surface downward.

.....

11. **Name one of the forms of the potential energy.**

.....

12. **What are the factors** that depend on the speed of the moving object?

.....

13. **What is meant by?** The collision.

.....

14. **Which of the following consumes less fuel for the truck or the small car?** (Small Car)

15. **Show** the forms of the energy lost when the balls of the Newton's cradle collide.

.....

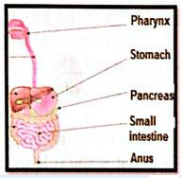
16. If two cars move for (10) seconds, the first car covers (50) meters and the second car (80) meters, **Which car is faster?**

.....

17. The armadillo resorts to hiding in burrows during the day to avoid extreme heat, **What is the type of adaptation of this animal?** .....

18. If the mass of children is equal, any of them has more potential energy? .....

19. **The opposite figure represents the digestive system, answer the following questions:**



1. What is the organ that pushes food from the mouth into the esophagus? .....
2. What is the function of the small intestine? .....

Cross out the odd word :

- Glass - Book - Water – Air. (.....)

Complete the following statements using the following words:

(Friction - Gravity - Energy - Inhalation - Exhalation - Behavioral - structural)

1. The long ears of the fennec fox to keep the body cool are considered ..... adaptation.
2. The diaphragm rises up during the process of .....
3. Ability to do work is called .....
4. The force that pulls objects down towards the center of the Earth is the force of .....

(Codes - Thermal - Backward - Movement - Reflection - Refraction - forward)

1. When an object falls from top to bottom, the potential energy changes into ..... energy.
2. Different languages are considered as .....
3. The property of ..... helps to see yourself in the mirror.
4. When the car suddenly stops, passengers rush to .....

Mark (√) in front of the correct sentence and (X) in front of the wrong ones:

1. During landing of the roller coaster, the kinetic energy is converted into potential energy. (.....)
2. The umbrellas that are supplied to the truck help the shockwave to slow down and stop. (.....)
3. Fish need clean water to survive. (.....)
4. The engine of the truck is much stronger than the engine of the plane. (.....)