

Lesson 1

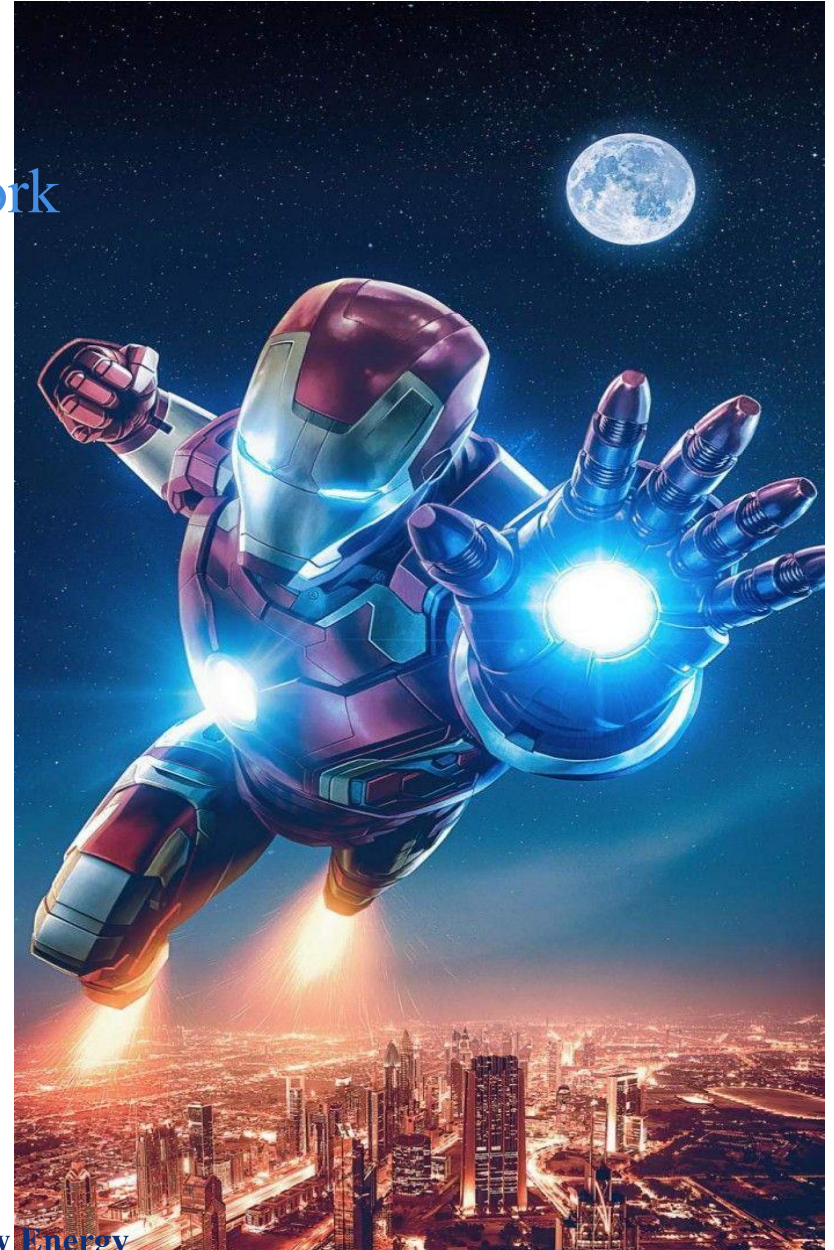
Getting to Know Energy



What is Energy?

The ability within anything that can:

- 1) Energy able to move object or doing work
- 2) Energy able to storage
- 3) Energy able to transformed



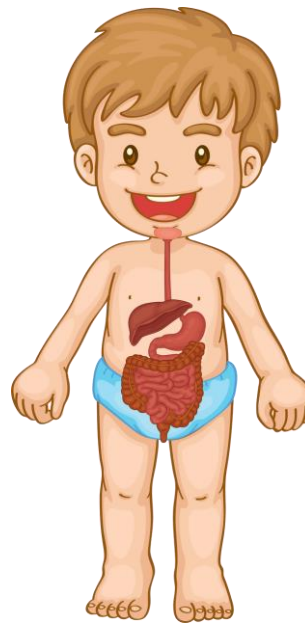
What is Energy?

The ability or capacity to do work, such as the **energy in our bodies** that allows us to move. Energy can be transformed and stored in many forms.

Energy is stored in the form of food.



Eating and digesting food to create energy.



We have the energy to kick a ball.



What is Energy?

The ability or capacity to do work, such as the **heat energy** in an engine is converted into mechanical energy that makes a car move.

Energy is stored in the form of oil.



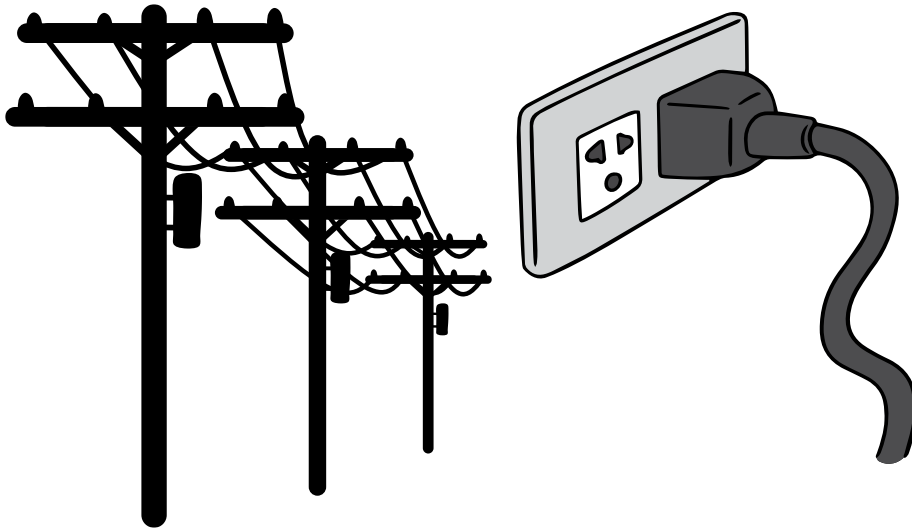
Refueling your car keeps it running.



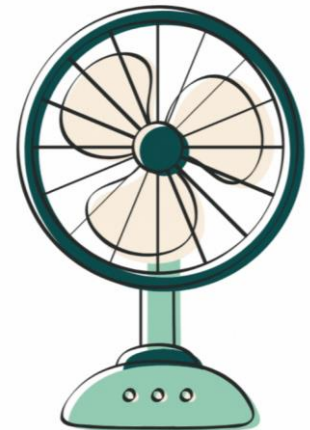
What is Energy?

The ability or capacity to do work, such as converting **electrical energy** into light in a light bulb or making a fan motor spin.

Energy is stored in the form of electricity.



Electricity can make electrical appliances work.



What is Energy?

The ability or capacity to do work such as **heat energy** from burning fuel, which can be used to cook food.

Energy is stored in the form of charcoal and firewood and burned to provide heat energy.



Thermal energy can be used to cook food.



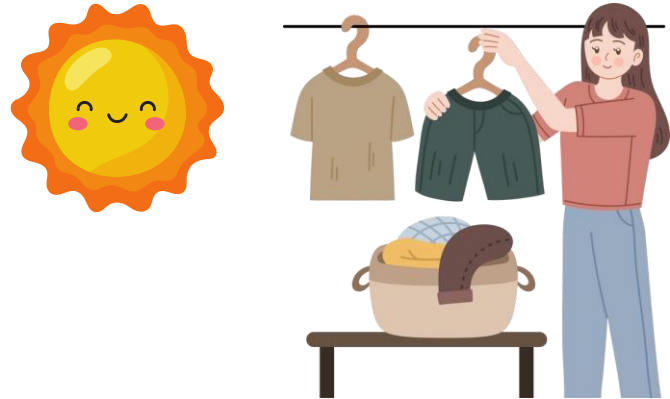
Answer the Question

In the picture, what types of energy are stored and how is the energy used?

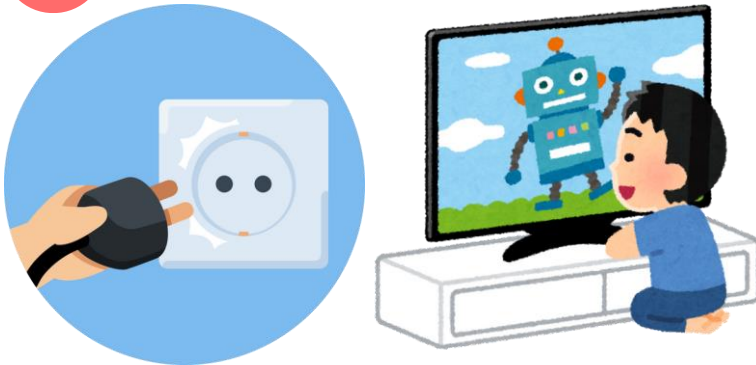
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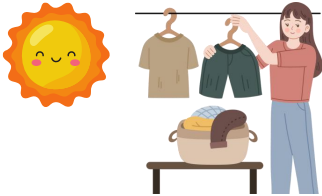
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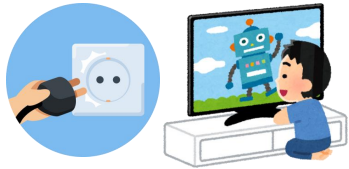



Answer the Question

In the picture, what types of energy are stored and how is the energy used?

- 

1 Storing energy in the form of cooking gas
Burning as heat energy that can be used to cook food
- 

2 Storing energy in the form of the sun
Sunlight provides heat energy that can be used to dry clothes.
- 

3 Storing energy in the form of electricity
Electricity can be used to turn on the TV.
- 

4 Storing energy in the form of gasoline
Refueling your motorcycle to run the engine

Answer the Question

In the picture, when mom tells you to go fill water, what kind of energy does it contain?

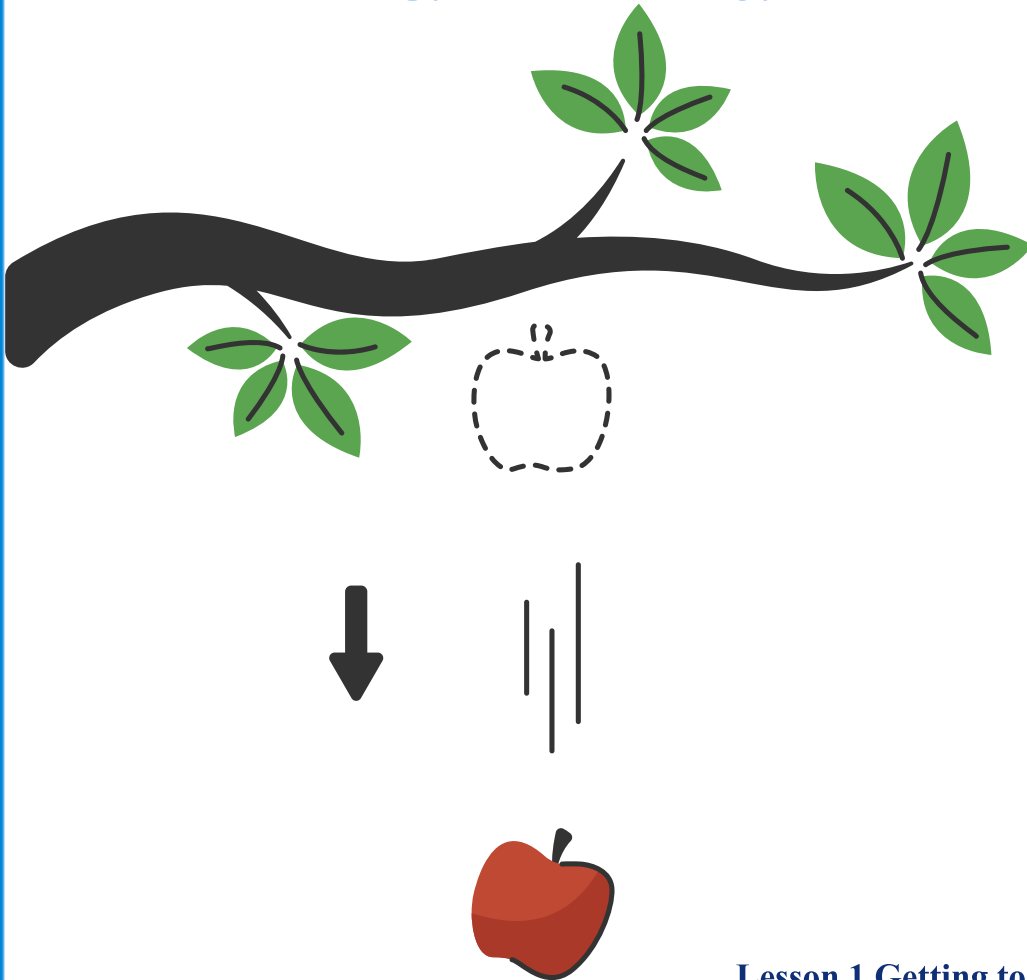
- Answer
- 1) A mother changes the energy in the body into sound energy.
 - 2) A kid converts body energy to lift a bottle to pour water.
 - 3) Refrigerator changes the electrical energy into cold.



Potential Energy and Kinetic Energy

Potential Energy: The energy stored in an object when it is at a high altitude and is being pulled down to the ground or flows to a lower place.

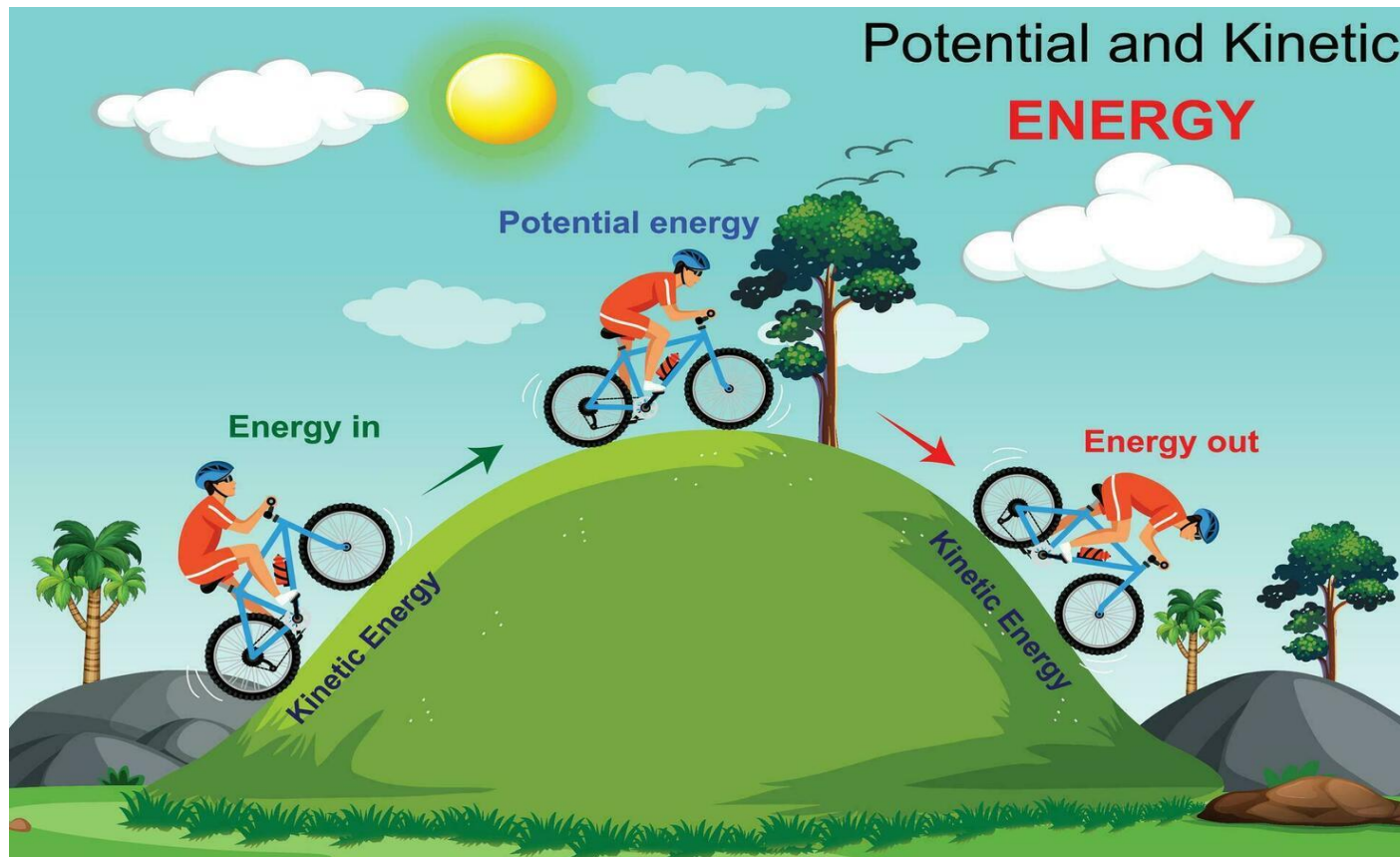
Kinetic Energy is the energy that occurs when an object moves.



Potential Energy and Kinetic Energy

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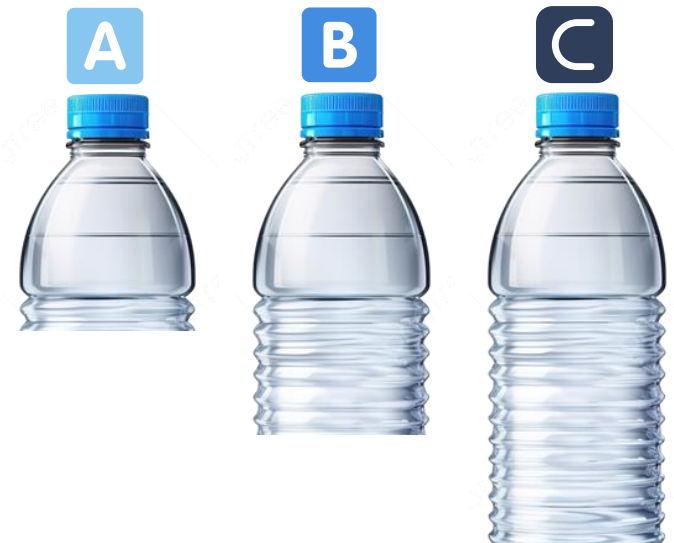
Potential Energy and Kinetic Energy

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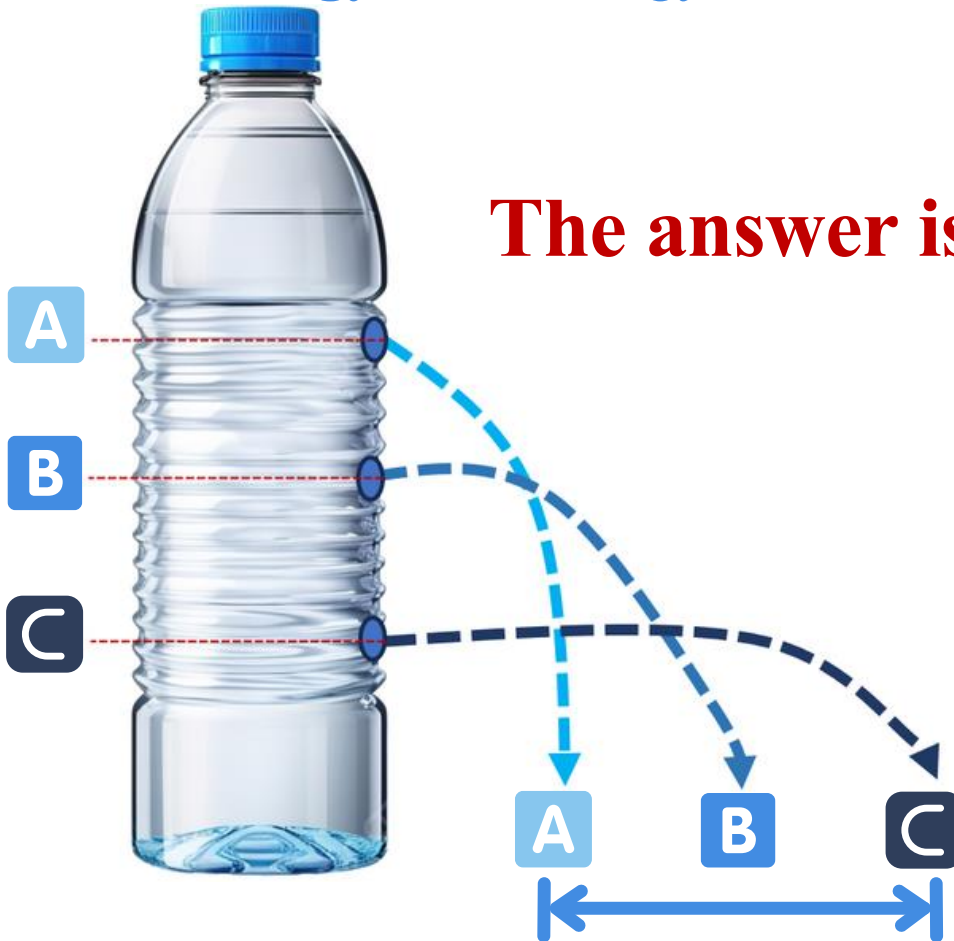
Kinetic Energy is the energy that occurs when an object moves.

The answer is C.

Which potential energy number is the highest?



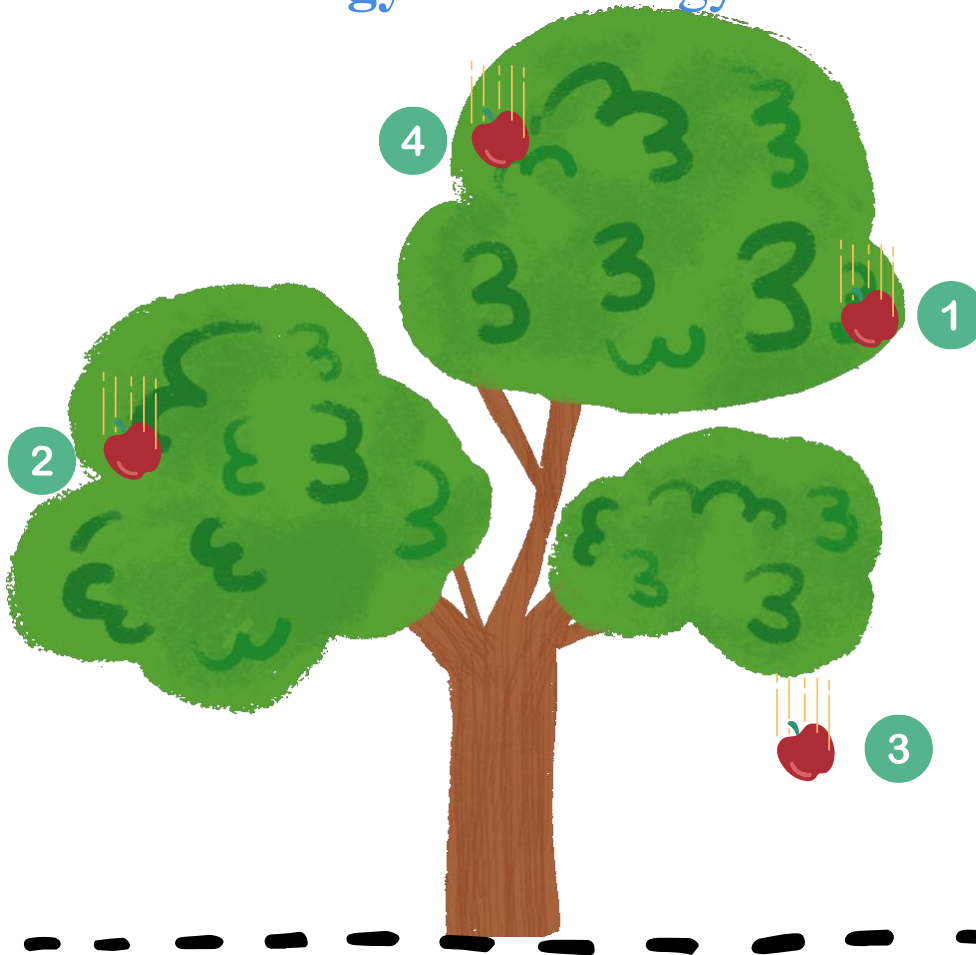
Which kinetic energy number is the highest?



Potential Energy and Kinetic Energy

Potential Energy: The energy stored in an object when it is at a high altitude and is being pulled down to the ground or flows to a lower place.

Kinetic Energy is the energy that occurs when an object moves.



Answer the Question

Arrange the apples in order of their potential and kinetic energy from greatest to least.

The answer is

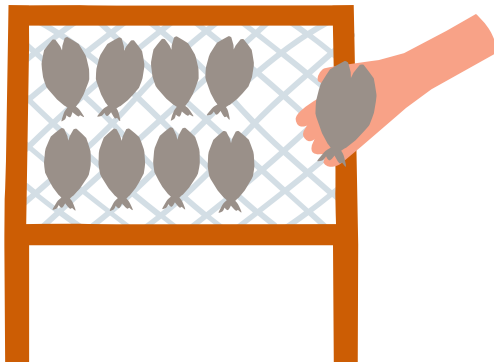
$$4 > 1 > 2 > 3$$

Energy Sources Around Us

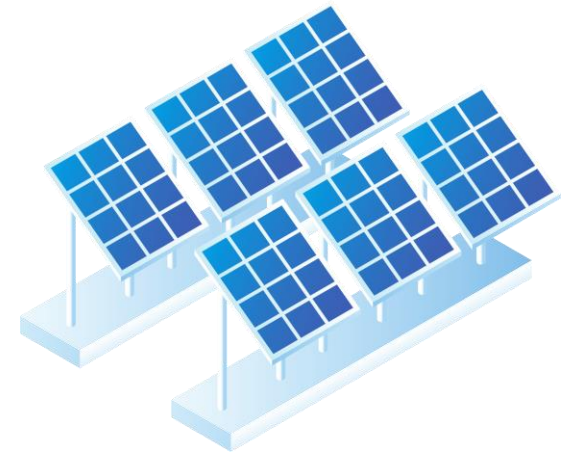
Solar energy



Solar fish drying



Generating electricity
with solar cells



Solar water heater



Energy Sources Around Us

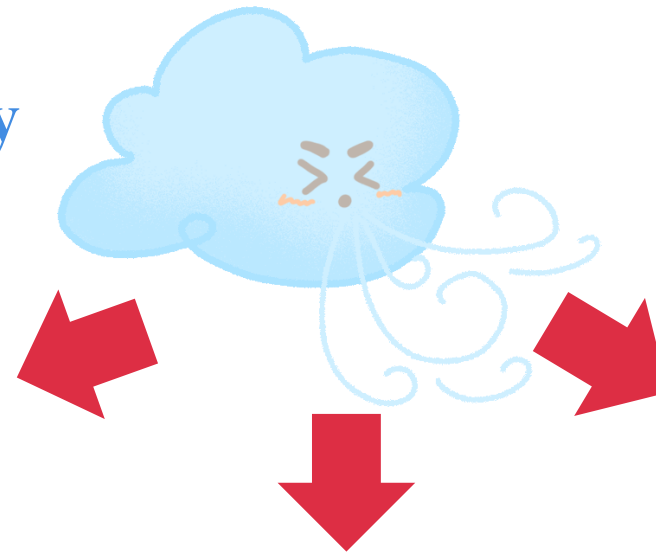
Solar energy can be used to generate electricity using solar cells.



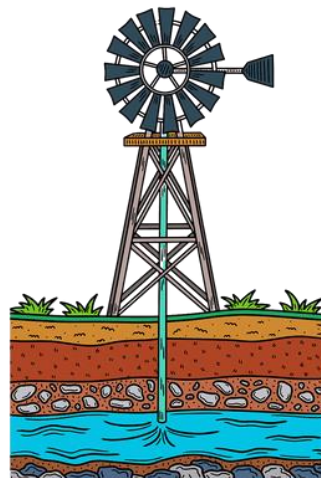
Energy Sources Around Us

Wind Energy

Wind power propels sailboats to sail at sea.



Water pumping windmill



Generating electricity with wind turbines



Energy Sources Around Us

Wind energy can be used to generate electricity using wind turbines.



Energy Sources Around Us

Hydropower

Water wheel



Generating electricity
with hydroelectric power



Watermill



Energy Sources Around Us

Hydropower can be used to generate electricity using a dam system.



Energy Sources Around Us

Petroleum/
Fossil Energy



Generating electricity
from natural gas



Refueling your car



Cooking gas



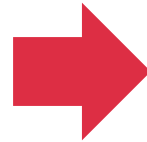
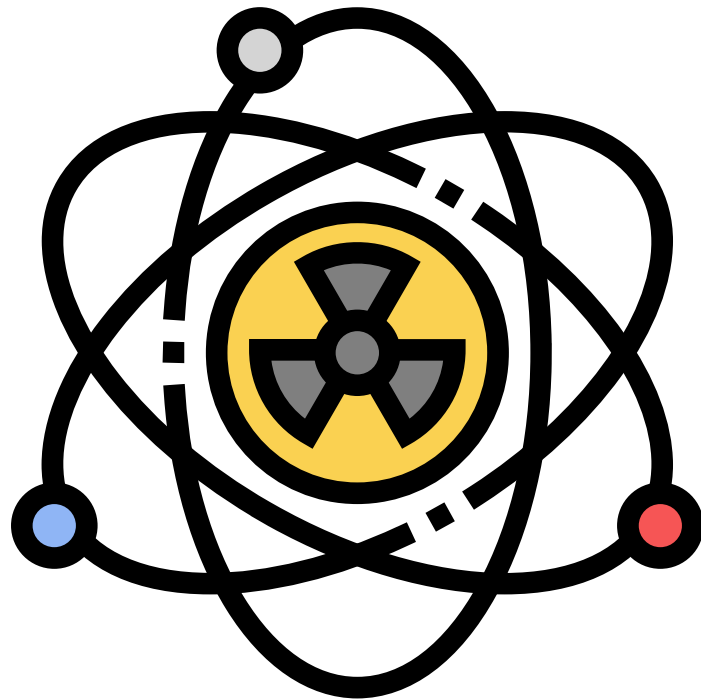
Energy Sources Around Us

Fossil energy can be used to generate electricity with natural gas/ coal power plants.



Energy Sources Around Us

Nuclear energy

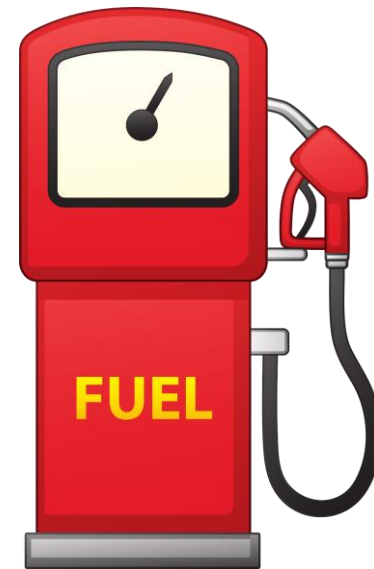
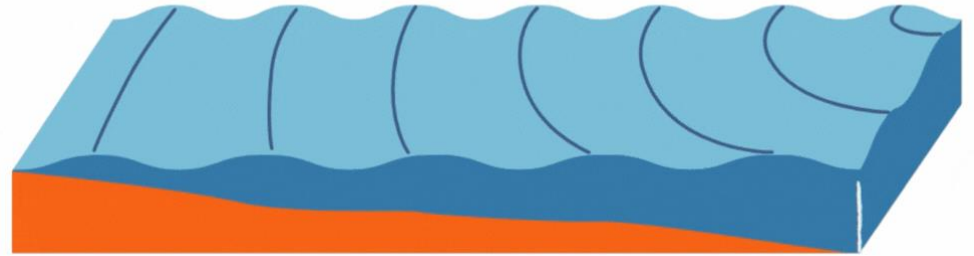
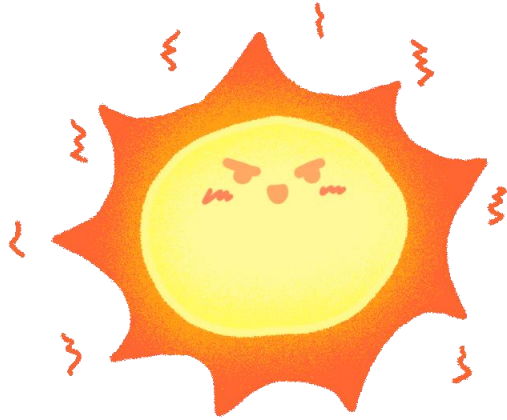


Electricity generation
from nuclear power plants



Answer the Question

What energy sources are shown in the picture and how can they be used?



The End of Lesson 1



Interested in joining an activity with Delta?

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