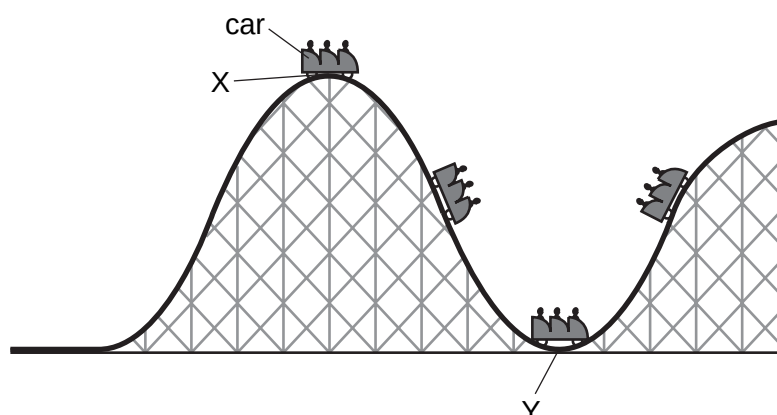


Question 1

The diagram shows part of a rollercoaster ride with the car at different positions.

The car runs freely down from position X to position Y and up the hill on the other side.



What happens to the kinetic energy and to the gravitational potential energy of the car as it moves from position X to position Y?

	kinetic energy	gravitational potential energy
A	decreases	decreases
B	decreases	increases
C	increases	decreases
D	increases	increases

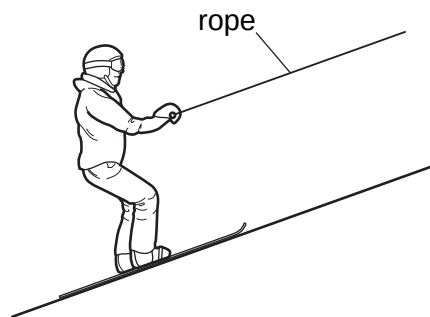
Question 2

Which energy resource does not have the Sun as the original source?

- A** coal
- B** geothermal
- C** hydroelectric
- D** wind

Question 3

A skier is pulled up a short straight slope at constant speed by a rope.



The tension in the rope is 100 N and there is a combined frictional and air resistance force of 20 N acting on the skier.

The slope is 10 m long and the skier rises 1.5 m vertically.

How much work is done by the rope pulling the skier up the slope?

- A** 120 J **B** 150 J **C** 1000 J **D** 1200 J

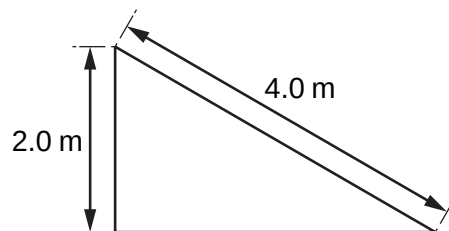
Question 4

A box is initially at rest at the top of a rough slope.

The box slides down the slope.

The weight of the box is 20 N.

The slope is 4.0 m long and 2.0 m high.



The box does 10 J of work against friction as it slides down the slope.

What is the speed of the box as it reaches the bottom of the slope?

- A** 5.4 m/s **B** 6.3 m/s **C** 7.1 m/s **D** 9.5 m/s