

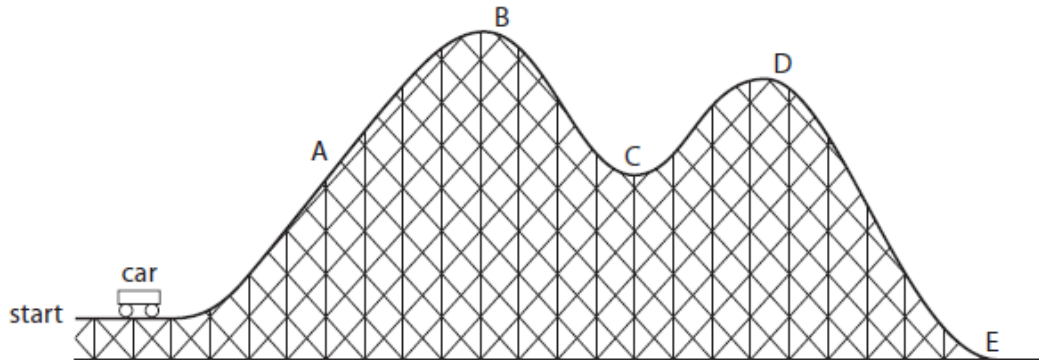
Class VIII Physics
Work, Energy & Power

Week 2

Date: 12 to 16 April 2020

1. The diagram shows a roller coaster ride

The car is pulled slowly from the start to point B and then released.



- a. Choose letters from the diagram to complete this sentence.
The car has the most gravitational potential energy at point..... and it goes fastest at point.....
- b. The mass of the car is 900kg. The max speed of the car is 15m/s.
Calculate the max Kinetic energy of the car.
- c. State the max gravitational potential energy
.....
- d. Find the height of point B

2. A shopping center has escalators to move people between floors.

(a) A man of mass 78kg steps on to an escalator.

The escalator lifts him a height of 5m.

i. State the equation linking GPE, mass, g and height.

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ii. Show that the GPE gained by the man is about 4000J

iii. State the work done on the man and give the unit.

Work done=.....Unit.....

(b) The escalator is powered by a 7.5kW electric motor. The escalator lifts 30 people each minute. Each person has a mass of 78 kg. Calculate the efficiency of the escalator.

Learning Links:

KE & GPE: <https://youtu.be/HEqY77RHnV0>

Efficiency & Sankey diagram: <https://youtu.be/Dw50SCHEzOM>