

## 7.2 Potential energy and kinetic energy

1. Fill in the blanks by using the words given:

|              |        |           |         |            |          |
|--------------|--------|-----------|---------|------------|----------|
| kinetic      | Earth  | elastic   | height  | compressed | position |
| displacement | moving | condition | lift up | stretched  | higher   |

- a) Potential energy is energy stored in a body due to its \_\_\_\_\_ or \_\_\_\_\_.
- b) Gravitational potential energy is the work done to \_\_\_\_\_ an object until a certain \_\_\_\_\_ from the surface of the \_\_\_\_\_.
- c) The higher the position, the \_\_\_\_\_ the gravitational potential energy.
- d) Elastic potential energy is the energy possessed by an \_\_\_\_\_ object which is \_\_\_\_\_ or \_\_\_\_\_ with  $x$  \_\_\_\_\_ from equilibrium position.
- e) \_\_\_\_\_ energy is the energy owned by a \_\_\_\_\_ object.

2. Match the type of energy involved in the situations below.

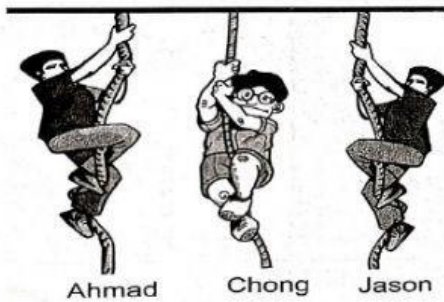


|                                |
|--------------------------------|
| Gravitational Potential Energy |
| Elastic Potential Energy       |
| Kinetic Energy                 |

3. Determine whether the statement given is TRUE or FALSE.

| Statement                                                           | TRUE/FALSE |
|---------------------------------------------------------------------|------------|
| i) A 100 g book on a table has gravitational potential energy.      |            |
| ii) 20cm spring has elastic potential energy when it is compressed. |            |

4. In a rope climbing competition, Ahmad, Chong and Jason climb as high as 6m, 4m and 5m respectively from the ground level the same time as shown in the diagram.



The masses of :  
Ahmad = 55 kg  
Chong = 70 kg  
Jason = 50 kg.

- a) Calculate the work done by Jason to climb the rope.

\_\_\_\_\_ J

- b) Calculate the gravitational potential energy of Ahmad and Chong.

Ahmad :

\_\_\_\_\_ J

Chong :

\_\_\_\_\_ J

- c) Compare the gravitational potential energy between Ahmad and Chong.

Ahmad has a \_\_\_\_\_ gravitational potential energy compared to Chong.

- d) Chong has lost in the climbing race. Explain why Chong use a greater power than Jason even though he got the last place.

Chong has done more \_\_\_\_\_ than Jason at the \_\_\_\_\_ time.

