

Topic 1 Assessment

Circle the letter of the best answer.

- Emily exerts a force of 30N on the painting that she carries 1.5m up the stairs. Her walk takes 15s. How much work does Emily do on the painting in all? $\text{Work} = \text{Force} \times \text{Distance}$
 - 2W
 - 45J
 - 33W
 - 85J
- Emily's friend Sophia tells her that if the painting is hung on her wall, it will have greater kinetic energy. Is Sophia correct?
 - No, the energy will not change if it is hung up.
 - Yes, Sophia is correct
 - No, hanging the painting increases its potential energy
 - No, the painting cannot have kinetic energy.
- As Emily is hanging the painting on her wall, she accidentally drops it. Which statement describes how the energy of the painting transforms as it fall to the floor?
 - Energy is created as potential energy transforms into kinetic Energy
 - Energy is destroyed as potential energy transforms into kinetic Energy
 - Energy is conserved as potential energy transforms into kinetic Energy
 - Energy is conserved as kinetic energy transforms into potential Energy

The table shows the kinetic and potential energy of a roller coaster cart at four different locations along a track. **Use the table to answer question 4.**

Location	Kinetic Energy (KJ)	Potential Energy (KJ)
1	0	400
2	200	200
3	400	0
4	100	300

- At which location is the roller coaster cart at the greatest height?
 - 1
 - 2
 - 3
 - 4
- A person eats a sandwich, and much of the chemical energy from the food transforms into mechanical energy in the body. Which of the following statements is true about the process?
 - Energy is lost during the process
 - Energy is gained during the process
 - No energy is lost or gained during the process.

