Scientist: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per: \_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Energy Quiz 2 ESK 4.1**

**PE=*mgh* KE=**$\frac{1}{2}mv^{2}$ **g= 9.8m/s2**

**1)** Use the roller coaster image below to compare the amounts of Potential Energy, Kinetic Energy and Total Energy at each of the 4 labeled locations. Assume there is no friction involved. ALSO describe the speed at each spot (where it is going fast, medium and slow). *Don’t forget to explain WHY and HOW you know this!*

 **Location 1)**

 **Location 2)**

 **Location 3)**

 **Location 4)**



**ESK 4.2**

1. A boy rides a bike. He has a mass of 90 kg. The hill he rides down has a height of 10 m. Find his potential energy, kinetic energy, and total energy at the points shown below.

**

2) A bug of mass .02 Kg is flying at a speed of 2 m/s and a height of 5 meters in the air. What is the total energy of the bug?

*To get Mastered:*

A 4kg ball starts from rest and rolls down a hill. At the bottom of the hill the ball has a kinetic energy of 50 J. What was the height of the hill?