Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_\_\_\_\_

**Conservation of Energy Poster Project** (25 pts)

**Directions:** Create a poster for the following situation:

Two objects are thrown off a 50 m high cliff. Object #1 is throw straight up at a speed of \_\_\_\_\_\_\_\_\_\_\_\_ m/s. On its way back down, it barely misses hitting the cliff and falls on the ground below.

Object #2 is thrown at the same speed but at a 600 angle above the horizontal.

Both objects have a mass of 2 kg.

**Draw the paths of each object and indicate the following positions on each graph:**

* The instant the object is thrown
* The maximum height
* The instant the velocity is -20 m/s
* The instant the object is 15 m below the cliff
* The instant the object strikes the ground

**For each position, label the object’s:**

* Velocity
* Height
* Kinetic energy
* Potential energy
* Total energy

Next to KE, indicate what percentage of the total energy it is at that time. Do the same for PE.

**Rubric:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Initial | Max height | @ -20 m/s | 15 m below  | Ground |
| Velocity |  |  |  |  |  |
| Height |  |  |  |  |  |
| KE (with %) |  |  |  |  |  |
| PE (with %) |  |  |  |  |  |
| TE |  |  |  |  |  |