

Physics 200:

Graphical Energy Conservation Practice:

Name: _____

1. A car drives up a hill from position 0 (bottom of hill) to position 1 (half way up) to position 2 (top of the hill). Its speed is constant the entire time. The car's KE_0 and PE_0 are shown.

- Draw the remaining energy bars in a sensible manner.
- Add notes to each non conservative work (W_{NC}) and other energy (OE), indicating the type of energy or what sort of work is being done.

Changes in Mechanical Energy

Position 0 to 1

$$KE_0 + PE_0 + W_{NC} = KE_1 + PE_1$$

Total Mechanical E_0 Total Mechanical E_1

Position 1 to 2

$$KE_1 + PE_1 + W_{NC} = KE_2 + PE_2$$

Total Mechanical E_1 Total Mechanical E_2

car Engine (gas)

Conservation With All Forms of Energy

$$KE_0 + PE_0 + OE_0 = KE_1 + PE_1 + OE_1 = KE_2 + PE_2 + OE_2$$

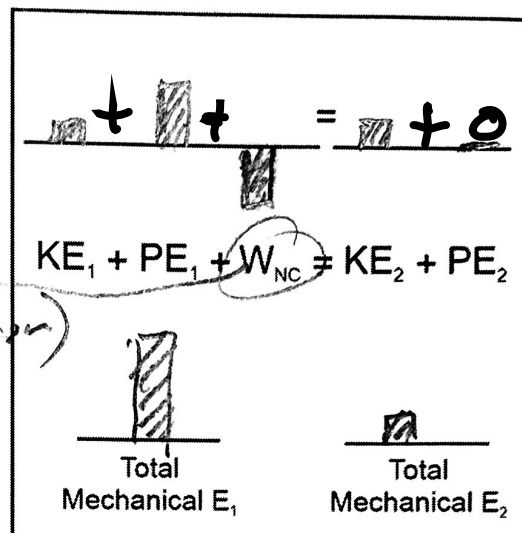
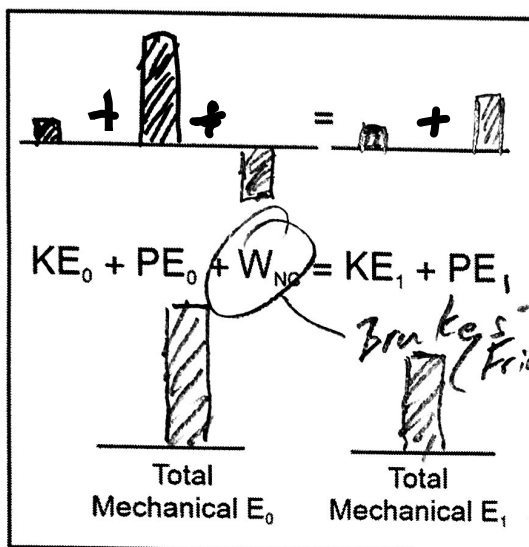
Total E_0 Total E_1 Total E_2

gas *gas* *gas*

2. A car drives down a hill from position 0 (top) to position 1 (half way down) to position 2 (bottom of the hill). Its speed is constant the entire time. The car's KE_0 and PE_0 are shown.

- Draw the remaining energy bars in a sensible manner.
- Add notes to each non conservative work (W_{NC}) and other energy (OE), indicating the type of energy or what sort of work is being done.

Changes in Mechanical Energy



Conservation With All Forms of Energy

