

5. Gravitational potential energy is calculated as the mass times the acceleration of gravity times the height above some reference level. We will choose the surface of the Earth as our reference level.

$$PE = m g h$$

$$PE = (2.0 \text{ kg}) (9.8 \text{ m / s}^2) (10 \text{ m})$$

$$PE = 196 \text{ J}$$

The monkey is responsible for getting the coconut to the height of 10 m, so he had to do work of 196 J against gravity.