Giant Pendulum

Precision: high

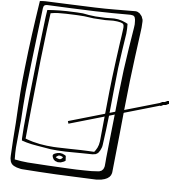Difficulty: intermediate

Formula

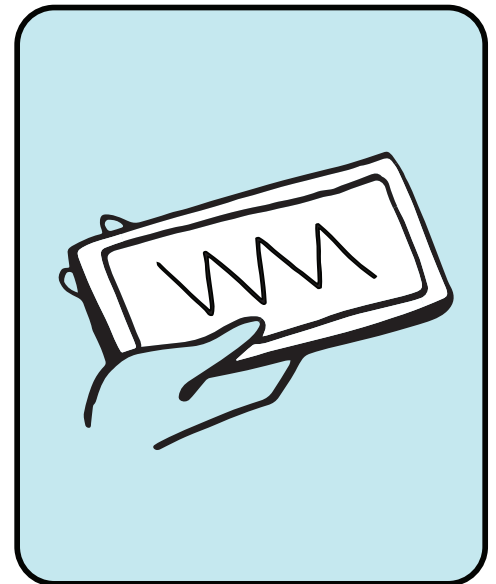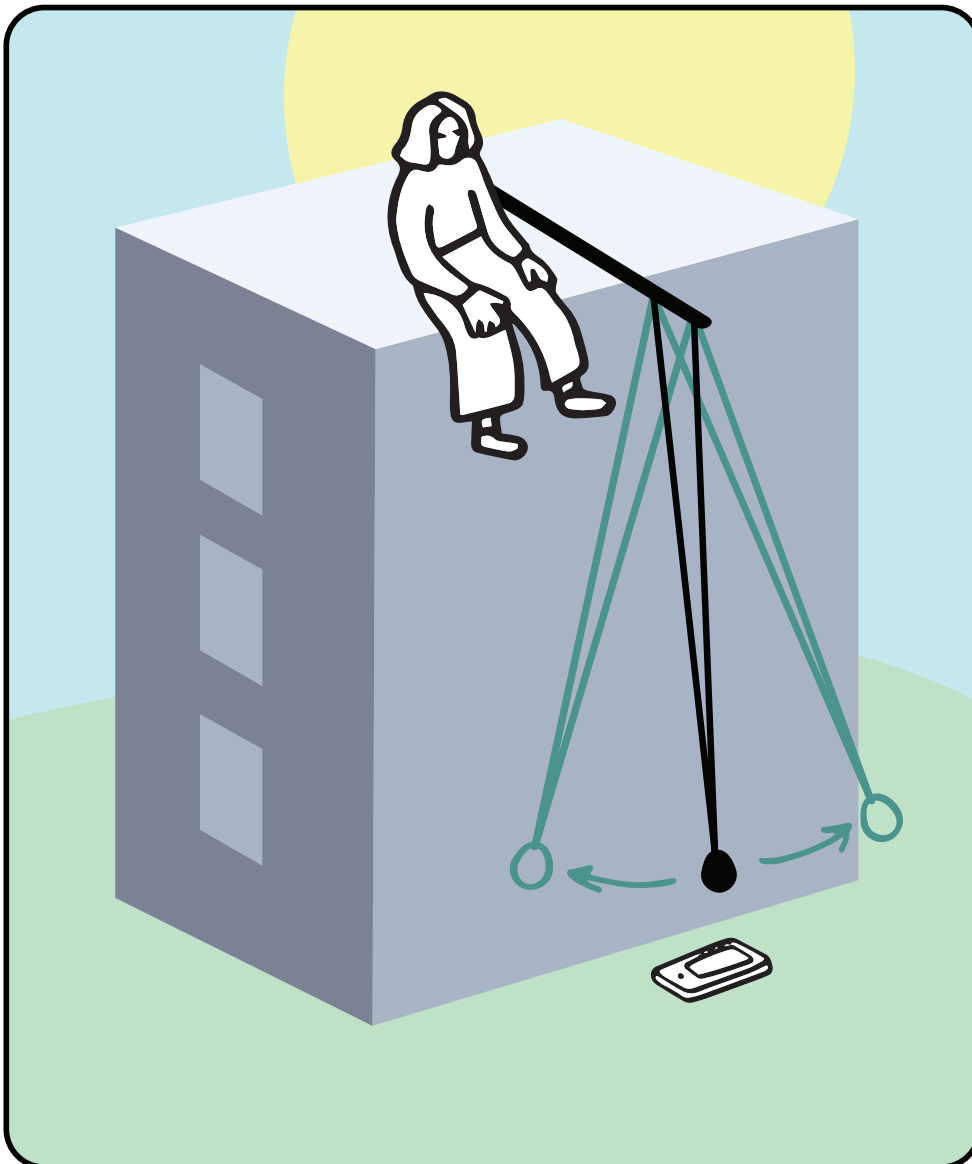$$H = g\left(\frac{T}{2\pi}\right)^2$$

Material

1 long rope

1 smartphone

Sensors: **stopwatch, camera, accelerometer, gyroscope, magnetometer, light sensor, proximity sensor, microphone**

Make a giant pendulum the size of the building. Use one of the sensors to measure its period.

T = pendulum period,
g = 9.8 ms^{-2}

The pendulum must not rotate in all directions, it must only swing.