

Foucault Pendulum Post-Activity Survey **Answers**

1. Imagine we are engineers interested in showing that the Earth rotates and measuring how fast it rotates. What is a good way to proceed?

Use a Foucault pendulum.

2. What do you need to build an experimental Foucault pendulum?

A pendulum and a moving platform.

3. What makes the pendulum oscillate?

Gravitational force.

4. What effect do you think the Earth's rotation has on a NASA rocket?

It causes the rocket to deviate from its initial trajectory.

***Teacher explanation:* The Coriolis force causes moving objects on the surface of the (rotating) Earth to be deflected. Also, just after launch, the NASA shuttle rocket must execute a pitch motion in order to adjust the shuttle trajectory.**

5. Assuming you know that the Earth rotates, what effect do you think it has on an object on its surface moving at high speed?

For objects not lying on the Earth's surface or not moving at high speed, no apparent effect exists because gravity overcomes the Coriolis Effect. But for any object moving at a speed to get rid of gravity, the Earth's rotation might affect its trajectory and speed. This is one of the challenges engineers face when guiding rockets to desired trajectories.