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Activities

Galileo's Experiments

Name: _____ Date: _____

Galileo is the father of experimental science. The trailblazing Italian scientist relied on direct observations and experiments to draw conclusions about the natural world. In this Planet Diary activity, you'll try some of his experiments yourself.

Directions

- Start at NOVA's Galileo's Experiments. Read the introduction, then click *Launch Interative*. Read the experiment *Falling Objects*. What do you predict will happen when the woman drops the two cannonballs with different weights?
- Click *Drop the Cannonballs*. Was your prediction correct? Read the explanation, then answer Workspace question 1.
- Click the right-pointing arrow to see Galileo's falling-object experiment. Answer question 2.
- Choose *Projectiles* to see Galileo's next experiment. Read the introduction. What do you predict will happen? Click *Drop the Cannonballs*, then answer question 3.
- Click the right-pointing arrow to go to the sailboat experiment. Click *Drop* and observe what happens. Advance to the next frame to compare the ball's path as seen from shore. Answer question 4.
- Select *Inclined Planes*. Experiment with changing the tilt of the ramp. Notice how this affects the time it takes for the ball to reach the bottom. Which onscreen statements are true? Record them in question 5.
- Click the right-pointing arrow to learn how Galileo used an inclined plane to find acceleration. Run the experiment, then choose the statement that best describes the results. Answer the last question.

Workspace

1. According to Aristotle, what should have happened in this experiment?

2. How does Galileo's experiment prove Aristotle wrong?

3. Explain why both balls hit the ground at the same time.

4. Compare the path of the ball as seen from the moving boat and from shore.

5. In the inclined plane experiment, which statements are true?

6. In the acceleration experiment, which statement best describes what happens?

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