

Penny and the Feather

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Time Taken: ~5 min

Objectives: (optional)

The students will:

- Understand the effect of gravity of objects of different mass while in vacuum.

Materials:

- Vacuum tube with penny and feather in it
- Vacuum pump

Vocabulary: (optional)

- Vacuum
- Gravity

Procedures:

- Tip the vacuum tube upside down several times to observe that, under standard pressure, the penny falls faster.
- Connect vacuum up to tube and begin pumping air out of the tube.
- Close valve to keep air from getting back into the tube.
- Turn the tube upside down several more times to show that the gravitational dependence on mass has disappeared in vacuum.

End of activity questions to ask: (optional)

- Why does the absence of atmosphere affect the fall rate?
- What would happen with the same objects on the moon?