

Procedure

Part 1: Comparison of Earth / Moon Size

- Explain that the ping pong ball represents the moon
- Have groups blow up the blue balloon (do not tie off!) to their prediction of the size of the Earth.
- After groups have made predictions, tell them the correct size (see attached table).
- Groups should blow up their balloon to the correct size and tie off. String can be used as a measuring device.
- Write the circumference of the Earth and Moon on the board.

Purpose:

To visualize the distance between the Earth and other objects.

Part 2: Distance between the Earth and the moon

- Have students predict the distance between the Earth and the Moon. String can be used as a measuring device.
- Write the correct distance between the Earth and Moon on the board (see attached table).
- Groups should model the correct distance (do not 'destroy' this model).

Materials

(per group)

- Red balloon
- Blue balloon
- White ping pong ball
- 15 feet of string

Part 3: Comparison of Earth / Mars size

- Have students blow up a balloon (do not tie off!) to their prediction of the size of Mars.
- After the groups have made a prediction, tell them the correct size (see attached table).
- Groups should blow up their balloon to the correct size and tie off. String can be used to measure.

Part 4: Distance between Earth and Mars

- Ask groups how far they think Mars is away from the Earth (on average).
- Write the correct answer on the board.
- Have groups explain how they would model the distance between the Earth and Mars using measurements that they have already made.
- If they are struggling, suggest that they use the distance between the Earth and the Moon as 1 unit. How many of these are there between the Earth and Mars?
- Have students determine how many "paces" it would take for the scale model.
 - Find how many paces it takes to walk from the Earth to the Moon.
 - Multiply by the number of Earth / Moon units.
 - Ask: Where do you think that number of paces would take you?

Part 5: Distance between the Earth and other objects

- Use the attached table to give other distances. Try to determine how far from the Earth they would be on their scale model.

