

Hover Craft

Problem

Can air carry people?

Purpose

To demonstrate the power of air pressure

Materials

3-foot circle of plywood

Nut and bolt

Shower curtain

Drill

Shop Vac, 1.5 hp or better

Duct tape

Saber saw

Coffee can lid

Sand paper

Procedure

1. Cut a 3-foot circle from a piece of plywood. Sand the edges until smooth.
2. Cut a hole the diameter of your vacuum hose, about 2 feet from the center of the plywood circle.
3. Drill a hole the size of a bolt directly through the middle of the circle.
4. Cover the bottom with a plastic shower curtain.
5. Fold the edges of the shower curtain onto the top of the board. Use lots of duct tape to secure the plastic to the top of the circle.
6. Put a bolt through the center of the board and through a coffee can lid. Fasten tightly.
7. Cut 8 1-inch diameter holes in the plastic, in a circular pattern, 1 foot from the center of the board. Reinforce the holes with duct tape.
8. Push the vacuum hose through the hole you make in the top of the board. Seal with lots of duct tape.
9. Sit on the board. Turn on the vacuum.

Results

Students will be able to float across the room on a cushion of air.

Conclusion

The shop vacuum blows air molecules into the container you made out of the shower curtain and board. When the container is full, the extra air molecules are pushed out the holes in the plastic and push against the floor. The force of the molecules pushing against the floor is enough to hold up even your principal!

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