

LEARNING RESOURCE

HOVERCRAFT

AIM

- Investigate frictional forces and methods of overcoming them.

OBJECTIVE

- To understand that friction is the consequence of forces “rubbing” two objects against each other. The friction can be lessened by placing certain materials between the two objects

SCHEMES OF WORK

- Identify the effects of air resistance, water resistance and friction that act between moving surfaces.

INQUIRY

- Comparing how different things move and grouping them; raising questions and carrying out tests to find out how far things move on different surfaces, and gathering and recording data to find answers to their questions.

CRITICAL THINKING

- How to create fair tests.
- How to measure and record results.

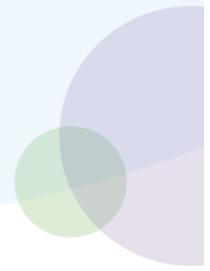


MATERIALS

- CD's
- Disposable sports bottle caps
- Balloons
- Glue gun, (can use multipurpose glue)
- Paper
- Scissors
- Tape

ACTIVITY INSTRUCTIONS

- Place CD on a protected surface.
 - Take the sports cap and open and close it a few times to loosen it up a bit before use.
 - Using glue gun, glue around bottom of your water/sports bottle lid. Check size beforehand, some lids are exactly the same size as the circle in the middle of the CD and it is much easier to place the glue around that circle rather than the lid.
 - Place lid on top of the circle in the middle of the CD. Press down then leave for 5 – 10 minutes to dry and bond creating a seal, so no air can escape.
 - When glue has set, blow up the balloon, then twist the neck around a couple of times to trap air inside. Place the mouth piece over the top of the bottle cap, then place on a flat surface and release. (NB. Make sure the top of cap has been raised before you release, or it will not allow the air to pass through)
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EXTENSIONS

- Different types of paper
 - Different shapes for wings
 - Change weight by adding paper clips to bottom
 - Change the size of the template
 - Does the type of crayon used for decoration affect its flight?
 - Drop from different heights?
 - You could try laminating paper spinners and testing in water to see if get same effects.
 - Also try adding salt (lots) to water, does this change anything? For this type of experiment we would recommend using very tall, clear cylinder, to give enough height for results. You may also need to attach weights to counteract water
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