

Hovercraft Project

Objectives:

- Work through the process of research, design, building, testing, troubleshooting/redesign, and final demonstration of the end product.
- Design a small hovercraft from scratch.
- Build a small functioning hovercraft.

Directions:

- Build a small hovercraft.
- It must be able to “float” above the ground.
- It must be able to move “forward” without it being attached to anything.
- It cannot be constructed from any kit, model, or design from the internet (i.e. it must be your original work.)

Guidelines:

- Research
 - Complete any necessary research
 - Things to consider...
 - Lift
 - Propulsion
 - Propeller design
 - Power and wiring for the batteries
- Design
 - Work with your group to design a small hovercraft.
 - Draw a basic plan of how it will be constructed and what it will be constructed of.
 - You may use any of the materials we provide and any approved materials that you bring to class.
 - Discuss and get approval of your initial plan with Mr. Evans.
- Construction
 - Build the hovercraft.
 - Attention to detail and neatness is very important (i.e. make sure to use a ruler.)
 - During construction keep the batteries out of the battery holders
- Testing
 - Before testing any propellers...
 - Everyone in the classroom must have **safety glasses** on!
 - Keep you fingers and everything else out of the propeller!
 - Be very careful not to short out the batteries!
 - After testing, more then likely it will not work flawlessly. Go back to the research faze and work through the problems until you are back at testing. Repeat until the hovercraft works.
- Final presentation of the hovercraft
 - You will demonstrate to the class your functioning hovercraft.
 - You will turn in a typed paper (hard copy and email to evans@scienceandmathacademy.com) which provides the following...
 - Materials & tools
 - Directions
 - Diagram of the hovercraft
 - If done by hand, make sure it is scanned into a computer and part of your paper.
 - It must be to scale.
 - It must have appropriate labels.