

Balloon Powered Hovercraft

The purpose of this project is to construct a hovercraft which is powered by two 9-inch diameter balloons. The goal is to create a hovercraft which will stay in a predetermined area for the longest period of time. The winning team is the one which achieves the highest score during the demonstration of the craft's range and ability to navigate in a straight line.

Design Rules:

1. Each school is limited to 4 teams of no more than two students per team.
2. Each team of two participants is responsible for designing and building one apparatus prior to the day of the competition. The hovercraft can be made of any material and must be made by the contestants and be fully assembled prior to judging.
3. There is no maximum or minimum weight or size. Hovercrafts that are commercially available or assembled from commercial kits will not be accepted.
4. After being launched, the craft must be at least partially hovering over the floor. No part of it (wheel, leg or other mechanism) may touch the floor for the purpose of propelling it or guiding it.
5. Two new 9-inch diameter balloons will be supplied for each run. The balloons may not be filled to any more than 60 cm in circumference.

Procedure:

1. The balloons will be supplied on-site.
2. The surface on which the hovercrafts will ride will be smooth with drawn lines marking distance.
3. The craft can be launched by one or two members of the team but the launcher(s) must remain in the 'start' area and not influence the hovercraft in any way after it has left the starting line until it has come to a complete stop and both balloons are deflated.
4. The launcher(s) are not allowed to push the hovercraft but must only release it.
5. The score will be attributed as follows:
 - a. Length-wise, the craft must have completely passed a line to be considered for the corresponding score.
 - b. Laterally, the center of the craft determines where it lands.
 - c. Time spent hovering will be measured in seconds.

6. Both sides of the runway as well as its end will have barriers, and hovercrafts will be able to bounce off those and remain on the course.
7. Total for two runs will be added. In case of a tie, the hovercraft that hovers for the longest time after it has passed the start line will be declared winner.
8. Scores will be calculated as follows:

Distance traveled (cm x 2)	
Time spent hovering (sec)	
Total	

Contact Information:

Annette Baran baranaw@vvsd.org

630-759-6400 x 3556

Jane Jones jonesje@vvsd.org

630-759-6400 x 3755