

Topic: Following Instructions

Teacher Information

Time Allowance

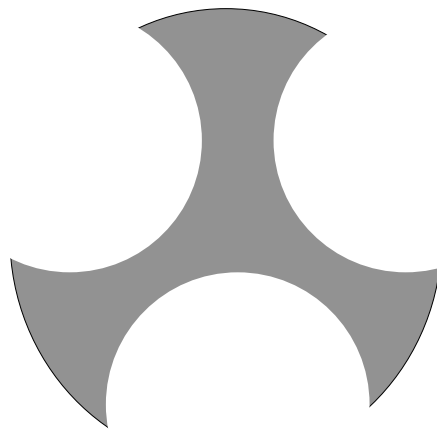
30-40 min.

Background

Probes have been an integral part of our space program from the very beginning. The knowledge they have imparted has been the foundation for understanding our solar system. Probes pave the way for human flight by providing the necessary information vital to planning a mission and providing sample materials for study by scientists and astronauts. Probes are used to study environments that are either too far away or too hazardous to allow manned exploration. One other aspect of using probes is their cost and expendability. Manned flights are very expensive and require a return voyage. Probes can be used to gather information where man would not dare to go: Jupiter's spot, Venus' atmosphere or Mercury's solar side. They can be launched out into deep space, never to return.

Materials

5 paper plates (per student)
scissors
masking tape or stapler
space to throw Zoom-a-rang
meter stick or tape measure

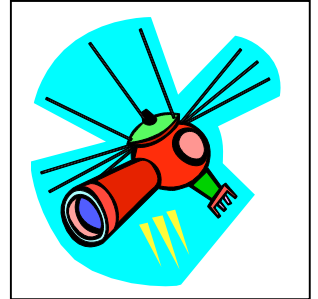


Topic: Zoom-a-rang: Model Spaceship

Student Information

Background

Probes have been an integral part of our space program from the very beginning. The knowledge they have imparted has been the foundation for understanding our solar system. Probes pave the way for human flight by providing the necessary information vital to planning a mission and providing sample materials for study by scientists and astronauts. In this activity you will construct a probe. If the instructions are not followed carefully, your probe may not function properly.



Procedure

1. Label a paper plate with the following points of a clock face: 12, 2, 4, 6, 8 & 10.
2. Place a ruler between 12 and 2 and make a mark 3 inches from the edge.
3. Draw a horseshoe shape (half circle) using these three points: 12, 2 and the new midway point.
4. Repeat this for 4 and 6, and 8 and 10.
5. Cut out the three horseshoe shapes to make your Zoom-a-range shape.
6. Trace the shape on the other 4 plates.
7. Cut out all Zoom-a-rang shapes.
8. Stack the plates together so that the cuts match.
9. Tape or staple the plates together to create one thick Zoom-a-rang.
10. Decorate your Zoom-a-rang.
11. Use the masking tape to create a starting line.
12. Stand at the starting line and "fling" your Zoom-a-rang.
13. Measure the distance your Zoom-a-rang traveled and record the measurement on the data log.
14. Repeat steps 12 and 13 two more times.
15. Give all team members a chance to fly and record their distances.
16. Calculate the average distance for each team member's Zoom-a-rang. Record the average in the proper place on the data log.
17. As a team, answer the questions on the data log.

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Data Log

Name	1 st Try	2 nd Try	3 rd Try	Average

1. Whose Zoom-a-rang flew the greatest distance?

2. Look closely at each Zoom-a-rang. Do you notice any differences? If yes, explain what those differences are.

3. Did it matter if the Zoom-a-rang was thrown harder or softer? Higher or lower? Why?
