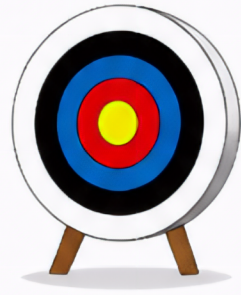




SCIENCE EXPERIMENT

TESTING WHICH MATERIALS MAKE THE BEST BOW AND ARROW



Name: _____ Date: _____

QUESTION

Which materials make the best bow and arrow?

HYPOTHESIS

I think _____
will make the best bow and arrow because _____.

MATERIALS

- Various bow materials (wooden dowel, plastic rod, PVC pipe, bamboo stick, metal rod)
- Various string materials (cotton string, nylon string, fishing line)
- Arrow shafts (wooden skewers or dowels)
- Tape
- Scissors
- Target
- Ruler or measuring tape
- Notebook and pencil

EXPERIMENT PROCEDURE

1. Choose one bow material and one string material.
2. Build your bow and string. Make sure the string is secure and the bow can bend.
3. Make an arrow using a wooden skewer or dowel. Add fletching (tape) to one end if you like.
4. Shoot the arrow at the target.
5. Measure the distance from the target to where the arrow lands.
6. Repeat 3 shots with the same materials.
7. Calculate the average distance.
8. Test all combinations of bow materials and string materials.

TIP: Keep your shooting position, target distance, and arrow style the same for all tests.

VARIABLES

- **Independent Variable:**
Type of bow material and string material
- **Dependent Variable:**
Average distance (how far the arrow lands)
- **Controlled Variables:**
Target distance, arrow type, shooting position, number of shots

RESULTS

Bow Material	String Material	Distance (in feet)			Average Distance (feet)	Notes
		Shot 1	Shot 2	Shot 3		

Best Combination: _____
with an average distance of _____ feet.

CONCLUSION

Which materials made the best bow and arrow? _____
Why do you think these materials performed the best? _____
