

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Bend that Bar Activity – Worksheet

Note: Use metric units for all your measurements.

Type of material	Mass of material (grams)	Initial height (centimeters)	Height after bending (centimeters)	Distance bent (initial - after) (centimeters)	Strength-to-weight ratio (Distance bent/mass)
Aluminum					
Steel					
Wood					
Plastic					
Brass					
Copper					

### Compare and Contrast

Answer the following questions:

- Which materials are similar in strength?  
Strongest \_\_\_\_\_  
Weakest \_\_\_\_\_
- Which materials are similar in weight?  
Heaviest \_\_\_\_\_  
Lightest \_\_\_\_\_
- Which material bent the most? \_\_\_\_\_
- Which material bent the least? \_\_\_\_\_
- Which material has the greatest strength-to-weight ratio? \_\_\_\_\_
- Which material has the smallest strength-to-weight ratio? \_\_\_\_\_
- What are the advantages of steel vs. plastic? \_\_\_\_\_  
\_\_\_\_\_
- What are the advantages of plastic vs. steel? \_\_\_\_\_  
\_\_\_\_\_
- Which material would you use to build an airplane? Why?  
\_\_\_\_\_  
\_\_\_\_\_