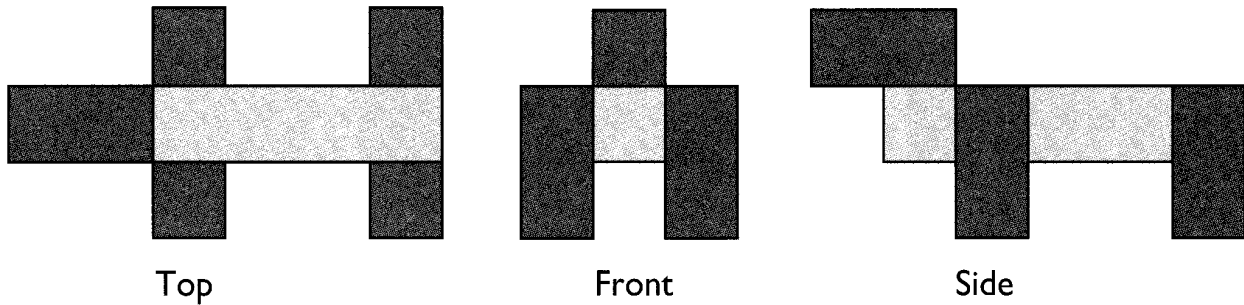


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## Double Dog

- Use one yellow rod and five red rods to build a “starter dog” whose top, front, and side views are shown.



- Make sure the front legs are set back one centimeter and the dog’s head overlaps the body by one centimeter. Thus the dog’s chest protrudes ahead of the legs by one centimeter.
- Build another dog which has all lengths *double* the lengths of the starter dog and has *exactly the same shape*.

After you have built your two dogs, count and calculate to answer these questions:

1. How many times heavier is the double dog than the starter dog?
2. Calculate which dog is “lighter” on its feet.
3. Find the volume and total surface area of each dog. Are the volume and the surface area doubled?
4. For each dog, calculate the number of square centimeters of surface area for each cubic centimeter of volume.
5. Build another object and then build its “double”-sized version. Is what you discovered about the “starter” and double dog also true for this object and its double?