1. I have two cubes made out of playdoh. The side lengths of the bigger cube are double the side lengths of the smaller cube.

The small cube weighs 10 grams. How much will the big cube weigh? Hint: work with volumes!
2. I have some playdoh in the shape of a cylinder. The height of the cylinder is 3 cm and the diameter is 8 cm.

I break the playdoh into two equal pieces. I use one of the small pieces to build a new cylinder with the same height as the big cylinder.

What is the diameter of the new, small cylinder?
3. Cube 1 measures 10 cm x 10 cm x 10 cm and has approximately the same surface area as one piece of paper.

Cube 2 has approximately the same surface area as two pieces of paper.

What is the side length of Cube 2?
By what percent is the side length of Cube 2 greater than Cube 1?
4. I have a cylinder with some water in it. I will put golf balls into the water, one by one. How many golf balls will it take to make the water overflow?