

Turn in one paper per group but be sure all members of the group have seen the final answers. Circle your name if the paper that gets turned in is your copy.

The following is an exploration based on selected questions from Set II of the exercise set. The question numbers are copied from the book.

The volume of a bird egg is a function of its length. A formula for this function is $V = 2.2 \cdot L^3$ where V is the volume of the egg (in cubic centimeters) and L is the egg's length in centimeters.

6. Use this function to complete the following table. [For example, when $L = 3$, $V = 2.2 \cdot (3)^3 = 2.2 \cdot 27 = 59.4$. So, if a bird's egg is 3 centimeters long, its volume will be approximately 59.4 cubic centimeters.]

Length (cm), L	1	5	8	10	12	15
Volume (cm^3), V						

7. A typical chicken egg is 5 centimeters long and a typical hummingbird egg is 1 centimeter long. What is the volume of each egg in cubic centimeters? [Label which is which. Include units.]

8. How many times the volume of a hummingbird egg is the volume of a chicken egg?

9. A typical ostrich egg is 15 centimeters long. How many times the **length** of a chicken egg is the length of an ostrich egg?

10. How many times the **volume** of a chicken egg is the volume of an ostrich egg?

11. Graph the function on the following piece of graph paper. [Use all the values from the table in question 6.] Then mark the three points that represent a typical hummingbird egg, a typical chicken egg, and a typical ostrich egg.

