**Volume**

Volume is the 3D measure of the amount of \_\_\_\_\_\_\_\_\_\_\_\_\_ an object takes up.

It can be measured for:

* **Solids:** cubic cm (**cm3**), cubic meters (**m3**), cubic millimeters **(mm3), etc.**
* **Liquids:** or in **mL, L, etc**.

**Note: 1 \_\_\_\_\_\_\_\_\_\_ solid volume = 1\_\_\_\_\_\_\_\_\_ of liquid volume.**

It is easy to remember volume if you think of the **3D** because

* The units are **cubed (Ex. cm3 = \_\_\_\_\_\_\_\_\_ x \_\_\_\_\_\_\_\_ x \_\_\_\_\_\_\_)**
* You have to multiply **3 things together *(length x width x height*)** to find the volume of **rectangular prisms and cubes**
* You have to multiply **3 things together *(***$π$ ***x radius squared x height* )**to find the volume of **cylinder**

In general, to find the **volume of a regular-shaped object**, you can take the

 **area of the base x height.**

**Volume formulas:**

**Rectangular prism:**

**Area of base x height**

**(\_\_\_\_\_\_\_\_\_\_x \_\_\_\_\_\_\_\_\_\_) x height**

**Triangular prism:**

 **Area of base x height**

 **(\_\_\_\_\_\_\_\_\_\_ x \_\_\_\_\_\_\_\_\_\_ ÷ 2) x height**

**Cube:**

**Area of base x height**

**(\_\_\_\_\_\_ x \_\_\_\_\_\_) x side = side3**

 **Cylinder:**

 ***Area of base x height***

***(***$π$ ***x\_\_\_\_\_\_\_\_\_ x \_\_\_\_\_\_\_) x height =***

 ***πr2* x height**

Volume is chapter 7 in the Mathlinks textbook.

Once again we will be working in groups for this unit. You choose your group based on the amount of support you feel you need given each section of information. Green will work step by step with the teacher, and Blue will work independently, with Red working in small groups.

The questions are below:

Volume as area of base times height
P. 250 -252:  Green -1, 2, 8
                 Blue - 1, 2, 8, 9
                 Red - 1, 2, 8, 9, 13

Volume of prisms

P. 258-260:  G - 4, 7, 9
                B - 4, 7, 9, 14, 15
                R - 4, 7, 9, 14, 15, 21

Volume of cylinders
P. 265- 267:  G -4, 8, 12
                R & B - 4, 8, 12, 14

Problem solving using volume

P. 272 - 275: G - 2, 5, 7
                R - 2, 5, 7, 10
                B - 2, 5, 7, 10, 15

There is also a **design challenge** for this unit. See the attached outlines for project details.

Project will be due the day of the test for this unit. You may start working on it at any time.