

Greetings 8th Grade,

I'm taking a few minutes rest from putting in my garden to challenge you this summer. Are you ready? Of course you are!! We're heading for the water! Huh?

Your task is to design and construct a kayak (and paddle) made from cardboard and duct tape, capable of transporting you around a 100 meter water course. Your kayak should be ready for action on the first day of school!

You'll need to use the formula for density $d = m/v$ to design and construct a capable vessel. Blueprints of the vessel must be provided to me also.

Why "density" you ask. Well, your vessel (with you in it) must be less dense than the water it floats in; that's the basis of buoyancy. You can google the density of freshwater and compare it to the specifications of your vessel.

Density formula: Your weight + the weight of the cardboard used to make the kayak divided by the volume of the kayak. Volume? Volume = "the 3 dimensional space your kayak takes up. (l x w x h).

"But my kayak is round and pointed? I only know volume formulas for cubes and rectangular prisms." OK, google the formulas to calculate volumes of cylinders and cones. Make sense?

Physical Science is the foundation of next year and volume, density, and buoyancy are great starting topics of this science.

Have fun with it and take pictures and videos. Send me the videos by Aug 20th. Don't wait until August 19th to start!!!!

Can't wait to have fun learning with you guys and gals next year!

Sincerely,
Mr. Close