S1 Integrated Science Student Worksheet STEM Project II

Density **Plasticine Boat Competition**

Plasticine Boat Competition

Group: _____

☞ Build the ***lightest*** boat to carry the ***most*** number of paper clips in 5 seconds

A. KEY questions in your MIND?

1. A plasticine has a **HIGHER** density than water of the **SAME** volume. How can you change the plasticine to let it float on water?

   We can …

2. What is the equation of calculating density of an object? How can we lower the density of the plasticine ***without*** **changing** its **mass**?

   We can …

3. How can we predict the **maximum** mass of paper clips held by the plasticine boat with mathematics?

   Hint I: What is the additional mass needed for the density of your plasticine boat becoming 1 g/cm^3?

   Hint II: What is the mass of a paper clip?

   Hint III: Hence, based on your answer in I & II, can you find the no. of paper clips held by your plasticine boat?

B. Plan & Make your OWN boat!

1st Draft **** Draw your own design in the following ****	**2nd Draft** **** Draw your own design in the following ****
Our boat can carry the most amount of paper clips because …	**Our boat can carry the most amount of paper clips because …**