



**2011 Sec 1 Physics Enrichment 3**  
**Mass & density - The "Diver"**

Name: \_\_\_\_\_ ( ) Class: 1/ \_\_\_\_ Date: \_\_\_\_\_

**Team members:** ..... ( )  
..... ( )  
..... ( )

- Every team member must submit this worksheet at the end of the activity.

**Objectives:** Design a "diver" that stays fully-submerged in water (but not sink to the bottom of the tank).

**Apparatus:** fish tank, 2x pendulum bobs, 5x marbles, 200 cm<sup>3</sup> measuring cylinder, blu-tack, electronic balance, 2x plastic container with cap (B155 vial)

**Your own questions**

- In your team discussion, write down all the questions you need to answer first to arrive at a solution.
- Leave space between questions for answers to be filled in later.

**Procedure**

- Write down clearly and number all the steps you have taken to carry out the experiment, including measurements and instruments used.

1.

**Observations & Calculations**

- Record neatly the readings you have taken and calculations you have made.

**Reflections**

1. Was your "diver" designed successfully? .....
2. What may have gone wrong (if not successful)? What could be improved in your procedure?

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3. What have you learnt from this experience?

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