**Self-righting boat teaching notes:**

A self-righting compartment (the tank that makes it self-right) in a boat has to be completely sealed or it will not work. It contains air (like a life belt for the boat). In your model, use a small plastic drinks bottle as the tank.

Place your self-righting compartment (bottle) with its dinghy cover in the water and try to overturn it. (It will not self-right unless a suitable heavy weight is placed in the bottom of the boat (the keel) to pull downwards. When weighted there are two forces on the boat – the weight at the bottom of the keel and the upthrust of the water on the bottle of air. A weight at the bottom of the boat could make the keel move downwards – try it out! You could use blue-tac if you haven’t got any plasticine/playdough. Add a lump of plasticine and try this out. You will need to experiment to get the right amount of plasticine.

Sketch a diagram of the boat, the self-righting compartment and the weight on the board. What direction are the forces that are acting on it? Draw arrows on the sketch to represent them. Remember that a force always has a direction and so they are usually represented in diagrams by arrows that show the direction the act in.