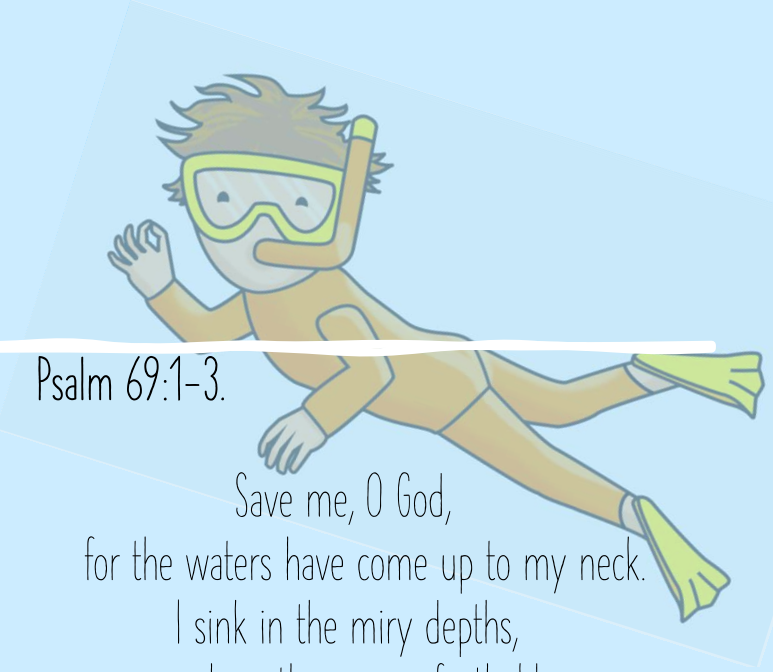
Psalms & Science
Under Pressure

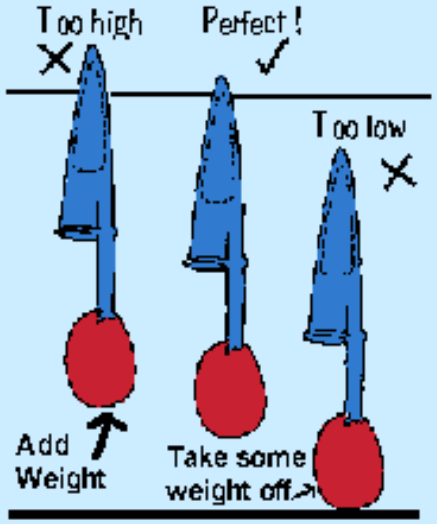


Psalm 69:1-3.

Save me, O God,
for the waters have come up to my neck.
I sink in the miry depths,
where there is no foothold.
I have come into the deep waters;
the floods engulf me.
I am worn out calling for help;
my throat is parched.
My eyes fail,
looking for my God.

Experiment

1. Make a diver out of a pen top and blu-tac
2. Now fill up your plastic bottle nearly to the top.
3. Place the 'diver' in the bottle of water and seal the lid; the diver should float.
4. Squeeze the sides of the bottle and watch the diver sink (may need to squeeze hard). As you release the pressure on the bottle, the 'diver' will rise back up.



What's Happening? The diver floats because air is trapped and is less dense than the water. The diver is pulled down by 'gravity', but the upward buoyancy force – equal to the weight of the water the diver displaces – is greater, so it floats. As you squeeze the bottle, the water compresses the bubble of air inside the diver, which gets smaller and becomes denser. Water also flows into the diver, and it becomes heavier than the weight of the water it displaces. So, gravity has a greater force and the diver sinks.

Reflection The Bible is very realistic about the ups and downs of life. Have you ever felt like the person who wrote this Psalm?