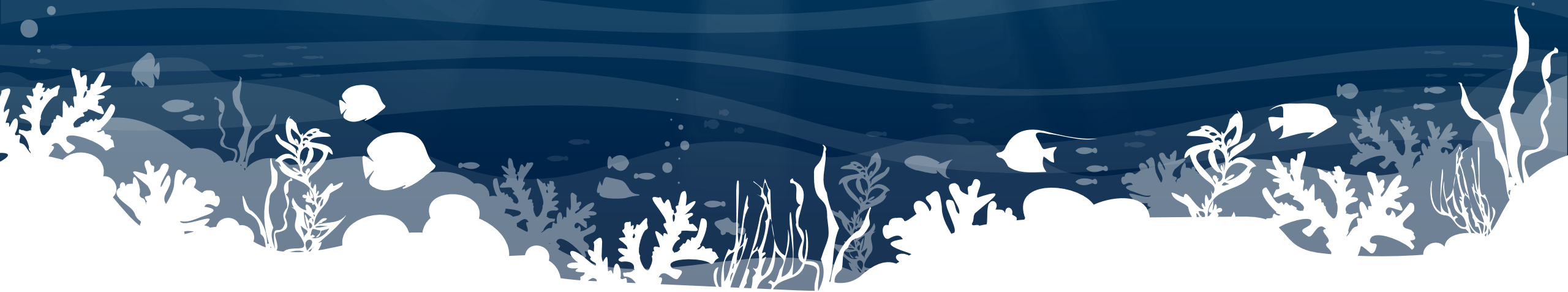


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FLOATING

Less water inside.

The submarine is lighter than the water.

It **ris**es to the surface.



STAYING IN THE MIDDLE

The submarine has the right amount of water inside.

It **stays** at the same depth.

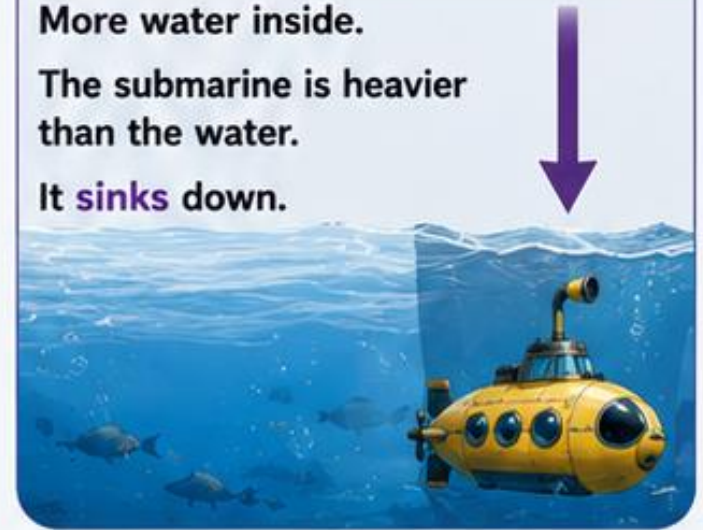


SINKING

More water inside.

The submarine is heavier than the water.

It **sinks** down.



HOW SUBMARINES USE BALLAST TANKS

1 TO FLOAT



Air is pumped into the ballast tanks.
Water is pushed out.
The submarine becomes lighter and **floats up**.

2 TO SINK



Water is pumped into the ballast tanks.
Air is pushed out.
The submarine becomes **heavier** and **sinks down**.

3 TO STAY IN THE MIDDLE



The right amount of water and air keeps the submarine balanced at the **same depth**.

WHY IT MATTERS

Just like objects, submarines use the idea of floating and sinking to move in water!

Buoyancy = the up push of the water



Less dense = float More dense = sink

“

SUBMARINES IN ACTION

SURFACE (FLOATING)



Less water in tanks.
Submarine rises.

DIVE (SINKING)



More water in tanks.
Submarine sinks.

CRUISE (NEUTRAL)



Balanced tanks.
Submarine stays at
the same depth.



LABEL THESE PARTS ON YOUR SUBMARINE



WINDOW

Helps explorers see the ocean.



LIGHT

Lights up the dark ocean.



SAFETY DOOR

A strong door that keeps everyone safe.



CAMERA

Takes pictures and videos of sea life.



ROBOT ARM

Helps collect samples and explore places.



OXYGEN SYSTEM

Provides clean air so explorers can breathe safely.



EXAMPLES FOR INSPIRATION



Let your imagination dive deep!