Ocean Acidification

About a quarter of the carbon dioxide released by activities like burning fossil fuels and burning down rainforests is absorbed by our world's oceans. This results in the ocean water becoming more acidic, like the cabbage juice in the experiment, and can have an effect on sea life, like coral.

Talk about what they think ocean acidification is. Discuss were Carbon Dioxide (CO_2) comes from (e.g. emissions, humans breathing out, cow poos' (methane)).

Watch Ocean Acidification Video

Experiment 1 - PH Indicator (Groups of 3) demonstrate first

1. Pour 3 lots of red cabbage indicators into jars (50ml)
2. Put 2 teaspoons of vinegar into one jar (pink - Acidic), leave the one in the middle, and then put 1 teaspoon of Baking soda into the last jar (blue - Alkaline).

Split into groups of 3 then put two groups around one tray (3 test tubes each). Set clear guidelines. Allow them to experiment putting vinegar and baking soda together, ask what is happening?

Experiment 2 - Demonstrate how we breathe out CO_2 (altogether)

1. Gather everyone together and pour 50ml of red cabbage juice into two jars.
2. Get one straw and begin to blow bubbles into one jar.
3. After a few minutes it should start to turn pink (Acidic).

   This experiment demonstrates ocean–atmosphere interaction it shows how carbon dioxide gas diffuses into water, causing the water to become more acidic.

Experiment 3 - Carbonated soda water (altogether)

1. Two jars of red cabbage water.
2. Pour still water into one and soda water into the other (should turn pink).

Explain what/how carbonated soda water is made.

Record experiment 3 into the inquiry book (equipment, prediction, method, result and conclusion).

What is happening in last experiment?
What gas is turning the liquid pink?
Where does Carbon Dioxide come from?

Resources:
https://www.teachengineering.org/activities/view/wst_environmental_lesson02_activity3