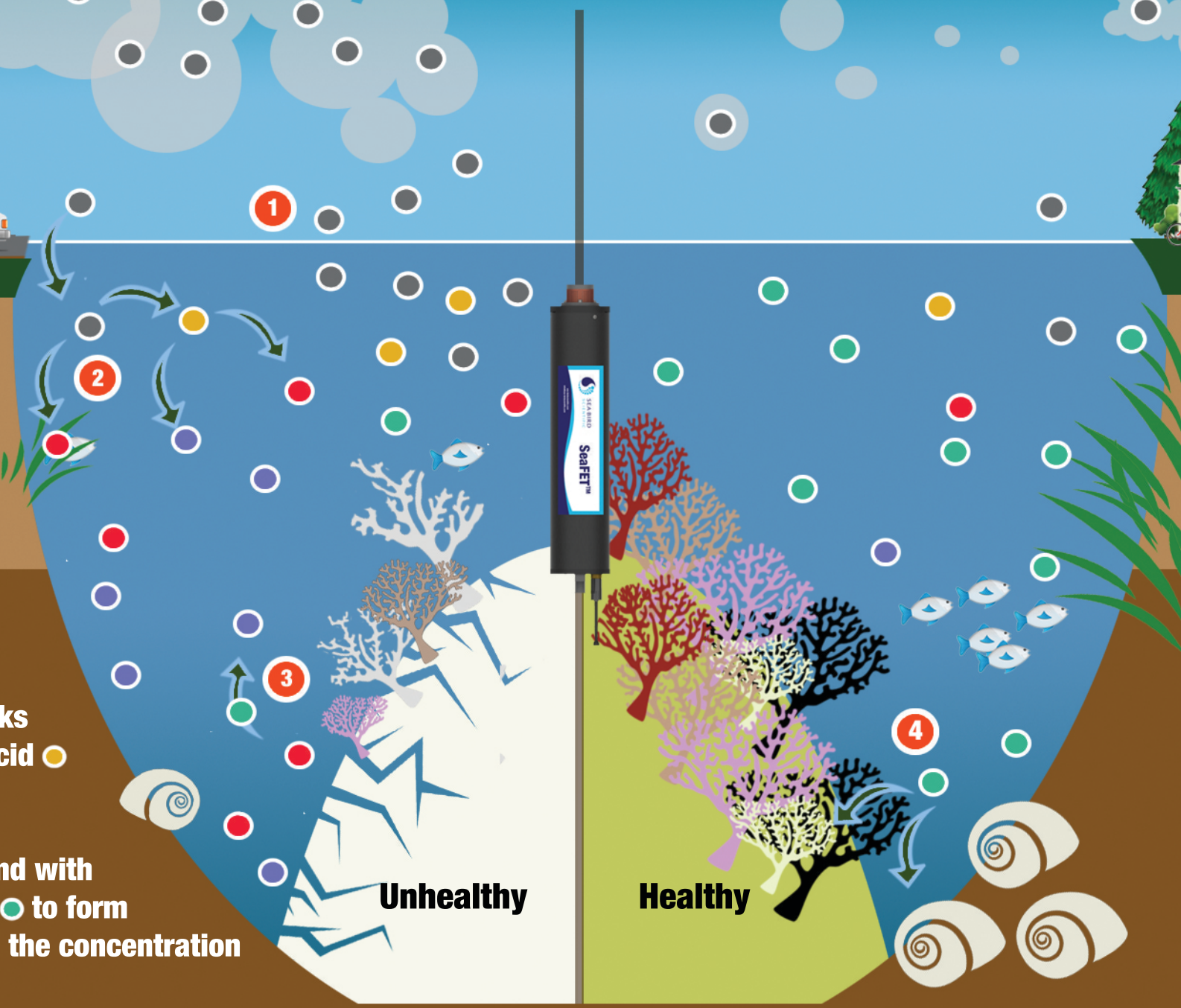


# OCEAN ACIDIFICATION



## How it Works

- 1 The ocean absorbs  $\text{CO}_2$  from the atmosphere
- 2 The absorbed  $\text{CO}_2$  breaks down to form carbonic acid and hydrogen ions
- 3 Free hydrogen ions bond with available carbonate ions to form bicarbonate, reducing the concentration of carbonate ions
- 4 Carbonate ions are required by marine life to build and maintain calcium-based structures such as shells and coral



An acidic ocean ecosystem has a lower concentration of carbonate ions, limiting the ability of marine life to create calcium-based structures.

- Carbon Dioxide ( $\text{CO}_2$ )
- Carbonic Acid
- Free Hydrogen Ions
- Bicarbonate
- Carbonate Ions

**Increased atmospheric  $\text{CO}_2$  limits growth in the oceans**



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