**What are the most common elements in sea water?**

* Water
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Salt
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Areas of High and Low Salinity**

* Of the five ocean basins, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the saltiest.

**Salinity Near the Equator**

* The tropics receive the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rain, the fresh water falling into the ocean helps \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the salinity of the surface water

**Salinity Near the Poles**

* At the poles, rain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* With \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rain and more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, evaporation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the ice caps causes a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the surface salinity.

**The Saltiest Locations**

* The saltiest locations in the ocean are:
	+ Regions where \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is highest
	+ In large bodies of water where there is no \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into the ocean.
	+ The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ contain the saltiest ocean water due to very high evaporation and little fresh water inflow.

**Temperature and Salinity**

* As temperature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to 40oF (4oC), molecules slow, water contracts and density \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Below 40oF, the molecules begin to bond to each other and as they do, the water begins to expand again, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the density
* At 32oF (0oC), all molecules are locked into a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ structure, causing a \_\_\_\_\_\_\_\_\_\_% expansion in size
	+ This expansion, and corresponding \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in density, is the reason ice \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Adding salt to water lowers the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ temperature
	+ Water with a salinity of 17% freezes at about 30°F (-1°C)
	+ 35‰ water freezes at about 28.5°F (-2C)
* Sea ice contains very little salt (about 1/10th the amount of salt the sea water has). Why?
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Temperature, Salinity, and Density**

* As temperature of sea water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, density \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* As salt content of sea water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, density \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* This makes the density of sea water, unlike fresh water, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the freezing point.



**Average Salinity**

* Lowest salinity in the polar regions. Why?