**Types of Pollutants**

**Measurement of Quantities of Toxins**

ppm:

**PCB – Polychlorinated Biphenyls**

**What we used them for:**

From 1930-1970’s: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Why they are a problem:**

They have a long **half-life** and **biomagnify**.

**Half-Life:**

**Biomagnify:**

Heavily affect orcas. When PCBs are introduced into the orca’s bloodstream it interferes with their immune functions, making them more susceptible to disease.

**POP – Persistant Organic Pollutants**

**What they are:** Carbon containing compounds that remain in the water and soil systems for many years. Often \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Example:** \_\_\_\_\_\_\_\_, used to control disease carrying mosquitos, but is now banned in many countries as it can bind to soil and persist for as long as 15 years.

**Heavy Metals**

**What they are:** Metallic elements with a high density that are toxic to organisms at low concentrations.

They do not \_\_\_\_\_\_\_\_\_\_\_\_\_, nor are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Some small amount can be necessary for proper functioning, but excess quantities are poisonous. The three most polluting heavy metals are \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Lead:** Naturally present in soils in the range of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Amounts have increased due to human activities. It was previously used in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In an organism, lead has an accepted toxic level of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, though it is not considered safe in any amount.

Can lead to anemia, nerve system damage, sterility, impaired mental development and kidney failure.

**Cadmium:** Naturally found in Earth’s crust and is released though weathering. Generally considered poisonous, and will easily transfer from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The half-life of cadmium in kidneys and bone tissue is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Can lead to infertility and damage to the nervous system, immune system, and DNA.

**Mercury:** Up to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of mercury are released through volcanoes, geothermal springs and rock weathering. Burning fossil fuels has \_\_\_\_\_\_\_\_\_\_\_\_\_\_ this amount.

Some bacteria will change some compounds, like mercury sulphide into the organic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Methylmercury will accumulate in the brain, heard and kidneys.