



Institut de Camarles
EXPERIMENTAL SCIENCES
DEPARTMENT

EXPERIMENTAL SCIENCES

Group/class: 1st BAT

ERASMUS + SMART WASTE MANAGERS: WASTE WATER

1. Match the elements of the two columns, **topic** and **definition**, all of them are related concepts to waste water.

| | |
|---------------------------------------|--|
| Waste water treatment | Process used to remove contaminants and turn them into an effluent that can be returned to the water cycle with a minimum impact on the environment. |
| Waste water Quality indicators | Laboratory and test methodologies to assess suitability of wastewater for disposal or re-use |
| Pollutant | Substance introduced into the environment that has undesired effects on it. |
| Human waste (human excreta) | Waste products of human digestive system and the human metabolism (urine and feces) |
| Waste water | Any water that has been affected by human use |
| Drinking or clean water | Potable water, water that is safe to drink or to use for food preparation. |
| Surface runoff | Flow of water that occurs when excess of stormwater, meltwater, or other sources flow over the Earth's surface |
| Grey water or sullage | Waste water generated in households or office buildings from streams without fecal contamination |
| Biodegradation | It is the breakdown of organic matter by microorganisms, such as bacteria and fungi. |

2. There are two lists below with different types of pollutants and some examples. First of all, relate pollutants with examples and then make a scheme and classify them into **(1) Biological, (2) Chemical or Physical pollutants.** Finally make a padlet or piktochart about POLLUTANTS using this information.

| POLLUTANTS | EXAMPLES |
|------------------------------|---|
| Heavy metals | Hg, Pb, Cr... |
| Bacteria | Salmonella, shigella,... |
| Organic non soluble particle | Humus, feces, hairs, food, paper fibers,... |

| | |
|-----------------------------|--|
| Gases | Carbon dioxide, methane, hydrogen sulfide... |
| Viruses | Hepatitis A, enteroviruses... |
| Macro-solids | Sand, ceramic, metal particles... |
| Soluble inorganic materials | Urea, fruit sugars, drugs, proteins... |
| Inorganic particles | Sanitary napkins, condoms, needles,... |
| Soluble organic materials | Ammonia, cyanide, thiocyanates... |
| Protozoa | Entamoeba histolytica, giardia lamblia... |
| Microplastics | Polyethylene, polypropylene beads, polyester and polyamide |
| Emulsions | Paints, adhesives, hair colorants, mayonnaise... |
| Parasites | Helminth and their eggs, ... |
| Toxins | Pesticides, poisons, herbicides... |

3. Search for 5 different ways to **reduce waste water** and make an advertising slogan to convince your classmates.

An illustration of a white toilet with a blue seat and a blue cat sitting on the edge of the toilet. The cat is wearing a patterned orange and white shirt. The background is a solid light blue color.

5 WAYS OF SAVING WATER

- 1 FIXING HOUSEHOLD LEAKS RIGHT**
Doing this you can save 75 liters of water in a day.
- 2 WASHING ONLY FULL LOADS OF DISHES**
With this you can save almost 190 liters of water a week.
- 3 TRYING TO SPEND LESS TIME IN THE SHOWER.**
Spending only 5 minutes in the shower you can save up almost 30 liters of water every time.
- 4 TURNING OFF THE WATER WHILE BRUSHING YOUR TEETH**
Using this you can save almost 10 liters of water per minute
- 5 BUYING WATER-SAVING DEVICES**
Buying high-efficiency washing machines or toilets saves lots of liters of water.

ALEX MÁRQUEZ ISANT