DECOMPOSITION EXPERIMENT ANALYSIS

WHAT VARIABLES DID WE TEST IN OUR CLASS EXPERIMENTS?

- Exposure to air
- Moisture (water)
- Temperature
- Salt
- Soil
- Light

WHY DID THE AVAILABILITY OF AIR AFFECT DECOMPOSITION?

- There are bacteria and fungi spores in the air. There is also oxygen in the air, which the bacteria and fungi need in order to live.

WHY DID WATER AFFECT DECOMPOSITION?

- There are bacteria and fungi in the water. The organisms that do the decomposing also need water to live. All living things need water. Chemical reactions required for life processes must take place in water.

WHY DID TEMPERATURE AFFECT DECOMPOSITION?

- Temperature affects decomposition because decomposers need a certain temperature to live, and many biological reactions will speed up in warm temperatures and slow down in cold temperatures.

WHY DO WE PLACE FOODS IN THE REFRIGERATOR?

- The cold temperatures slows down the growth of decomposers such as mold.

WHY DO FOODS PLACED IN SOIL DECOMPOSE FASTER THAN THOSE NOT IN SOIL?

- One teaspoon or rich, organic soil is full of microscopic decomposers. There are over 1 million decomposers in a single tablespoon of soil.

DECOMPOSERS

- Final Notes

WHERE DO DECOMPOSERS, SUCH AS BACTERIA AND FUNGI, GET THEIR ENERGY?

- They get their energy from breaking down dead organisms through chemical digestion.

WHAT MUST OUR BODIES (WE ARE ANIMALS) DO TO THE FOOD WE EAT TO GET ENERGY?

- Our bodies must break down the food to get energy through mechanical digestion AND chemical digestion.

WHEN DECOMPOSERS BREAK DOWN DEAD ORGANISMS, WHAT MATERIALS DO THEY USE FROM THE DEAD ORGANISMS? WHY?

- Water – all living things need water
- Carbohydrates – energy
- Protein – to repair and replace cells and cell structures
- Vitamins and minerals – to regulate chemical reactions and to stay healthy.
- Wastes (oxygen, carbon dioxide, etc.) – cellular respiration
- Whatever the decomposer doesn't use is released into the environment.

WHAT HAPPENS TO THESE MATERIALS WHEN DECOMPSERS RELEASE THEM INTO THE ENVIRONMENT?

- Decomposers release these materials from dead organisms into the soil. These materials cause the soil to become fertile and become a part of new plants that grow – then, the cycle starts over again.

WHY ARE INSECTS AND EARTHWORMS FOUND CLOSE TO OR ON DEAD ORGANISMS EVEN THOUGH THEY ARE NOT OFFICIALLY CONSIDERED DECOMPOSERS?

- The bacteria in their stomachs act as decomposers to break down and recycle dead material into substances that plants need to survive. This is released through the waste of insects and worms.

COULD LIFE ON EARTH EXIST WITHOUT DECOMPOSERS?

- NO! Life depends on decomposers to recycle nutrients into the soil so they can be reused by other living things. Plants use the recycled materials. These materials move through the food chain again and continue to be recycled by decomposers once an organism dies.