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| Science 9 | Unit B: Envirochem |
| Section 1: Chemicals and the Environment | 84 min |

1.1 Chemicals in the Environment

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| Medicine in the EnvironmentWillow Bark – Greeks/First Nations chewed or made tea to treat fever/painPurple Cone Flower – First Nations used it to improve the immune system | Salicylic acid -> acetylsalicylic acid -> AspirinEchinacea |

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| ***WE NEED CHEMICALS TO SURVIVE*** |  |

Nitrogen Cycle (Hand Out Picture)

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| Nitrogen Fixation – Free Nitrogen (N­2) is “fixed” to other compounds that living organisms can use. | N2 becomes NH3 |

Pollution

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| Adding chemicals into the environment that are harmful to living thingsTypes:Fertilizer: a substance that enriches soil so that plants will grow betterPesticides: Chemicals to kill a pest.Types: * Herbicide: kills plants
* Insecticide: Kills insects
* Fungicides: Kills Mushrooms (Fungi)

Solid Wastes: GarbageSanitary Landfills: prevent leaching of chemicals to the environment***Draw a Sanitary Landfill*** | 15-30-15 = 15% N – 30% P – 15% KPest: any organism that harms people, crops or structures***Pesticides are not very selective… insecticides can kill bees as well as arthaworms.***Leaching is the transfer of unwanted chemicals to the environment. |

Wastewater

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| Sewage: water containing chemicals from your homeRural Homes: have a septic tankCity Homes: Go to a sewage treatment plant | ANY water that goes down the drainTreated water is called effluent |

Combustion

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| Hydrocarbons (Fuels) are burned to create energy or heat |  |

Common Substances Essential for Living

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| Inorganic Substances* Compounds without carbon
* Simple compounds
* NaCl/NH3

***Give it a try (pg. 196)***Nutrients – Compounds and elements living things need to surviveMarco Nutrients – Compounds that we need LOTS of to surviveExamples: N, P, K, Mg, Ca, SA balance of these chemicals is needed… can’t just eat cookies and survive…Organic CompoundsCarbohydrates – Compounds made of C, H, and OLipids – Fats, oils and waxes (EXREMELY COMPLEX CARBOHYDRATES)Proteins and Amino Acids – made up of N C O H and sometimes SNucleic Acids – EVEN BIGGER organic molecules | Organic Substances* Compounds with carbon
* Large complex
* CH4, Sugars, DNA

Micro Nutrients – Compounds that we only need a little to survive… but still needSelenium, Iodine…Glucose – Simple Sugar C6H12O6Glycogen – Lots of GlucoseDRAWProteins are made up of Amino AcidsMake up our DNA and RNA |