



WORKSHEET 19

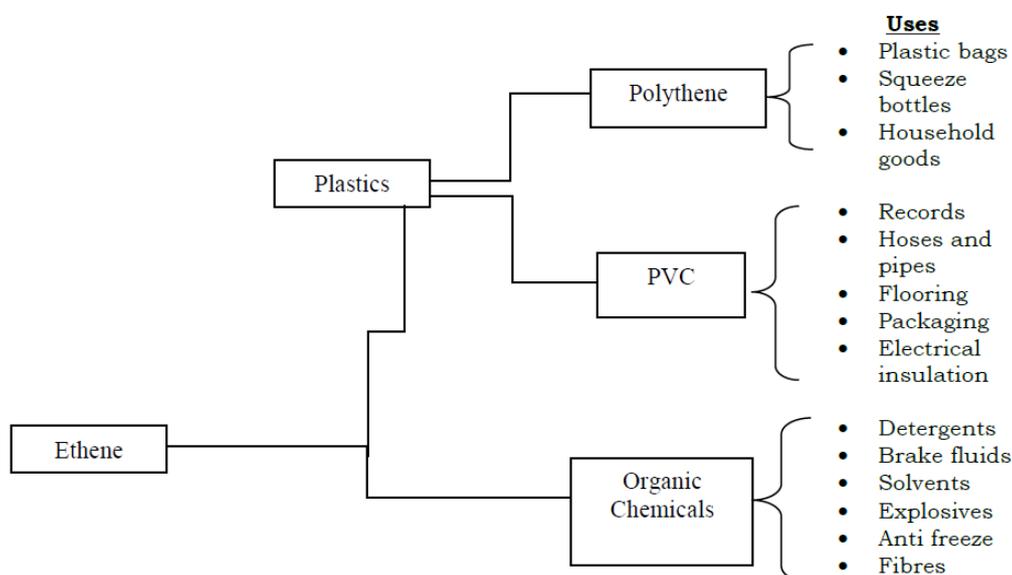
School: Ba Sangam CollegeYear: 11Subject: Chemistry

Name: _____

Strand	4 - Materials
Sub strand	4.3 Organic Substance
Content Learning Outcome	-Identify and discuss the properties of hydrocarbons. -Explore and list some useful products that are made from hydrocarbons.

Note:

- Compounds that contain only carbon-carbon single bonds are called saturated compounds. An example is alkanes.
- Compounds which contain carbon-carbon double or triple bonds are called unsaturated compounds. Examples include alkenes and alkynes.

Uses of Ethene**Polythene**

- Polyethylene (polythene) is a polymer of ethene. It is a soft, chemically resistant thermoplastic. This means that it softens on heating, allowing it to be moulded and extruded into thin sheets.
- Polythene is made by addition polymerisation, using the ethene molecules.

**Note:**

- A polymer is a very large molecule made from joining together thousands of small molecules.
- A monomer is a small molecule that is added together to make a polymer.
- Polymerisation is the process of making a polymer.

Teflon

- Teflon is a compound of fluorine and carbon called poly tetrafluoroethylene (PTFE).
- It is a plastic material that is highly resistant against chemicals, corrosion and oxidation.
- It is used in the manufacture of chemical processing equipment and for coating cooking utensils.

Terylene

Terylene is a synthetic fibre made by a process of polymerising ethylene glycol and terephthalic acid. It is very extensively used in textile industries to make hard wear clothes like sarees and dress material.

Polypropylene

Polypropylene, also known as polypropene is a thermoplastic polymer made from the monomer, propylene by addition polymerisation. It is used to make ropes, thermal underwear, carpets and stationaries.

Rubber

Synthetic rubber is obtained by polymerisation of unsaturated monomers. Synthetic rubbers are marketed as compressed bales and square blocks. It is used in the tyre industry, medical equipment and molded parts. Sulphur is the oldest vulcanisation agent for unsaturated rubber.

Note:

- Condensation polymerisation – when monomers join together and a water molecule is lost.
- Addition polymerisation – when monomers are added to each other to form long chain molecules (polymer) without by-products.

Exercise

1. Write the general formula for:

- Alkanes - _____
- Alkenes - _____
- Alkynes - _____

2. Define the following terms:

- Hydrocarbon- _____
- Saturated hydrocarbons- _____
- Unsaturated hydrocarbons- _____
- Natural gas- _____
- Bio gas- _____
- Monomer- _____
- Polymer- _____
- Polymerisation - _____

3. What happens to the melting and boiling point of alkanes (*does it increase, decrease or stays the same*) as the size of alkanes increases.

4. Explain why alkanes can be separated using fractional distillation.

5. Write an equation which shows the formation of polythene from ethene.
