

Student name:

Student number:

## Polymers

pgs. 144-146

ENGLISH	JAPANESE
Polymer	ポリマー・重合体
Monomer	モノマー・単量体
Polymerisation	重合
Catalyst	触媒・きっかけ
Melting Point	融点・溶解点
Synthetic	合成の
Tangle	からまる
Crack	ひびが入る
Wax	ロウ
Polythene	ポリエチレン
Investigate	調べる
Ethylene/ Ethene	エチレン
Squash	押しつぶす
Let in	入れる
Waxy	蠟のような
Solid	固形物、個体
Hydrocarbon	炭水化物
Have _____ in common	_____を共通に持つ
Nylon	ナイロン
Alternative	代わるもの、代案

**Activity 1:** Listen to the presentation and fill in the missing information below.

**Fill in the blanks:**

**Molecules** are made of **two** or more atoms. **Polymers** are made of **long** chains of **repeating**

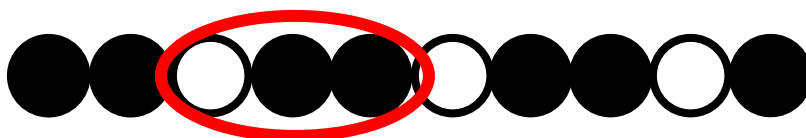
molecules. The small molecules are called **monomers**. These molecules combine together through a process called **polymerisation** to make a polymer.

**Find the monomers in the polymers below:**

A

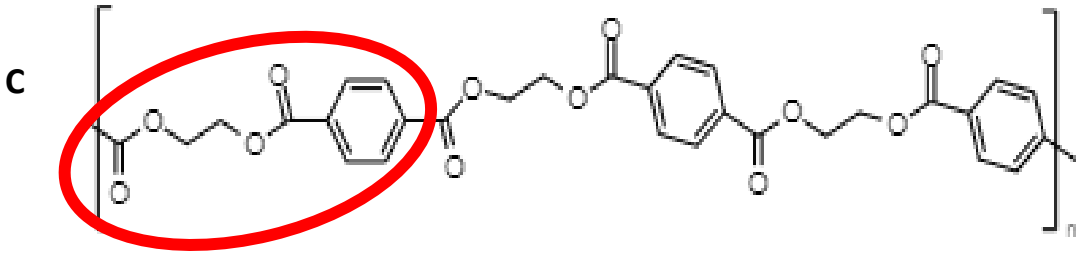


B



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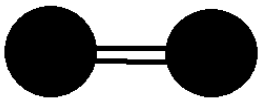


**Fill in the blanks:**

The way a **polymer** looks and feels depends on the **length** of its molecules. The bottle is **stronger** because it has **long** polymer chains that tangle together. The **crayon** is easier to break because it has **short** polymer chains.

**Activity 2: Answer the questions below.**

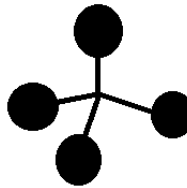
1. Put a ring around the molecules below.



**A**



**B**



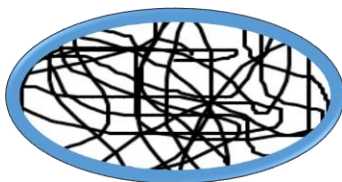
**C**



**D**

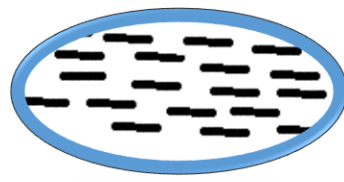
2. The structure of a plastic bottle and a candle are very different due to the arrangement of the molecules.

a. Label the two pictures below, to show which one is the **crayon** and which is the **plastic bottle**. [1 mark]



**Plastic Bottle**

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**Crayon**

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- b. Which has a higher melting point, the crayon or the plastic bottle? Why does this have a higher melting point? [2 marks]

**The plastic bottle has a higher melting point because it takes more energy to break apart the long molecules in the plastic bottle.**

3. Which of the following is **not** a polymer? Please put a circle around it.

A



**B**



C



D

