

Student name:

Student number:

Introduction to Materials

GCSE pgs. 134-137

ENGLISH	JAPANESE
Ceramic	陶磁器、セラミクス
Metal	金属
Polymer	重合体、ポリマー
Chemical	化学物質、化学薬品
Molecule	分子
Chain	鎖
Atom	原子
Properties of	～の性質、特性
Flexible	柔軟な、しなやかな
Design	デザイン、デザインする

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

Fill in the blanks:

Materials can be anything that is used to make something. Choosing the right material for the right job is very important.

Discussion Question: Why should you not make shoes out of chocolate?

List at least 3 reasons why:

- Chocolate would crack
- It would melt in warm weather
- Dogs would lick your feet
- It would wear away too quickly
- It would leave a mess
- Your feet would be sticky... ETC

What are some good materials for shoes? (List 3)

- Leather
- Rubber
- Foam
- Fabric
- Plastic... ETC

Student name:

Student number:

Fill in the blanks:

Leather is a good material for making shoes. This is because it is strong and flexible. Also, it is solid at room temperature and waterproof so it won't get wet.

Polymers are long chains of repeating molecules. There are 2 types, natural and synthetic.

Discussion: List 3 natural polymers (or things made from natural polymers) and list 3 synthetic polymers (or things made from synthetic polymers).

Natural	Synthetic
Wood	PET (plastic bottles, containers)
Cotton	Polyester (clothes and fabric)
Leather... Etc	Acrylic (paint)... etc

Questions: Look at pages 134-137 of your textbook, use scanning to answer the questions.

1. What basic needs do polymers meet for humans? (List 3) [3 marks]

Polymers meet the basic needs of humans, such as: shelter warmth and transport.

Also, food, water and healthcare. As well as, human contact and leisure.

2. Sometimes synthetic polymers are used instead of natural polymers. List 2 natural polymers that are replaced with synthetic polymers and why. [4 marks]

Synthetic polymers are used instead of natural polymers for many reasons such as clothing where synthetic fibres wash easier, hold their shape better and there are more colours. Fur and leather can be replaced to avoid using animal products. Wood is replaced because it is lighter, will not rot and no painting is required.