


YEAR 8 PEWTER KEYRING

Key vocabulary

ORE	A naturally occurring solid material from which a metal or valuable mineral can be extracted
CASTING	Pouring molten metal into a mould to make a product
INGOT	A block of metal, usually an oblong
REFINED	Impurities or unwanted elements being removed
MOULD	A former used to pour liquids which set and form a shape
JIG	A custom made tool designed to hold work and achieve accuracy repeatedly.
FORMER	A profile(outline shape) shape used to form materials
CAD	Computer aided design
CAM	Computer aided manufacture
MALLEABLE	Ability to shape without damage
THERMOPLASTIC	A polymer that can be shaped when heated
SUSTAINABLE	Able to be maintained or replaced naturally


Core knowledge and skills design

2D CAD - Computer software for drawing flat parts.



Icon	Meaning
	Used to draw straight lines
	Used to draw freeform curves
	Used to draw circles
	Used to add text
	Click and hold for Shapes tools

CAM- LASER CUTTER
A machine which cuts out and engraves using a laser beam ; wood, metals, plastics and textiles



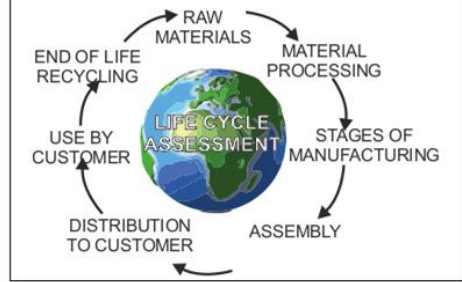


WWF is the world's leading independent conservation organisation. Our mission is to create a world where people and wildlife can thrive together. To achieve our mission, we're finding ways to help transform the future for the world's wildlife, rivers, forests and seas; pushing for a reduction in carbon emissions that will avoid catastrophic climate change; and pressing for measures to help people live sustainably, within the means of our one planet.

MATERIALS

PRODUCT LIFE CYCLE ASSESSMENT

The designer / manufacturer plans every stage of making the product and its use by the customer, so that damage to the environment is as low as possible. A written Life Cycle Assessment is produced, as part of the design process.



Pewter (Non Ferrous Alloy) – a malleable metal *alloy*. It is traditionally composed of 85–99% tin, mixed with copper, antimony, bismuth, and sometimes silver or lead, although the use of lead is less common today. *Pewter is 100% recyclable.*



Melting point of Pewter: 170°C - 230°C

MDF (Manufactured board) – an *engineered wood* product made by breaking down *recycled hardwood or softwood residuals* and then gluing the fibers back together with a resin. MDF is laser grade



Thermoplastic- High Impact Polystyrene – a polymer which is easily formed, malleable, and impact resistant.



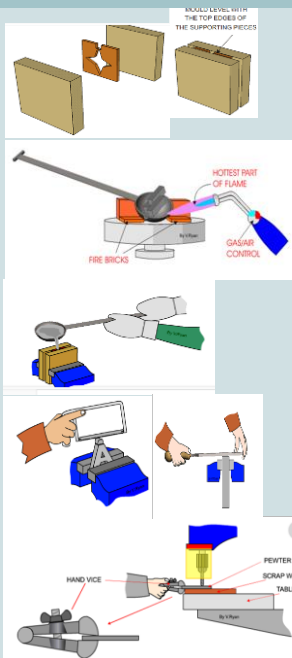
Core knowledge and skills make

Packaging

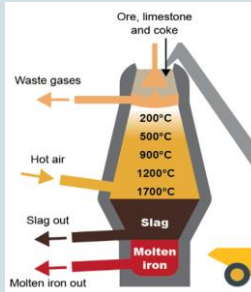
TECHNICAL KNOWLEDGE

THE PEWTER CASTING PROCESS

PERSONAL SAFETY EQUIPMENT



PACKAGING SYMBOLS	
	The goal of Fair Trade is to reduce poverty for farmers and workers in developing countries. This means not just paying them more in the short term, but also helping them improve their skills, build up their communities, and protect the local environment so its resources will be there for future generations.
	In Continental Europe the "Green Dot" trademark indicates that a fee has been paid to fund the recycling of the product. In the UK it is often used incorrectly on products to suggest they are recyclable. This is a misuse of the symbol.
	The "Tidy Man" symbol is a consumer prompt. He is there to remind you to dispose of your waste responsibly.
	These symbols are widely recognized and indicate that the product is suitable for a vegetarian diet.
	This is the international symbol for a recyclable product and it is in the public domain, meaning that any company can use it. It is used as a prompt to highlight that the product is recyclable and the consumer should recycle it where possible.



Metal **ORES** are mined from the ground

Impure metals are **REFINED** to separate the waste material

The iron is extracted in a **BLAST FURNACE**

Pig iron runs from the furnace and is poured into moulds to make **INGOTS**

Main Reasons for Packaging

<ul style="list-style-type: none"> STACKING & STORAGE Must be stackable. Can save space when transporting. 	<ul style="list-style-type: none"> TO PROTECT So that the contents can arrive at the shop/home without damage
<ul style="list-style-type: none"> INFORM It is a legal requirement to tell the customer what it is and what it contains. Labels provide info such as weight, instructions for use and allergy information. 	<ul style="list-style-type: none"> TO PRESERVE Food is packaged to prevent it from going rotten. Also used to keep things like makeup protected and hygienic.
<ul style="list-style-type: none"> PROMOTE Marketing and advertising packaging can attract attention to the product. 	<ul style="list-style-type: none"> SAFETY Tamper proofing to prevent contamination and reassure the consumer that the contents are safe to use.

FERROUS	NON-FERROUS	ALLOY
These metals contain iron. These include: mild steel, iron and stainless steel. These metals are magnetic and will rust	Metals which do not contain iron. These include: copper, aluminium and tin. These metals do not rust and are not magnetic.	Metals which are a mixture of two or more elements, one of which is a metal, these metal have improved properties. Brass, pewter and steel
Strong, ductile, malleable	Lightweight, malleable, conductive, good finish	hard, easily cast, strong

TOOLS & EQUIPMENT Write in the names once you know them



THE VACUUM FORMING PROCESS

