Year 7 Design and Technology – Knowledge Organiser

🛠️ Resistant Materials – Pewter Casting (Keyring Project)

Project Summary:

You will design and make a keyring using pewter casting techniques. You'll learn about moulds, casting, and finishing processes.

Key Knowledge:

Term	Definition
Pewter	A soft metal alloy (mainly tin) used for casting.
Mould	A hollow container used to give shape to molten material.
Casting	Pouring molten metal into a mould to create a shape.
Sprue	The channel through which molten pewter is poured.
Finishing	Smoothing, polishing, or painting the final product.

Health & Safety:
- Wear goggles and heat-resistant gloves.
- Never touch molten metal.
- Keep your workspace tidy.

⚙️ Systems and Control – Moisture Sensor Project

Project Summary:

You will make a simple circuit that detects moisture in soil. You'll learn how to use components to build an electronic product.

Key Components:

Component	Purpose
PCB (Printed Circuit Board)	Holds the circuit components.
Resistor	Reduces the flow of current.
LED	Lights up when the circuit is active.

Transistor   Switches the current flow on or off.

Moisture Probe   Detects water in soil.

Skills Learned:
- Soldering safely and accurately.
- Understanding basic circuit diagrams.
- Problem-solving and testing.

Top Tip: Always double-check polarity (positive and negative) before soldering!

Page 2 – Food and Nutrition

🍴 **Food and Nutrition**

Key Topics:

1. Health and Hygiene
  - Wash hands before and after handling food.
  - Tie back long hair and wear an apron.
  - Use separate chopping boards for raw and cooked food.

2. Knife Skills
  - Use the claw grip and bridge hold for safety.
  - Cut food into even pieces for even cooking.

Practical Recipes:

Dish	Skills Learned
Sandwich	Knife and presenataion skills
Cous Cous Salad	Boiling, seasoning, knife skills.
Scones	Weighing, rubbing-in method, baking.
Pizza	Dough making, grating, chopping.

Eatwell Guide:
- Aim for a balanced diet from 5 food groups.
- Drink plenty of water.
- Limit sugar and salt.

⭐ **Key Vocabulary (All Areas)**

Word	Meaning
Design Brief	A short statement of what you need to make and why.
Evaluate	To judge how well your product works and how it can be improved.
Function	The purpose of your product.
Aesthetics	How your product looks.

Sustainability   Designing products that are good for the environment.