

Unit Title	Focussed Practical Tasks/ Resistant Materials (4 weeks)	Mechanical Toy Project	Basic Cookery of Savoury and Sweet Dishes
Number of lessons	4 Lessons	14 lessons	9 practical lessons if taught fortnightly 18 lessons if taught weekly (1 practical and 1 theory)
Curriculum content	<p>Baseline Test (1 lesson)</p> <p>Students to complete baseline test in first lesson.</p> <p>Net Design (3 lessons):</p> <p>During this mini project pupils are going to design the graphics for a multi-pack cereal box. Learners can use an existing brand and re-design the graphics, character and logo. Alternatively, they can create your own brand, logo and characters.</p> <p>As you work you apply your knowledge and understanding of materials and ingredients. You work accurately at all stages and show understanding of ways you are limited. You clearly modify and change your work as necessary as it develops. As you develop and communicate ideas you are aware of culture and society in the products you use and create.</p> <p>Respond creatively to briefs. Apply knowledge and understanding of materials and techniques. Solve technical problems.</p>	<p>Over the next 12 weeks all learners will be designing and making a mechanical toy. Pupils are doing this project to develop and enhance your research, design and making skills. Building on knowledge you have previously learned. All students will be expected to work to the best of your ability throughout this project, with the main emphasis on producing a high standard of work and a very high-quality final product.</p> <p>Knowledge covered: Different types of mechanisms and motion. Systems and Control: Input, output and processes. Basic applied Physics</p>	<p>Core knowledge:</p> <p>Introduction to different cooking methods Working with recipes Costing a recipe using simple percentages Health and Safety Healthy Eating – Government guidelines Use of questionnaires Balanced meals Food label information Importance and types of packaging</p> <p>Core skills:</p> <p>Weighing and measuring Knife skills Methods of cookery Temperature controlling Safe use of equipment</p> <p>Enhanced knowledge:</p> <p>Applying knowledge and understanding of ingredients and equipment working accurately and showing understanding of limitations Government guidelines of healthy eating Enhanced skills: Modifying dishes to include increased nutritional value Evaluation of dishes using a Star profile</p>
Links to prior learning	<ul style="list-style-type: none"> Maths creating nets at KS2 Healthy eating at KS1 and KS2 	<ul style="list-style-type: none"> Science Different types of Motion Maths range of basic shapes 	If food technology was taught in primary school students should understand health and safety as well as basic equipment knowledge
Cultural capital opportunities	<p>https://www.youtube.com/watch?v=HPpMV_vcVEg</p> <p>Home Product Analysis of cereal box net: Take a cereal box net and take it apart. Look at how it is constructed and also the graphics used.</p>	<p>Visit Bressingham steam museum</p> <p>https://www.bressingham.co.uk/home.aspx</p> <p>See a range of machines that use CAMS and convert one type of motion into another.</p>	<p>Visit local farms and look at the foods available in farm shops</p> <p>Visit farmers markets and look at the foods offered</p> <p>Look at celebrity chef's blogs and recipe ideas</p>

	Make sense of the legal information regarding nutrients etc.		
Assessment focus	<p>Baseline Test: Knowledge and understanding of the following subject areas:</p> <ul style="list-style-type: none">• English• Maths• Science• Art• Food Technology• DTRM	<p>Mechanical Toy Practical: Tools and equipment are used accurately when working from your plans which you change if necessary.</p> <p>Core Skills being assessed: Measuring and marking out. Use of a Tools (Tenon saw, coping saw, try square...etc.)</p>	<p>Term 1: Baseline test</p> <p>Term 2: Pre-assessment: fruit salad</p> <p>Assessment: apple crumble</p> <p>Term 3: End of unit test</p>

Year 7 Knowledge Organiser: Skills focus

General practical skills



Use of equipment:

Electric kettle, hand-held blender, electric whisk



Knife skills: To demonstrate safety skills when using knives, there are two cutting techniques that we should use.



Bridge hold

- 1 Use your thumb and forefinger to grip either side of the ingredient.
- 2 Use the knife to slice the ingredient in the bridge-like gap created by your finger and thumb.



Claw grip

- 1 With the tips of your fingers and thumb tucked under towards the palm of your hand, hold the ingredient to be cut in a claw-like grip.
- 2 Hold the knife in your other hand. Carefully bring the knife across and slice the ingredient.

Use of the cooker: Grill and oven



HATTIE



Preparing fruit and vegetables skills



mash



shred



grate



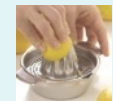
peel



pipe



blend



juice

Raising agents:

Mechanical, creaming and whisking



Preparing, combining and shaping



Cooking methods: Using the hob and cooking with water

Cooking with water

- Boiling – foods such as potatoes, eggs, vegetables, pasta and rice can be cooked by placing them in liquid at boiling point of 100°C.
- Simmering – foods such as curries and fruit are simmered; this means they are cooked just below boiling point.
- Poaching – eggs and salmon are cooked very gently in hot water.
- Steaming – vegetables, fish, puddings and chicken can be cooked in the steam from boiling water.



ASSESSMENT

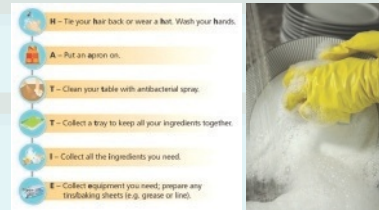
NEA1 style experiments
NEA2 style practical assessment
at the end of the course

Year 7 Knowledge Organiser: Theory focus

FOOD SAFETY

HATTIE

It is important to wash up correctly when you have cooked.



FOOD PROVENANCE

Food grown in the UK: There are many foods grown in the UK, such as wheat, barley and many fruits and vegetables.

Food methods and production: Chicken for meat and eggs can be produced by intensive farming or free-range farming. Some food is also grown organically under very strict guidelines.

Food miles: Some people like to shop locally to support local farmers and to reduce food miles.



FOOD COMMODITIES

Fruit, soya, tofu, beans, nuts and seeds are commodities. Commodities are commonly eaten foods. They can either be eaten raw or processed into other foods, such as oranges into orange juice.



FOOD SCIENCE

Shortening is when fat coats flour, for example in biscuits and pastries. It gives them a crumbly texture. Aeration is when air is trapped in a mixture. Air gives mixtures a springy texture.



FOOD NUTRITION AND HEALTH

Why do we need to eat food? The Eatwell Guide gives us a lot of information about what we should be eating and how much. It helps us plan a healthy diet.

Foods are made up of different components called nutrients. Each nutrient has a function:

- Protein is needed for growth and repair of cells, for maintenance of the body and to provide energy.
- Fat is needed to provide energy, to keep the body warm, to protect internal organs and to provide fat-soluble vitamins and essential fats.
- Carbohydrates are needed for energy.
- Vitamins are needed to protect the body and prevent disease.
- Minerals are also needed for protection from illness and disease.



FOOD CHOICE

Sensory evaluation When you eat food, you are judging the following characteristics:

- appearance
- taste
- smell – aroma
- texture – mouthfeel (how a food product feels in the mouth)

Judging food based on these characteristics is called sensory evaluation.



ASSESSMENT

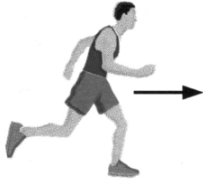
Interactive activities at the end of each lesson will test your knowledge and understanding.

There will be a test at the end of the course to check your knowledge and understanding – it will include multiple choice questions and short and long answer questions.

Mechanical Toy Knowledge Organiser

Linear Motion:

This is when something completes a movement in a straight line. When you walk down the street you are enacting a linear motion. Examples may be to pull a cord, wind up a rope and a zip mechanism.



Rotary Motion:

This motion involves moving in a complete circle. Examples may be a gear, wheel and a cam.



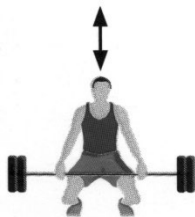
Oscillating Motion:

This is a swinging motion which does not go round in a full circle. Examples including a swing, pendulum and a metronome.



Reciprocating Motion:

This motion involves moving to and fro in one complete movement. Examples of this are a bicycle pump and a keyboard key.

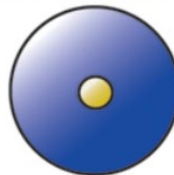


B: Cams and followers

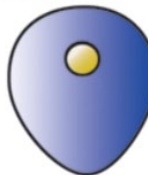
A cam mechanism has three parts: a cam, a slide and a follower. When the cam rotates, the follower moves up and down in a reciprocating motion. The pattern the follower moves up and down in, varies depending on the shape of the cam; it can do three things:

- go up (rise)
- go down (fall)
- Stay still (dwell)

Cams come in many different shapes to create different combinations of rise, fall and dwell.



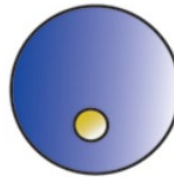
ROUND



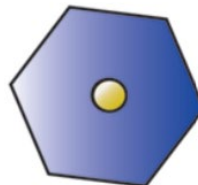
EGG-SHAPED



ELLIPSE



ECCENTRIC



HEXAGON



SNAIL

Name	Picture	Use
Coping Saw		The thin blades allow you to make curved cuts. The blade is held in tension by the spring steel frame with teeth pointing backwards towards the handle.
Tenon Saw		A hand saw with a stiff back used to cut straight lines in wood.
Pillar Drill		A machine used to make holes in materials.
Bench hook		Used to hold the wood when cutting on the face.
Mallet		A hammer with a large wooden head.
Try Square		The try-square is pushed against the straight edge of a piece of wood and a pencil is then used to mark a straight line across the material. The line is continued all the way round the wood (all four sides are marked). This type of marking materials helps if a joint is to be cut or the end of the material is simply to be sawn away
Rule		Steel rules come in rigid and flexible versions. While their primary purpose is accurate measurement , they can also be used as guides for laying out lines, and if rigid enough, for cutting. The thinner, more flexible rules can also be used to measure rounded or cambered work.

Net Knowledge Organiser

What is a brand name?

This is a name of a company that sells/ provides a product to the buying market.
Examples: Adidas, Apple, Sony or Kelloggs.

What is a Logo?

A name, symbol, or trademark designed for easy and definite recognition.

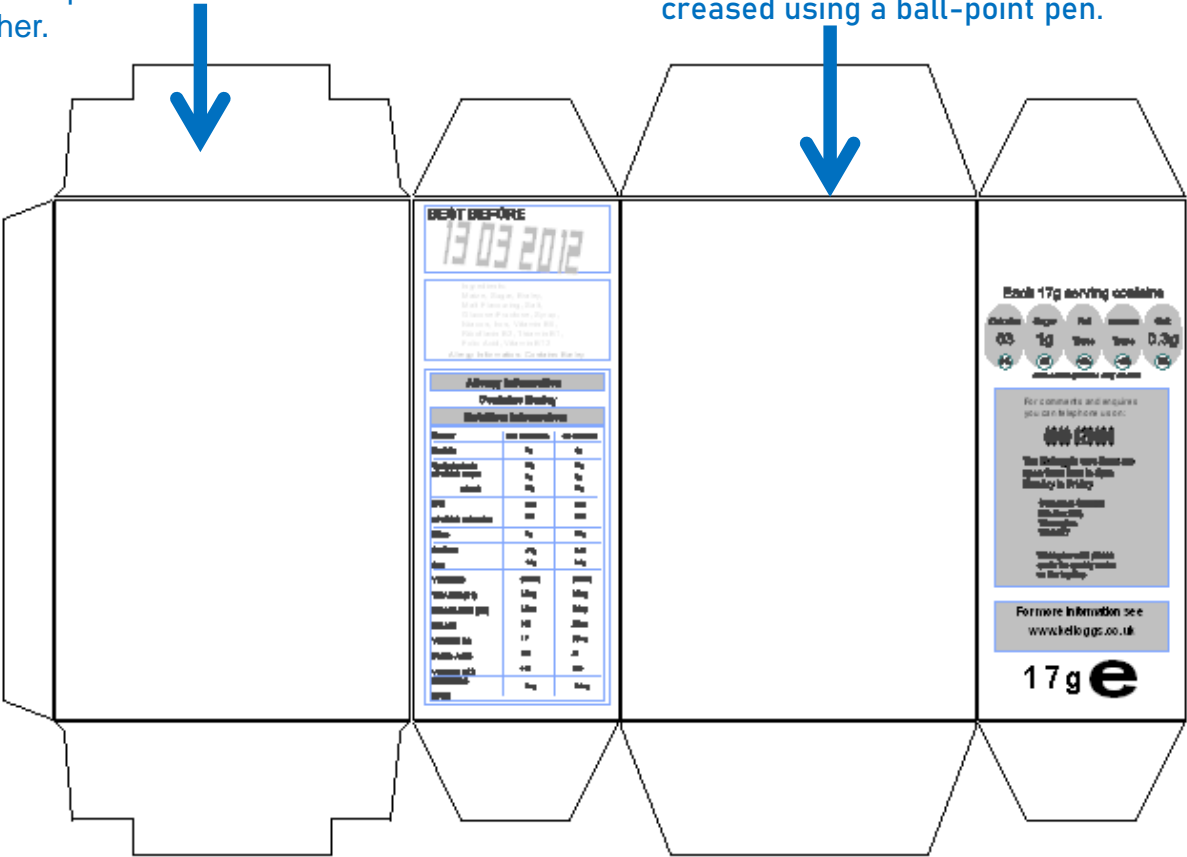


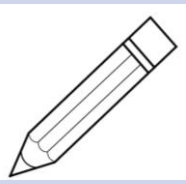





Flaps

The size and design of flaps is very important, both as a means of gluing the box together and also to ensure that the top bottom and sides fit well together.

Scoring

If you do not wish to cut into the surface of the card, folds can be creased using a ball-point pen.



Equipment	Picture	Information
Pencil		A pencil will be used to aid in the designing of the graphics of your net.
Coloured Pencil		Coloured pencils add colour and tone to your design.
Ruler		This helps layout your graphics effectively. Also your ruler will help you score and fold your flaps of the net.
Scissors		This piece of equipment will help cut your net accurately.
Pen		A pen will be used to enhance the graphical appearance to your drawings on the net. Also your pen will help you score and fold your flaps of the net.
Glue Stick		To help stick and construct your net.