

DT Knowledge Organisers

Autumn Two - 2025-26



Hanslope Primary School

Design Technology Knowledge Organiser

Year 1/2: Mechanisms (wheels and axles)

Overview:

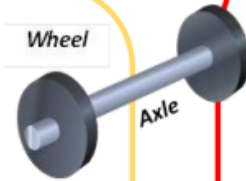
Mechanisms are the parts that make something work.

-Mechanisms are all around us! Most objects that help us in our lives are made up of different mechanisms.

Wheels and Axles are mechanisms that help things to move.

-Wheels are circular objects that roll on the ground, helping vehicles and other objects to easily move.

-Axles are rods that help wheels to rotate. The wheel can either rotate freely on the axle, or be attached to (and turn with) the axle.



How does this link to my future learning?

- Year 3 Mechanisms (Levers and Linkages)

National Curriculum Links:

- Design, make and evaluate products
- Technical knowledge: understand and use mechanical systems in their products [for example, gears, pulleys]

What key vocabulary will I learn?

Mechanism, wheel, axis, axle holder, friction, dowel, chassis, design, make, evaluate.

What steps will I follow to create my final product?

Designing

Chassis

- The chassis is the frame or base on which the vehicle is built. A chassis should be strong and rigid enough to hold the vehicle.
- The chassis should include axle holders. These designed so that the axles do not have too much friction against them.

Axle

- Consider what you will make your axle from. It needs to be strong enough to hold the wheels, and fit freely in the axle holder.

Wheel

- Consider whether your wheels will be fixed to the axle, or free.
- If fixed, they need to be firmly attached. If not, they need a stopper to prevent them from falling off.
- Some materials allow the wheel to move more freely on surfaces.

Making

- Wheels could be made from wood, card, MDF, plastic, cotton reels, or foam-covered reels.
- Axles could be made from dowels or paper sticks.

Free Axles - Fixed Wheels

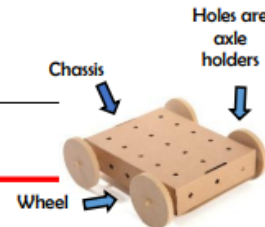
- The axles move with the wheels. Loose-fitting axle-holder, tightly fixed wheels.

Fixed Axles - Free Wheels

- The axles will remain fixed to the chassis. The wheels move alone. Tight-fitting axle-holder, loose-fitting wheels.

Evaluating

- How well does your mechanism work? Does it move smoothly?
- Does it meet its purpose?
- Who would use your mechanism? What would they like about it?
- How did you stop any unwanted friction? How did this effect the mechanism?
- What else could you do to improve your mechanism?



Health and Safety

- Remove any jewelry and tie back long hair.
- Wear an apron and roll up your sleeves.
- Walk safely and calmly around the classroom/workshop.
- Keep your work area and floor area clear – keep your belongings well clear.
- Follow the teacher's cutting instructions carefully.
- Make sure that you are wearing the correct equipment for tasks.
- If you need to move around with scissors, hold around the closed blades, facing down.
- Report all spillages & clean up properly after yourself.

Year 3

No DT this term.



Hanslope Primary School

Design Technology Knowledge Organiser

Year 4 - Food - healthy and varied diet (including cooking and nutrition requirements for KS2)

Overview:

In order to stay healthy, it is important that we eat a balanced diet of foods from each of the five food groups. Too much of any one food group is not healthy for us.

-You should know that within each group, some foods have different benefits (e.g. fish has less fat than red meat).

-You should be able to design your own plate - think about foods that go well together, and promote a balanced diet.

-You should already know that some of our food is produced locally, whilst some may come from elsewhere in the world. Sometimes, foods can be easily made in lots of different countries. However, sometimes the conditions in a country make it perfect for producing certain foods.

-When we trade in foods from another country it is called **importing**. When we trade out foods to another country it is called **exporting**.

What key vocabulary will I learn?

Food group, balanced diet, healthy plate, measuring, grating, serving, melting, boiling, frying, health & safety, produced, import, export.

Use the principles of a healthy and varied diet to prepare dishes

National Curriculum Links:

Understand where food comes from.

To know whether food is grown, caught or raised.

In order for us to get eggs, we need to raise chickens. Eggs are laid by female chickens.

In order for us to get tomatoes, we need to grow a tomato plant.

In order for us to have lobster, we have to catch the lobster.



How does this link to my future learning?

Year 5 - Food celebrating culture and seasonality (including cooking and nutrition requirements for KS2)

What steps will I follow to create my final product?

- Research where food comes from and the different sources – grown, caught or raised?
- Discuss the different food groups and how we need to balance them.
- Taste different foods and see which ones we like best
- Prepare food using different utensils.
- Cook food in different forms.



Health and Safety

-Remove any jewelry and tie back long hair.

-Wear an apron and roll up your sleeves.

-Wash your hands with hot water and antibacterial soap.

Washing your hands should be done before, during and after preparing food.

Use different chopping boards and knives for raw meat & other foods.

Check that food is cooked right the way through.

Check the dates on food, and check for allergies of those eating.

Make sure that you clean up properly after yourself.



Hanslope Primary School

Design Technology Knowledge Organiser

Year 5: Food celebrating culture and seasonality (including cooking and nutrition requirements for KS2)

Preparing and cooking processes.

Preparing Processes - Preparing processes are the different ways that we get food ready to be eaten.

-Slicing: cutting food using a knife.

-Mixing: to blend ingredients together, using a spoon, blender, or whisk.

-Weighing/measuring: to get the right amount of an ingredient, using scales, table/teaspoons

Grating: to peel a layer off something (like carrots or cheese) using a peeler or grater.

-Serving: making food look nice on the plate.

Cooking Processes- Cooking processes are the different ways that we heat food before it is eaten.

-Baking: to cook food in a heated oven.

-Boiling: to cook food in boiling (100°C) water.

-Frying: to cook food in a pan of heated oil.

-Grilling: to cook food by putting it under a hot grill (like a radiator in a cooker).

-Steaming: to cook using steam, normally from boiled water.

Healthy & Varied Diet	Steaming
Food/M meal Plan	Poaching
Calories	Seasonal Produce
Saturated Fat	Seasonality
Adding/ Substituting	Sustainability

What key vocabulary will I learn?



National Curriculum Links:

- Cooking and Nutrition: understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are

How does this link to my future learning?

- **Cooking and nutrition KS3** - understand the source, seasonality and characteristics of a broad range of ingredients.

Food from around the world

Seasonal Foods around the World

-It is important to remember that the seasons are different in different places over a year.

-In the northern hemisphere, spring takes place between March and May. In the southern hemisphere, spring is September to November.

Therefore, foods are in season in different places at different times of the year. Cucumbers can be naturally grown in the northern hemisphere March-June, and in the southern hemisphere October-December.

UK Seasonal Foods

Winter: Apples, Beetroot, Sprouts, Cabbage, Leeks, Mushrooms, Onions, Parsnips, Pears, Turnips.

Spring: Artichokes, Asparagus, Aubergines, New Potatoes, Rhubarb, Rocket, Spinach, Spring Greens, Spring Onions.

Summer: Blackcurrants, Broad Beans, Cherries, Chillies, Courgettes, Gooseberries, Garlic, Strawberries, Water Cress.

Autumn: Butternut Squash, Cauliflowers, Chicory, Elderberries, Marrow, Pumpkin, Wild Mushrooms, Squash.

Health and Safety

-Remove any jewellery and tie back long hair. Ideally, wear a hair net.

-Wear an apron and roll up your sleeves. Tie your apron securely.

-Wash your hands with hot water and antibacterial soap, for at least 20 seconds.

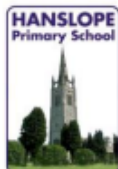
Washing your hands should be done before, during and after preparing food.

Use different chopping boards and knives for raw meat & other foods. This stops bacteria spreading.

Use a food thermometer to check that food is cooked through.

Check the dates on food, and check for allergies & diet e.g. vegetarian, vegan.

Make sure that you clean up properly after yourself.



Hanslope Primary School

Design Technology Knowledge Organiser

Year 6: Food celebrating culture and seasonality (including cooking and nutrition requirements for KS2)

Preparing and cooking processes.

Preparing Processes - Preparing processes are the different ways that we get food ready to be eaten.

-Slicing: cutting food using a knife.

-Mixing: to blend ingredients together, using a spoon, blender, or whisk.

-Weighing/measuring: to get the right amount of an ingredient, using scales, table/teaspoons

Grating: to peel a layer off something (like carrots or cheese) using a peeler or grater.

-Serving: making food look nice on the plate.

Cooking Processes- Cooking processes are the different ways that we heat food before it is eaten.

-Baking: to cook food in a heated oven.

-Boiling: to cook food in boiling (100°C) water.

-Frying: to cook food in a pan of heated oil.

-Grilling: to cook food by putting it under a hot grill (like a radiator in a cooker).

-Steaming: to cook using steam, normally from boiled water.

How does this link to my future learning?

- **Cooking and nutrition KS3** - understand the source, seasonality and characteristics of a broad range of ingredients.

What key vocabulary will I learn:

Healthy & varied diet, food/meal plan, saturated fat, adding/ substituting, griddling, steaming, poaching, seasonal produce, seasonality, sustainability, health & safety.

National Curriculum Links:

- Cooking and Nutrition: understand and apply the principles of a healthy and varied diet
- Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

What will I know by the end of the unit?

Seasonality

-In the northern hemisphere, spring takes place between March and May. In the southern hemisphere, spring is September to November. Therefore, foods are in season in different places at different times of the year.



Eating Sustainably

-With modern technology, it is possible to grow and rear food out of season.

-However, growing and rearing foods out of season consumes a lot of energy, because the process takes place in artificial conditions, and needs a lot of resources, for example heat, light, water and nutrients.

-Eating sustainably is about finding the right balance between your food needs and your food choices. It helps to reduce our carbon footprint.



A Varied Diet (REMINDER)

--In order to stay healthy, it is important that we eat a balanced diet of foods from each of the five food groups. Too much of any one food group is not healthy for us.

-You should be able to create a weekly food plan, incorporating a healthy and varied diet of foods across each day and the week.

-Your plan should apply your understanding of which foods within groups have advantages and disadvantages (e.g. 'fish has less fat than red meat').

Health and Safety

-Remove any jewellery and tie back long hair. Ideally, wear a hair net.

-Wear an apron and roll up your sleeves. Tie your apron securely.

-Wash your hands with hot water and antibacterial soap, for at least 20 seconds.

Washing your hands should be done before, during and after preparing food.

Use different chopping boards and knives for raw meat & other foods. This stops bacteria spreading.

Use a food thermometer to check that food is cooked through.

Check the dates on food, and check for allergies & diet e.g. vegetarian, vegan.

Make sure that you clean up properly after yourself.