

Subject on a page



At Springfield Academy, our pupils show determination and curiosity, embracing challenges and approaching problems with confidence. They build on previous understanding, returning to key ideas to strengthen and extend their learning over time. Children learn to recognise what consumers need and value, using this awareness to imaginatively design and produce creative, forward-thinking products. Inspired by the work of others, they strive to achieve their best and understand that with effort and ambition, anything is possible.

Intent

- We aim to...

Instil the importance of the analyse, design, make and evaluate cycle.

Strengthen pupils' skills by building on what they have previously learned.

Teach pupils to become proficient in identifying and using transferable skills.

Value and celebrate the creative products pupils design and manufacture.

Implementation

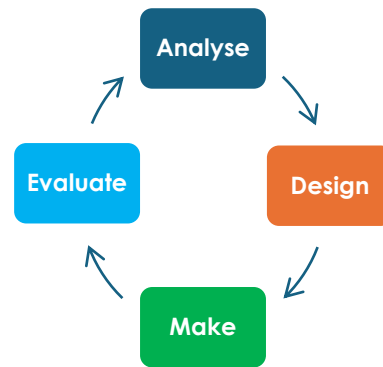
- How do we achieve our aims?

EYFS

- Sliding mechanisms in pop up books.
- Wheels on vehicles, Mechanics station in the environment.
- Healthy food and drink choices; food tasting; washing preparing and cutting fruits and vegetables.
- Building enclosures, bridges and different structures during block play.
- Threading opportunities in fine motor stations; Adding buttons to materials and looking at patterns.

Outcomes

Pupils are motivated to analyse, design, make and evaluate their products based on producing a genuine product for a very specific audience or end user.



KS1 Cycle A	KS1 Cycle B	LKS2 Cycle A	LKS2 Cycle B	UKS2 Cycle A	UKS2 Cycle B
Cooking and nutrition – Superfood salad	Mechanisms (wheels and axles) – create a moving toy car!	Mechanisms (CAD) – Micro bits	Cooking and nutrition – Roman bread	Mechanisms and Electrical Systems – Make a moving fairground ride (including pulleys, switches and motors)	Mechanisms (cams) – moving model
Structures – building a model of a building from the Great Fire of London	Cooking and Nutrition – Dips and Dippers	Mechanisms – Pneumatic toy fish or crocodile	Electrical Systems – A night light/safety light	Structures – Design an Anderson shelter	Textiles – Create a felt phone case
Mechanisms (levers and sliders) – a book cover with a working mechanism	Textiles – Animal puppets	Textiles – Egyptian Collars	Structures (shell structures) – Packaging for Anglo-Saxon jewellery	Cooking and Nutrition – Mexican food	Cooking and Nutrition – planning and cooking a seasonal meal

Impact

- How will we know we have achieved our aims?

Children work methodically and critically to develop products.

Children retain key knowledge and confidently apply it when meeting new concepts.

Children exhibit the characteristics associated with successful product developers, such as curiosity, resilience, and the ability to solve problems.

Children take pride in their learning journey and feel motivated to continue developing their skills.

The National Curriculum

When designing and making, Key Stage 1 pupils should be taught to:
Design purposeful, functional, and appealing products for themselves and others, based on design criteria.

Generate, develop, model, and communicate ideas through talking, drawing, templates, mock-ups, and, where appropriate, information and communication technology.

Select from and use a range of tools and equipment to perform practical tasks.

Select from and use a wide range of materials and components, including construction materials, textiles, and ingredients, according to their characteristics.

Explore and evaluate a range of existing products.

Evaluate their ideas and products against design criteria.

Build structures, exploring how they can be made stronger, stiffer, and more stable.

Explore and use mechanisms in their products.

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

Understand where food comes from.

When designing and making, Key Stage 2 pupils should be taught to:

Use research and develop design criteria to inform the design of innovative, functional, and appealing products that are fit for purpose and aimed at particular individuals or groups.

Generate, develop, model, and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces, and computer-aided design.

Select from and use a wider range of tools and equipment to perform practical tasks accurately.

Select from and use a wider range of materials and components, including construction materials, textiles, and ingredients, according to their functional properties and aesthetic qualities.

Investigate and analyse a range of existing products.

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

Understand how key events and individuals in design and technology have helped shape the world.

Apply their understanding of how to strengthen, stiffen, and reinforce more complex structures.

Understand and use mechanical systems in their products.

Understand and use electrical systems in their products.

Apply their understanding of computing to program, monitor, and control their products.

Understand and apply the principles of a healthy and varied diet.

Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.

Become competent in a range of cooking techniques, for example:

Selecting and preparing ingredients; Using utensils and electrical equipment; Applying heat in different ways; Using awareness of taste, texture, and smell to decide how to season dishes and combine ingredients; Adapting and using their own recipes

Understand the source, seasonality, and characteristics of a broad range of ingredients.