



Ashley Junior School

Ready • Respectful • Responsible



# **AJS Design Technology Learning Journeys Whole School**



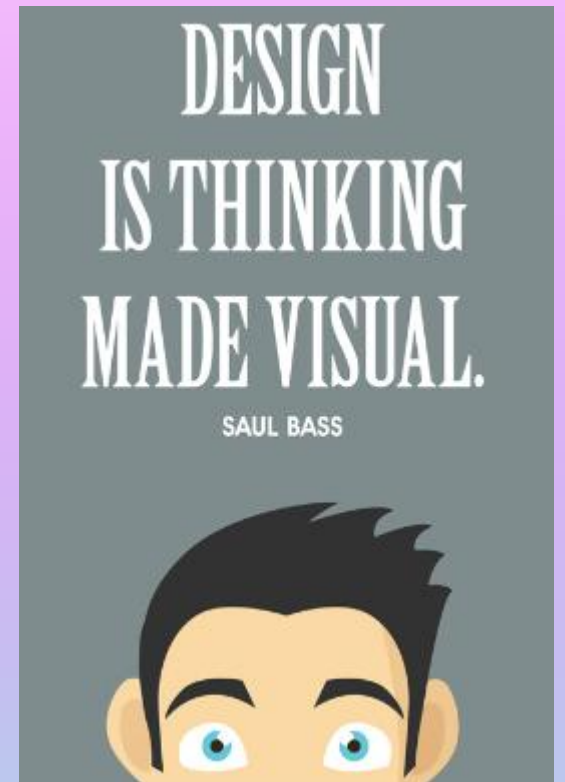
# Design Technology



A **designer** creates designs, structures and patterns for a product.

As **designers** we are learning to...

- research products, designs and significant people to inspire our work
- design a product, **think** critically about its properties, materials and structure
- be **resilient** in making a product using a range of resources and practical skills
- **independently** evaluate our designs, final product and **reflect** on how ideas can be improved



**Intent:**

It is the intent of Ashley Junior School for Design Technology to be taught in all year groups through at least two topics per school year and to be fully inclusive to every child. Lessons will inspire children to use their creativity and imagination to design and make products with a purpose in mind and an intended user of the products. They will build and apply a repertoire of knowledge, understanding and skills to make high-quality prototypes and products using the language of design and technology.

**Implementation:**

The teaching of Design Technology at AJS will follow the guidelines in the National Curriculum 2014. Design and technology is a crucial part of school life and learning and it is for this reason that as a school we are dedicated to the teaching and delivery of a high quality Design and Technology curriculum; through well planned and resourced projects and experiences. Each project is set out in a learning journey and assesses the children's understanding before and after the project has been completed.

Throughout their four years at AJS, children will learn a variety of skills and techniques such as: how to strengthen, stiffen and reinforce structures; to understand and use mechanical systems; to understand and use electronic systems in their products and how to apply their understanding of computing to program, monitor and control their products. Food technology is implemented in both lower and upper school where children will have the opportunity to prepare and cook a variety of dishes using a range of cooking techniques as well as developing an understanding of where food comes from and the importance of a varied and healthy diet.

Design and Technology also embeds our Vision and Aims. It is a motivating, inspiring and practical subject, requiring creativity, resourcefulness, and imagination. Teachers have high expectations for quality outcomes and celebrate achievements. To reach their full potential, children learn to take risks, be reflective, innovative, enterprising and resilient. Through the evaluation of past and present technology they can reflect upon the impact of Design Technology on everyday life and the wider world.

**Curriculum Impact**

Assessment of children's learning in Design Technology is an ongoing monitoring of children's understanding, knowledge and skills by the class teacher, throughout lessons. The subject leader also monitors Design Technology during the year in the form of book monitoring, looking at outcomes and pupil conferencing to discuss their learning and understanding.

**AJS Design Technology  
Learning Journeys  
Year 3/4-Cycle A**



## Sir Jonathan Ive 1967

Sir Jonathan Paul "Jony" Ive is Senior Vice President of Design at Apple Inc. and oversees the Industrial Design for the MacBook Pro, iMac, MacBook Air, iPod, iPod Touch, iPhone, iPad, iPad Mini and iOS 7. Essentially, this man is responsible for the sleek Apple-laden monolith that we all succumb to at one point or another.





# Cycle A Year 3/4 Electrical Product- Steady Hand game

Evaluate-WALT: evaluate ideas and products against a design.

Make- WALT: create an electrical product using a circuit.

Design –WALT: create a final design and annotate.

Design- WALT: generate and develop initial ideas.

Evaluate - WALT: research and evaluate past and present designs of badges.

Start

Key Vocabulary/skills

Electrical, buzzers, cells, crocodile leads, wire, switches, circuits.

# Retrieval:

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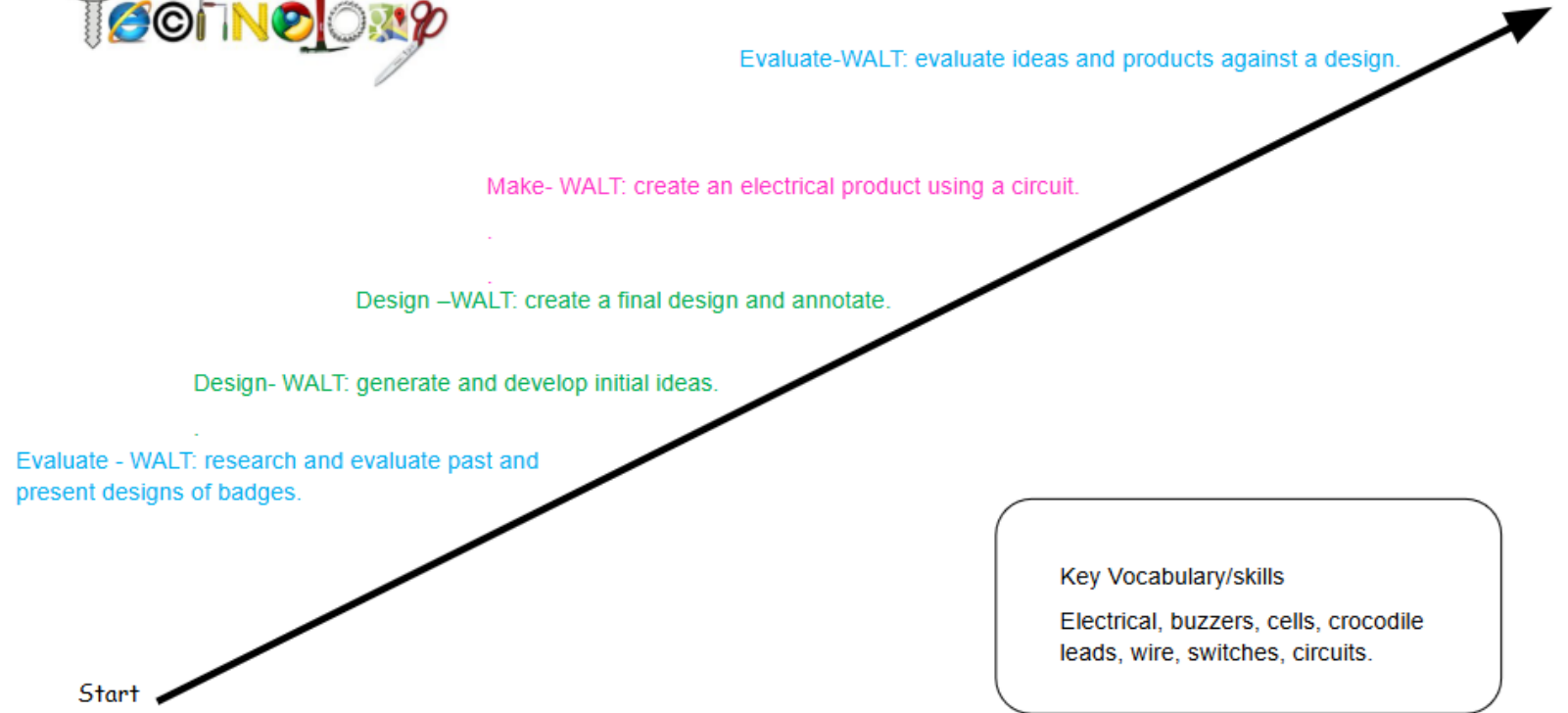
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## Cycle A Year 3/4 Electrical Product- Steady Hand game



# Key Questions:

1) What do you need to create a circuit?

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2) How well does your product test hand control?

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3) What safety tips would you give someone creating this game?

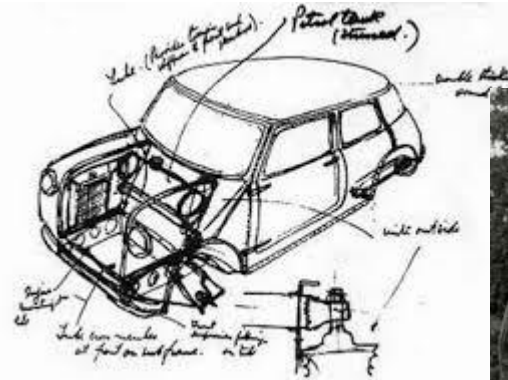
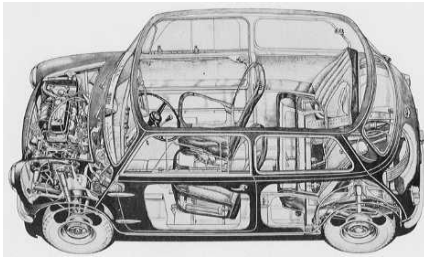
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## Alec Issigonis 1906 - 1988

One of the most original car designers of the modern era, ALEC ISSIGONIS (1906-1988) is best known as the creator of the Mini, but also designed two more of the five best-selling cars in British motoring history – the Morris Minor and the Austin 1100.





## Cycle A Year 3/4 Moving Monsters

Evaluate-WALT: evaluate ideas and products against a design.

Make- WALT: measure, cut and join accurately.

Make- WALT: understand and use mechanical systems in a product.

Design - WALT: create a final design and draw it as a cross sectional diagram.

Design- WALT: generate and develop initial ideas of using  
pneumatic systems to control movement.

Evaluate - WALT: research the design features of  
products that use pneumatics.

Start

Key Vocabulary/skills

Mechanism, pneumatics, syringe,  
inflate, deflate, compress

## Retrieval:

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## Key Questions:

1) Explain what a pneumatic system?

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2) Can you name some pneumatic products that we use in everyday life?

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3) How can we ensure that we measure our materials accurately?

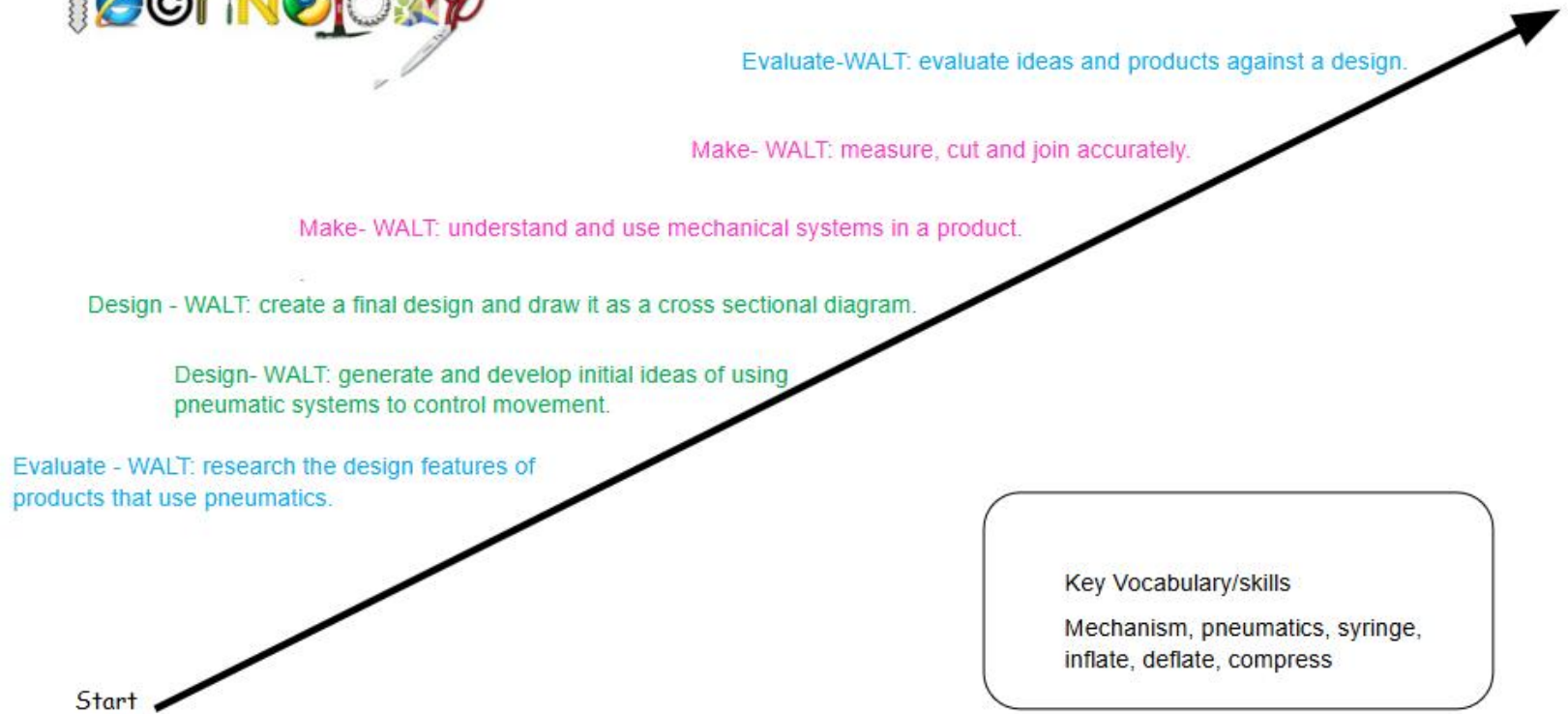
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## Cycle A Year 3/4 Moving Monsters



**AJS Design  
Technology  
Learning Journeys  
Year 3/4-Cycle B**



James Dyson  
1947

LIFE IS A MOUNTAIN  
OF SOLVABLE  
PROBLEMS, AND I  
ENJOY THAT.

JAMES DYSON

*Forbes* may have said it best: "Dyson brought a level of excitement to housekeeping that's usually reserved for cell phones and plasma televisions." They're right; 360-degree-swivel vacuums and bladeless fans have never felt so compelling.





## Cycle B Year 3/4 Bookmark-Textiles

Evaluate-WALT: evaluate ideas and products against a design.

Make- WALT: use a running stitch.

Make- WALT: create a design on fabric.

Design –WALT: create a final design and annotate.

Design- WALT: generate and develop initial ideas.

Evaluate - WALT: research and evaluate past and present designs of badges.

Start

Key Vocabulary/skills

Annotate, running stitch,

Textiles, properties

Retrieval:

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Key Questions:

1) Explain how to use a needle safely.

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2) What top tip would you give someone who is creating a bookmark?

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3) If you made this again, what would you change?

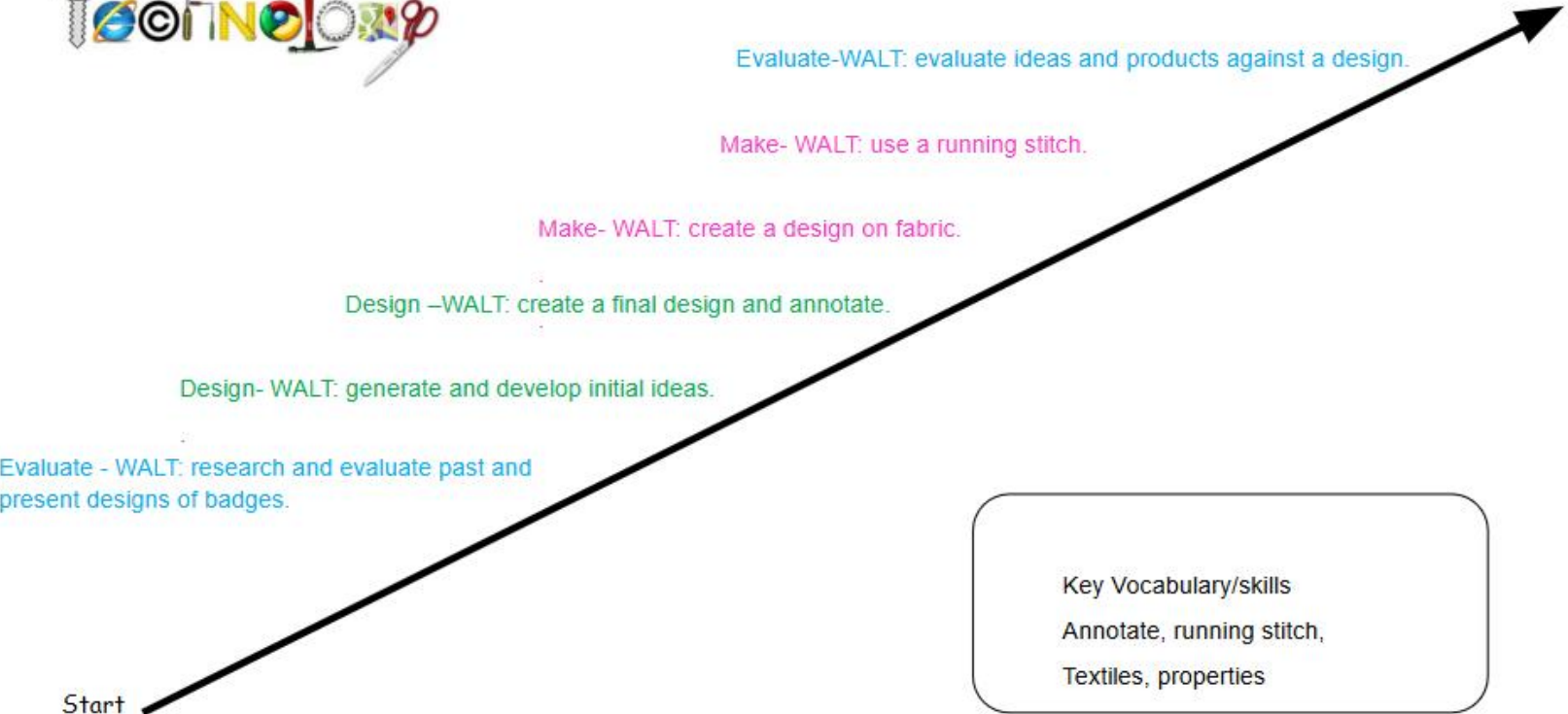
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Cycle B Year 3/4 Bookmark-Textiles



# Antonio Gaudí

1852 - 1926

Spanish Catalan architect Antoni Gaudí's magnum opus is the Sagrada Família in Barcelona. The Temple Expiatori de la Sagrada Família is probably a singularly unique structure: part Neo-Gothic, part Naturalistic, part hallucinatory dream. It is mind blowing that Gaudí was thinking of and designing spaces such as these so early in the 20th century, markedly different from the architecture of Victor Horta's Art Nouveau influence. Gaudí also designed interior spaces, doors, and furniture that look as though they are a part of the bizarrely seductive universe that his architecture hails from.



## Cycle B Year 3/4 Desk Tidy



Evaluate-WALT: evaluate ideas and products against a design.

Make- WALT: select from a range of materials according to their function and aesthetic qualities.

Make- WALT: cut, shape and score materials with some degree of accuracy.

Design –WALT: create a final design of a product that has a clear purpose.

Design- WALT: generate and develop initial ideas.

Evaluate - WALT: research the design features of products that will appeal to a person or group.

Research a designer

Start

Key Vocabulary/skills

Cut, strengthen, score, reinforce,  
materials, analyse, function, aesthetic

# Retrieval:

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# Key Questions:

1) Which shape did you make your desk tidy and why?

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2) Why do we use labels to annotate the different features of our design?

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3) How do we make sure that we cut and shape our 3D nets accurately?

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## Cycle B Year 3/4 Desk Tidy

Evaluate-WALT: evaluate ideas and products against a design.

Make- WALT: select from a range of materials according to their function and aesthetic qualities.

Make- WALT: cut, shape and score materials with some degree of accuracy.

Design –WALT: create a final design of a product that has a clear purpose.

Design- WALT: generate and develop initial ideas.

Evaluate - WALT: research the design features of products that will appeal to a person or group.

Research a designer

Start

Key Vocabulary/skills

Cut, strengthen, score, reinforce, materials, analyse, function, aesthetic



## Cycle B Year 3/4 Seasonal Salads

Evaluate-WALT: evaluate ideas and products against a design.

Make- WALT: use a variety of equipment to measure and prepare food.

Make- WALT: prepare ingredients safely and hygienically.

Design –WALT: create a final design of a product that has a clear purpose.

Design- WALT: generate and develop initial ideas whilst applying the principles of a healthy diet.

Evaluate - WALT: research various salads e.g. Caesar salad, Waldorf salad and Greek salad.

Key Vocabulary/skills

Grate, peel, chop, measure, weigh, utensils, seasonality, nutritious, savoury

Research

Start

Retrieval:

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Key Questions:

1) Why do people around the world prepare and eat salads?

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2) How did you decide which ingredients to use in your salad?

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3) How can we prepare our food hygenically?

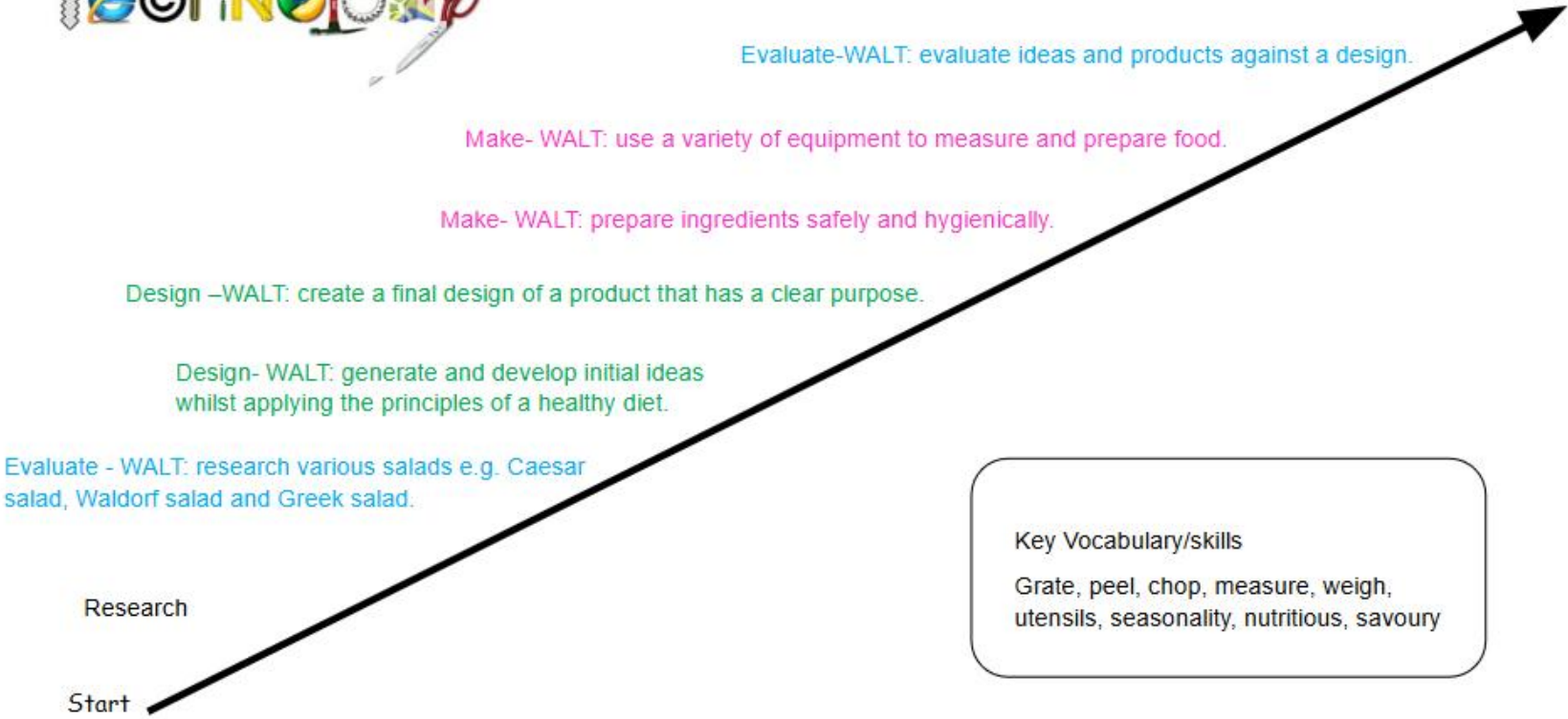
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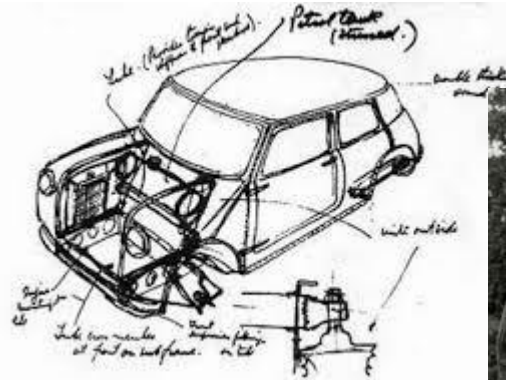
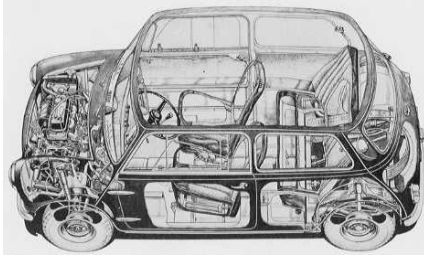
Cycle B Year 3/4 Seasonal Salads



**AJS Design  
Technology  
Learning Journeys  
Year 5**

Alec Issigonis  
1906 - 1988

One of the most original car designers of the modern era, ALEC ISSIGONIS (1906-1988) is best known as the creator of the Mini, but also designed two more of the five best-selling cars in British motoring history – the Morris Minor and the Austin 1100.



# Gears & Pulleys- Year 5



Evaluate-WALT: evaluate ideas and products against a design.

Make- WALT: use a variety of tools to create a structure.

Make- WALT: measure and cut accurately.

Design –WALT: create a final design.

Design- WALT: generate and develop initial ideas for a frame structure to support a pulley system.

Evaluate - WALT: research various frame structures in history.

## Year 5- Spring Term

Key Vocabulary/skills

Mechanisms, pulleys, gears, friction,

Force, elastic bands, wooden dowel, motion

Start

# Retrieval:

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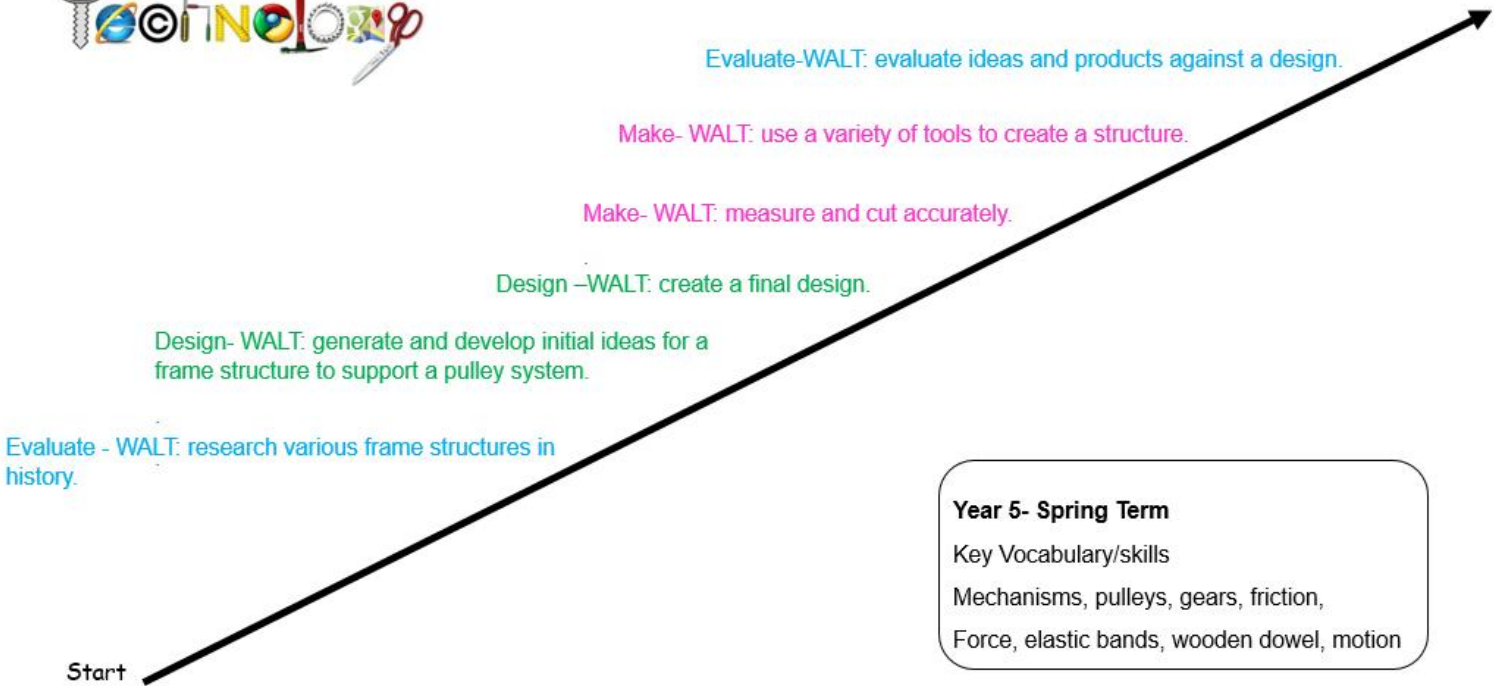
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## Gears & Pulleys- Year 5



**Year 5- Spring Term**  
Key Vocabulary/skills  
Mechanisms, pulleys, gears, friction,  
Force, elastic bands, wooden dowel, motion

# Key Questions:

1) How does a gear work?

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2) What did you find difficult and why when making your product?

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3) Who is your product for and why?

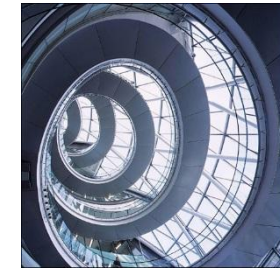
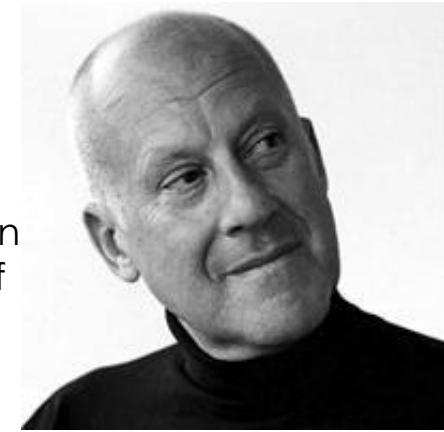
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# Norman Foster 1935

NORMAN FOSTER is an architectural phenomenon; responsible for a dozen or more of the key buildings of the last 30 years, but also as the founder of perhaps the most financially successful architectural practice of modern times.



# Pizza - Year 5



Evaluate-WALT: evaluate ideas and products against a design.

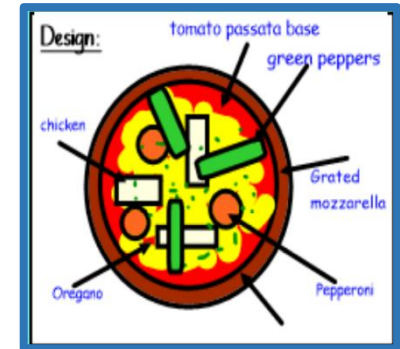
Make- WALT: use a variety of equipment to measure and prepare food.

Make- WALT: prepare ingredients safely and cook a savoury dish.

Design –WALT: create a final design.

Design- WALT: generate and develop initial ideas whilst recognising where in the world the ingredients are grown.

Evaluate - WALT: research various pizzas and toppings and their seasonality.



## Year 5- Summer Term

### Key Vocabulary/skills

Yeast, dough, grate, peel, chop, measure, weigh, utensils, seasonality, nutritious, savoury.

Start

# Retrieval:

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# Key Questions:

1) What helped you decide which toppings to put on your pizza?

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2) How can we prepare our food hygienically?

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3) Why is it important to measure your ingredients and what did use?

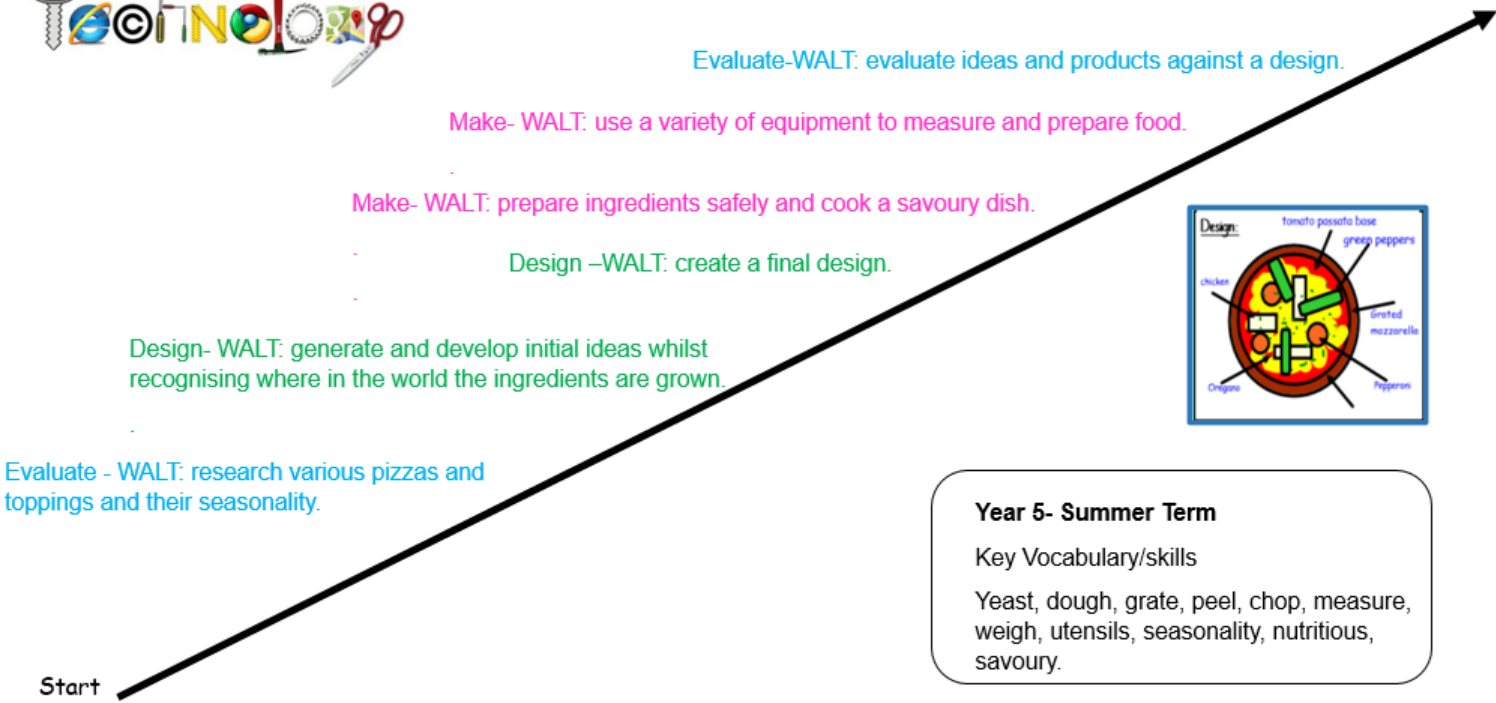
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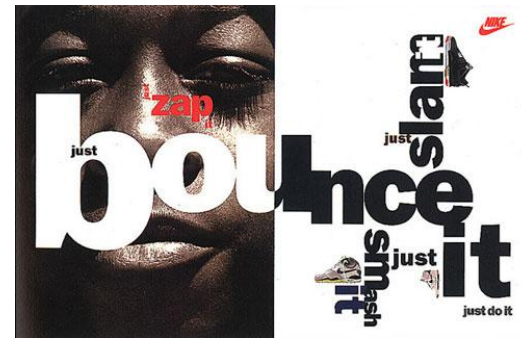
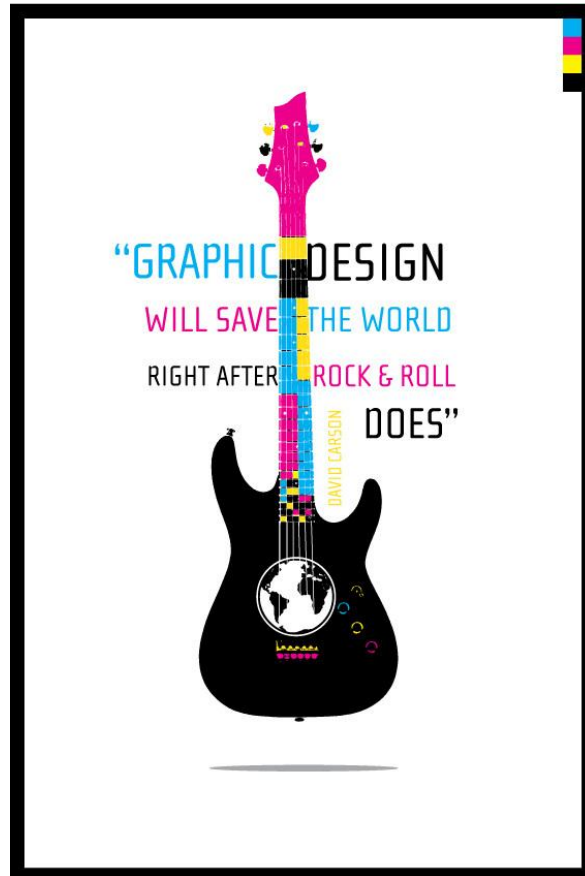
## Pizza - Year 5



**AJS Design  
Technology  
Learning Journeys  
Year 6**

# David Carson 1954

David Carson has been dubbed the original grunge graphic designer. His work is not focused on ease of legibility but rather reacts against that impulse. Type finds itself haphazardly wandering across pages, over pictures, even on top of itself. Carson's work taps into the antithesis of modernist design and does it with such conviction that by now it only seems natural.



# Christmas decorations- Year 6-Sewing



Evaluate-WALT: evaluate ideas and products against a design.

Make- WALT: join fabrics using a variety of stitches e.g. running stitch, blanket stitch.

Make- WALT: use a prototype to make a pattern.

Design –WALT: create a final design using an exploded diagram.

Design- WALT: generate and develop initial ideas.

Evaluate - WALT: research and evaluate past and present designs of decorations.

Start

## Year 6- Autumn Term

Key Vocabulary/skills

Prototype, annotate, exploded diagram, running and blanket stitch, textiles, properties

# Retrieval:

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# Key Questions:

1) Why should we research other products before designing our own?

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2) Why is it important to create a prototype?

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3) Why should we evaluate our designs?

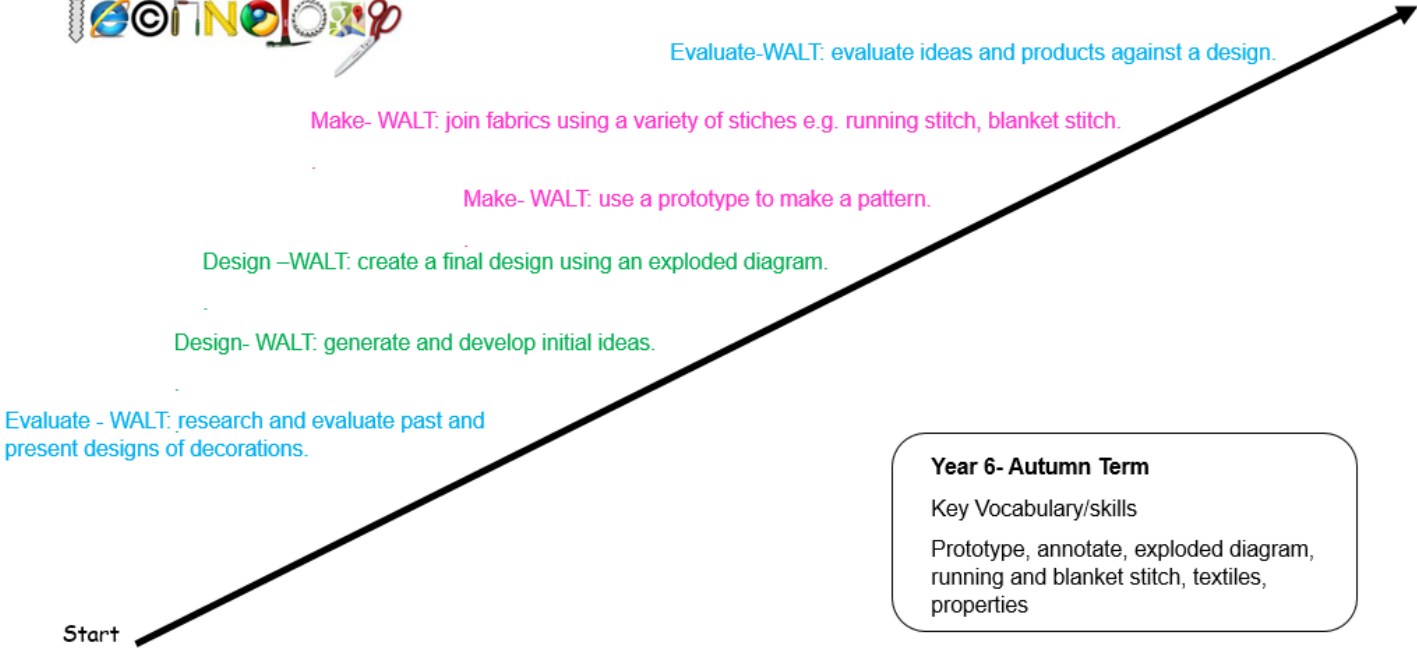
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## Christmas decorations- Year 6-Sewing

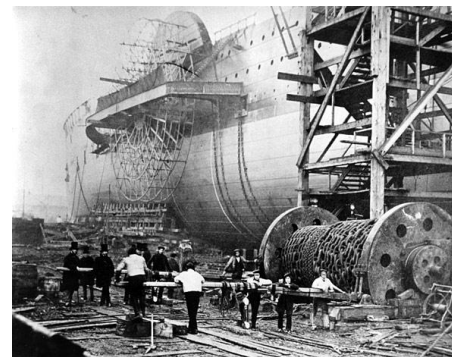
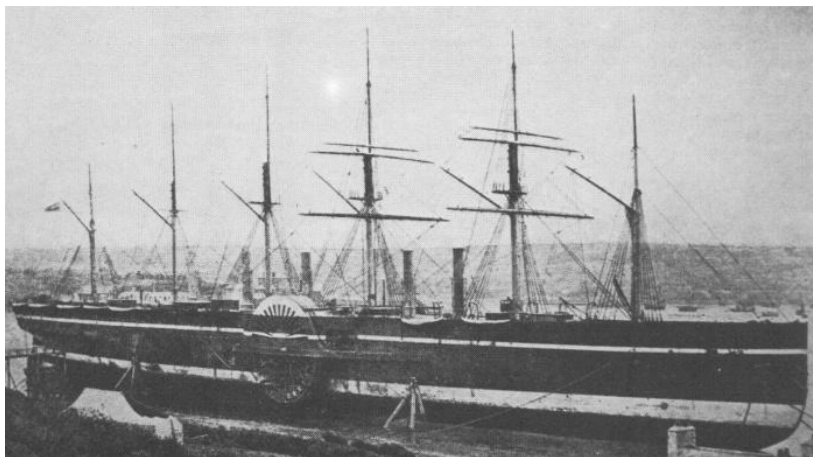
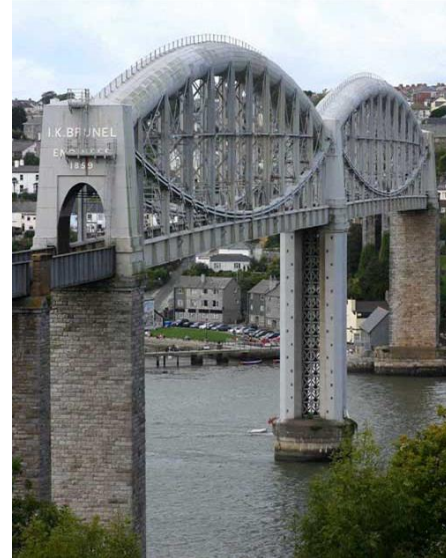


**Year 6- Autumn Term**  
Key Vocabulary/skills  
Prototype, annotate, exploded diagram, running and blanket stitch, textiles, properties

# Isambard Kingdom Brunel

1806 - 1859

One of the great British engineers of the 19th century ISAMBARD KINGDOM BRUNEL (1806-1859) built twenty-five railways lines, over a hundred bridges, including five suspension bridges, eight pier and dock systems, three ships and a pre-fabricated army field hospital.



# Moving Pictures- Year 6



Evaluate-WALT: evaluate ideas and products against a design.

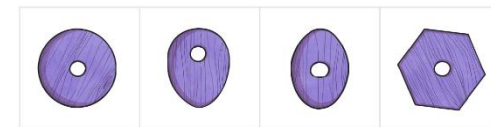
Make- WALT: use a variety of equipment to measure, cut and join accurately.

Make- WALT: use linkages to make movement larger or more varied.

Design –WALT: create a final design using a cross sectional diagram.

Design- WALT: generate and develop initial ideas.

Evaluate - WALT: research the design features of products that will appeal to a person or group.



## Year 6- Summer Term

Key Vocabulary/skills

Mechanisms, linkages, cross-sectional diagrams, cam

Start

Retrieval:

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Moving Pictures- Year 6

- Evaluate-WALT: evaluate ideas and products against a design.
- Make- WALT: use a variety of equipment to measure, cut and join accurately.
- Make- WALT: use linkages to make movement larger or more varied.
- Design –WALT: create a final design using a cross sectional diagram.
- Design- WALT: generate and develop initial ideas.
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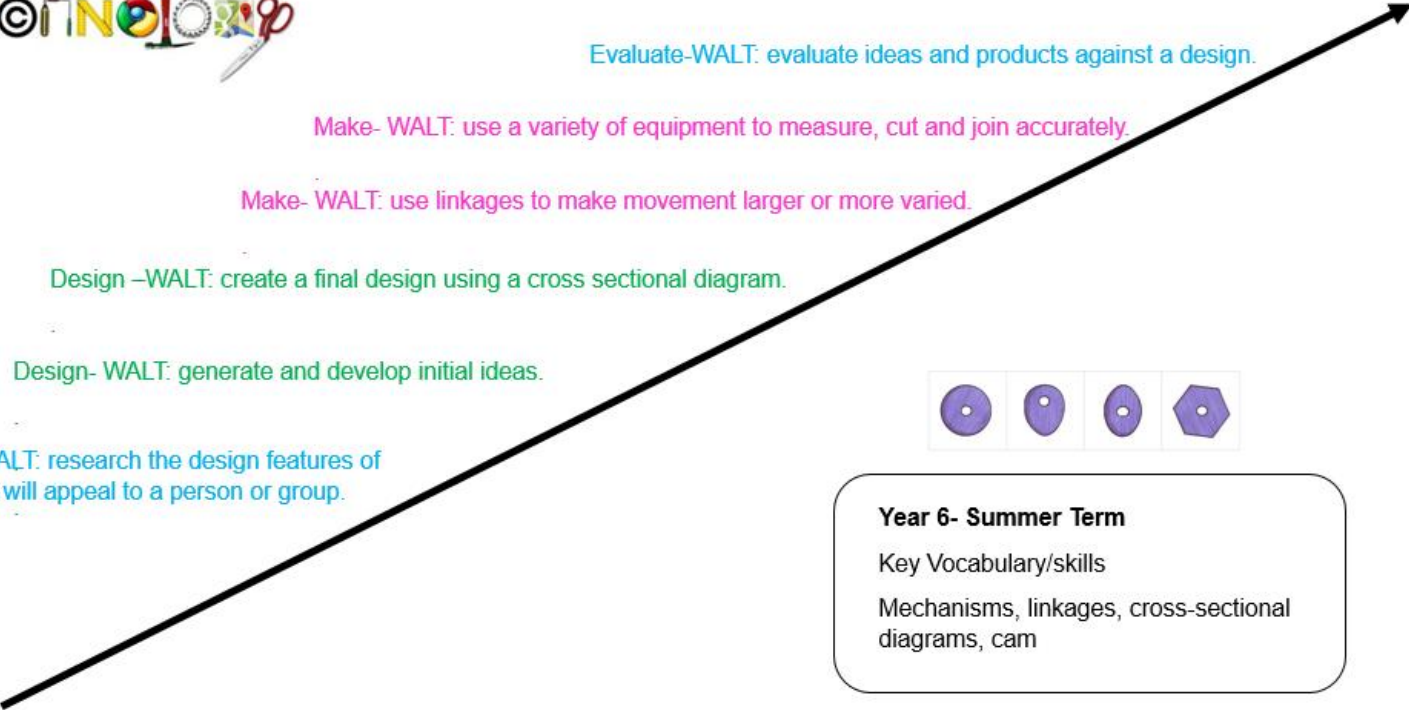


**Year 6- Summer Term**

Key Vocabulary/skills

Mechanisms, linkages, cross-sectional diagrams, cam

Start



Key Questions:

1) Which mechanism did you select and why?

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2) What tips can you give for working safely with equipment?

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3) How well did your mechanism work?

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