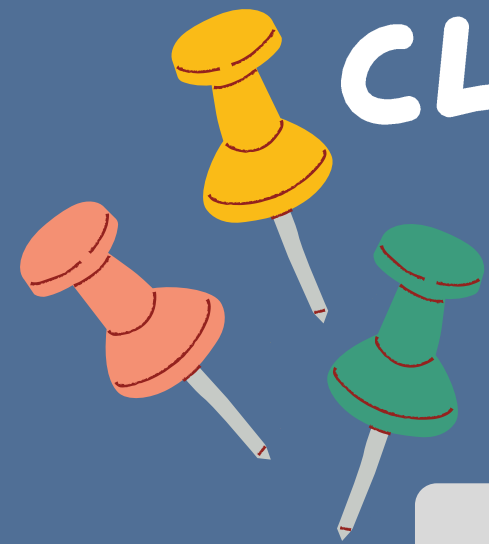


Skills and Progression map





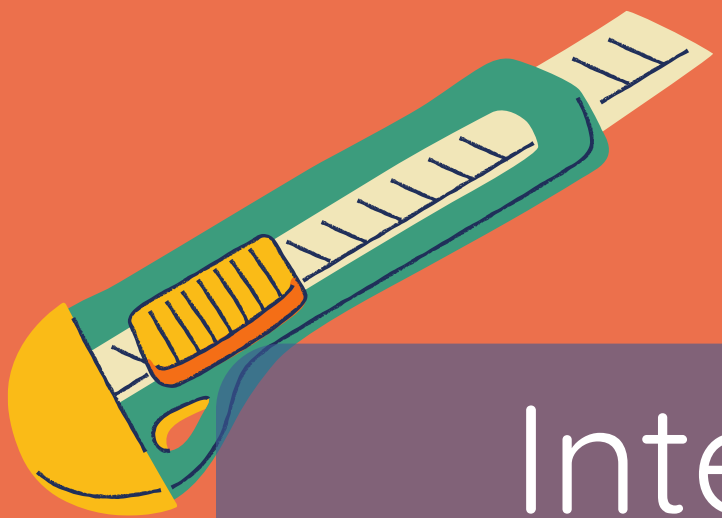
CLICK ON EACH TAB TO FIND THE RELEVANT INFORMATION

[Intent, Implementation and Impact](#)

[Curriculum Map](#)

[Knowledge and Skills Progression map](#)

[Useful websites and links](#)



INTENT, IMPLEMENTATION AND IMPACT

Intent

Design and Technology is a practical subject that allows pupils to use their creativity and imagination to design, test, and create innovative products that solve real and relevant problems within a variety of contexts. There are three strands covered in Design and Technology; textiles, cooking, and construction which is further split into mechanisms and structures.

Children learn to take risks and become more aware of the impact that their products and designs have on daily life and the wider world.

Design and technology largely focuses on the safety and handling of tools, materials and ingredients.

Implementation

Design and Technology builds upon skills and knowledge across the year groups. Starting in the Foundation Stage where children use their imagination and learn to follow simple instructions, moving to Key Stage 2 where pupils are expected to use the previous knowledge and skills taught in order to design and create more sophisticated models and systems.

Impact

Our Design & Technology curriculum equips pupils with the creativity, practical skills, and problem-solving abilities needed to design and make purposeful products. Through hands-on projects, children develop resilience, teamwork, and critical thinking, applying knowledge from across the curriculum. By the end of primary school, pupils are confident in using tools, materials, and design processes, and can evaluate and improve their work, preparing them for future learning and real-world challenges.



CURRICULUM MAP

	Autumn1	Autumn2	Spring		Summer1	Summer2
Nursery		<u>Mechanisms</u> Sliding Santa Chimneys		<u>Cooking</u> Porridge		<u>Structures</u> Boats (exploring materials)
Reception		<u>Structures</u> Junk modelling		<u>Cooking</u> Design and make a Rainbow Salad	<u>Mechanisms</u> Life Cycle Wheels	
Year 1	<u>Cooking</u> Smoothies			<u>Textiles</u> Printed t-shirts	<u>Mechanisms</u> Moving pictures	
Year 2		<u>Mechanisms</u> Fire Engines		<u>Structures</u> Stable Structures		<u>Cooking</u> Seaside Themed Snacks
Year 3		<u>Cooking</u> Afternoon Tea: Bread and sandwiches		<u>Mechanisms</u> Pop-up Toy-pneumatics	<u>Textiles</u> Egyptian Inspired Neck Collars	
Year 4			<u>Cooking</u> Pizza	<u>Structures</u> Pavilions	<u>Electrical Mechanisms</u> Light Up Cards	
Year 5		<u>Structures</u> Bridges		<u>Cooking</u> African Food		<u>Textiles</u> Bags and Purses
Year 6		<u>Electrical</u> Steady Hand Game			<u>Cooking</u> Baked Dessert	<u>Mechanisms</u> Victorian toys – pulleys and levers

KNOWLAEDGE AND SKILLS PROGRESSION BY YEAR GROUP

Click on each year group to see which units are covered in
each term

NURSERY

RECEPTION

YEAR 1

YEAR 2

YEAR 3

YEAR 4

YEAR 5

YEAR 6



NURSERY

AUTUMN 2

Mechanisms

Sliding Santa

Chimneys

SPRING 2

Cooking

Porridge

SUMMER 2

Structures

Boats (exploring

materials)

NURSERY – AUTUMN 2– MECHANISMS: SLIDING SANTA CHIMNEYS

Prior learning: Children have explore joining materials using glue and tape.

Intent

At Aylward, we intend to develop children's understanding of simple mechanisms by designing and making a moving Christmas product.

Vocab

design, make, slider, move, pull, push, card, glue, join, test

Knowledge

- Products are designed to solve a problem or entertain.
- Sliders allow pictures or objects to move.
- Different materials are suitable for different purposes.

Skills

- To explore simple moving mechanisms.
- To assemble materials to create a slider.
- To join materials using glue and tape.
- To test whether a slider works.

TIPS AND TRICKS

Suggestions for implementation

- Introduce sliders through simple moving pictures.
- Demonstrate push and pull movements.
- Model joining card using glue and tape.
- Children design a simple Santa chimney.
- Make and test the slider.
- Link for ideas: [Mechanisms - Sliding Santa Chimneys](#)

Enrichment opportunities

- Create other moving Christmas pictures.
- Explore sliders in continuous provision.
- Make moving characters linked to Christmas stories.
- Challenge children to make their slider move further.

Suggested questions to measure Impact

- What does a slider do?
- How can you make Santa move?
- What happens when you push/pull it?
- Which materials did you use?
- How did you join the materials?
- Does your slider work?

NURSERY – SPRING 2– COOKING: PORRIDGE

Prior learning: Children have practised mixing and combining materials.

Intent

At Aylward, we intend to develop children's understanding of healthy food by preparing and combining ingredients safely.

Vocab

ingredients, oats, milk, mix, stir, spoon, bowl, cook, healthy, taste, recipe

Knowledge

- Food should be prepared safely and hygienically.
- Ingredients can be mixed together to create new foods.
- Healthy foods help our bodies grow.

Skills

- To mix and combine ingredients.
- To use simple cooking tools safely.
- To follow simple instructions.
- To talk about healthy foods and different tastes.

TIPS AND TRICKS

Suggestions for implementation

- Discuss healthy foods and different tastes.
- Introduce oats and other ingredients.
- Model safe use of cooking tools.
- Children measure, pour and mix ingredients with support.
- Follow simple instructions.
- Taste and discuss the finished porridge.
- Children add different flavours to the porridge.

Enrichment opportunities

- Create different porridge combinations.
- Taste and compare different fruits.
- Make a class recipe book.
- Explore ingredients through role play.

Suggested questions to measure Impact

- What ingredients did you use?
- How did you make the porridge?
- Which ingredients are healthy?
- How does it taste?
- What happens when we mix the ingredients?
- How do we use the tools safely?

NURSERY – SUMMER 2– STRUCTURES: BOATS (MATERIALS)

Prior learning: Children have joined and assembled materials to make simple models.

Intent

At Aylward, we intend to develop children's understanding of structures by selecting and joining materials to make a boat that floats.

Vocab

boat, float, sink, build, structure, strong, weak, waterproof, material, test

Knowledge

- Structures need to stay together.
- Different materials float or sink.
- Choosing suitable materials helps make stronger structures.

Skills

- To explore different construction materials.
- To build simple floating structures.
- To test and adapt designs.
- To talk about what worked well.

TIPS AND TRICKS

Suggestions for implementation

- Explore different materials and waterproofing, floating and sinking.
- Research different types of boats.
- Introduce joining and construction techniques.
- Children select suitable materials.
- Build simple boats.
- Test boats in water and adapt them.
- Link to ideas: [Structures - Boats \(exploring materials\)](#)

Enrichment opportunities

- Explore boats from different cultures.
- Test boats carrying different objects.
- Create boats in the water tray.
- Build a large collaborative boat from recycled materials.

Suggested questions to measure Impact

- What does it mean to float?
- Which materials float?
- Why did you choose that material?
- How can you make your boat stronger?
- What happened when you tested it?
- What could you change?



RECEPTION

AUTUMN 2

Structures
Junk Modelling

SPRING 2

Cooking
Rainbow Salad

SUMMER 1

Mechanisms
Lifecycle Wheels

RECEPTION – AUTUMN 2– STRUCTURES: JUNK MODELLING

Prior learning: Children have built simple models using construction materials.

TIPS AND TRICKS

Suggestions for implementation

- Explore different junk modelling materials.
- Discuss what makes a structure strong.
- Model different ways to join materials.
- Develop cutting and scissor skills.
- Children draw or talk through a simple design.
- Select suitable recycled materials.
- Build, test and improve their model.
- Link to ideas: [Structures - Junk Modelling](#)

Enrichment opportunities

- Create models linked to the children's interests.
- Build large-scale structures collaboratively.
- Set a construction challenge.
- Explore buildings and structures in the local area.

Suggested questions to measure Impact

- What are you going to make?
- What materials will you use?
- Why did you choose them?
- How will you join the materials?
- Is your structure strong?
- What could you improve?

Intent

At Aylward, we intend to develop children's ability to plan, construct and improve products using recycled materials.

Vocab

design, plan, model, recycle, reuse, join, attach, tape, glue, construct, evaluate, improve

Knowledge

- Designs are planned before they are made.
- Junk materials can be reused to create new products.
- Materials can be joined in different ways.
- Evaluating helps improve a design.

Skills

- To plan a simple model before making it.
- To select suitable recycled materials.
- To join materials securely using different techniques.
- To evaluate and improve a finished model.

RECEPTION – SPRING 2 – COOKING: RAINBOW SALAD

Prior learning: Children have mixed and combined ingredients and used cooking tools safely.

Intent

At Aylward, we intend to develop children's understanding of healthy eating by designing, preparing and evaluating a simple fruit and vegetable salad.

Vocab

fruit, vegetable, healthy, ingredients, peel, chop, slice, mix, recipe, hygiene, taste, texture

Knowledge

- Fruit and vegetables are part of a healthy diet.
- Different ingredients have different textures, tastes and colours.
- Tools should be used safely when preparing food.
- A recipe gives instructions to follow.

Skills

- To prepare ingredients safely.
- To chop, peel and mix ingredients with appropriate support.
- To follow a simple recipe.
- To evaluate the finished food by discussing its taste, texture and appearance.

TIPS AND TRICKS

Suggestions for implementation

- Discuss fruit and vegetables as part of a healthy diet.
- Explore colours, tastes and textures.
- Introduce safe food preparation and hygiene.
- Children design their rainbow salad.
- Prepare ingredients with appropriate support.
- Taste and evaluate the finished salad.
- Link to ideas: [Cooking - Rainbow Salad](#)

Enrichment opportunities

- Visit a supermarket or greengrocer.
- Grow and harvest ingredients.
- Design a colourful fruit or vegetable snack.

Suggested questions to measure Impact

- Which foods are healthy?
- What ingredients did you choose?
- Why did you choose them?
- How did you prepare the food?
- How does it taste and feel?
- What would you change next time?

RECEPTION – SUMMER 1 – MECHANISMS: LIFECYCLE WHEELS

Prior learning: Children have made a moving mechanism with a slider.

Intent

At Aylward, we intend to develop children's understanding of mechanisms by designing and making a product that shows movement.

Vocab

wheel, pivot, rotate, mechanism, design, make, fastener, split pin, movement, evaluate

Knowledge

- Mechanisms make products move.
- Wheels and pivots allow circular movement.
- Designs should match their purpose.
- Products can be improved after testing.

Skills

- To design a simple moving product.
- To use scissors accurately to cut shapes.
- To create a wheel and pivot mechanism.
- To test, evaluate and improve a finished product.

TIPS AND TRICKS

Suggestions for implementation

- Explore objects that move using wheels and pivots.
- Investigate circular movement.
- Demonstrate how a wheel and pivot work.
- Children design a life cycle wheel.
- Make and join the wheel using a split pin.
- Test, evaluate and improve the product.

Enrichment opportunities

- Create wheels showing other life cycles.
- Investigate wheels and mechanisms in everyday objects.
- Make moving story wheels.
- Challenge children to explain how their mechanism works.

Suggested questions to measure Impact

- What makes your wheel move?
- What is a pivot?
- How does the split pin help?
- Why did you choose this design?
- Does your mechanism work?
- What would you change to improve it?



YEAR 1



AUTUMN 1

Cooking

Creating smoothies

SPRING 2

Textiles

T-shirt prints

SUMMER 1

Mechanisms

Moving pictures

THE DESIGN PROCESS – YEAR 1

Research

- Looking at real objects and describing them
- Talking about purpose – what is it for?
- Simple comparisons
- Identify basic features

Evidence:

- Annotated photos (teacher-led)
- A list of design criteria (teacher-led)
- Record of oral explanation
- Sentence stems to complete

Design

- Simple drawing of one idea
- Design from one perspective e.g. front view, simple sketch
- Basic drawing with emerging realism
- Begin to use arrows

Evidence:

- Single diagram
- Labels such as *wheel, door, stick*

Sentence Stems

It is made out of...

It is used to...

I think it works by...

I will make a ...

My design will have...

I am going to use...

I have made a...

I used... to join...

I changed my idea because...

My product is good because...

I do not like... because...

I could make it better by...

Evaluate

- Say if the product works or not
- Say what they like and dislike
- Describe what they would change

Evidence:

- Record of oral explanation
- Photo of final product
- Simple sentence stems to complete

Make

- Use basic tools safely (cut, stick, tape)
- Follow a simple plan with support

Evidence:

- Photo sequence
- Teacher observation notes
- Sentence stems to complete

YEAR 1 – AUTUMN 1– COOKING: CREATING SMOOTHIES

Prior learning: EYFS skills that include making fruit salads and health eating.

TIPS AND TRICKS

Intent

Aylward wants students to have an understanding of where food comes from, the nutritional benefits of different foods and experiment with different combinations that may appeal to them or their peers. We would like to give them the expertise to make healthy choices for themselves in their everyday lives.

Knowledge

Design

- To develop basic principles of a healthy and varied diet
- To think of interesting combinations of ingredients
- Survey favourite fruits in class

Make

- To follow the rules regarding how to cut food safely
- Know the purpose of different tools e.g. mortar and pestle, cake mixer, potato masher, blender

Evaluate

- Describe textures of food
- Evaluate the taste of different fruits
- Evaluate the combinations of smoothie

Technical Knowledge

- To research where food comes from
- To recognise the importance of why we must wash hands and make sure that surfaces are clean

Suggestions for implementation

- Tasting different fruits and discussing whether they like them
- FPT - Find and follow a recipe discussing the different parts that it uses
- Look at the importance of hygiene and food handling
- FPT – using different tools to cut and prepare fruits. Discuss which are the most appropriate
- Think of different combinations of fruits they could use in their smoothie
- Create their smoothie discussing their choice of fruits, tools, hygiene practises and choices to do so.

Enrichment opportunities

Trip which could include; strawberry farm, local grocery store, farmers market, smoothie shop.

Talks from superstores.

Creating a blog about their smoothie.

Looking at different recipe books.

Skills

- Hygiene-Select from and safely use a range of tools and equipment to perform practical tasks such as cutting, chopping and blending (S1)
- Select and use healthy foods (S2)
- Evaluate his/her ideas and products against design criteria (S3)

Suggested questions to measure Impact

Can you tell me where shops get their fruit?

What is the journey of a strawberry from seed to stomach?

What makes a healthy drink?

What is your ideal smoothie?

How do you make a smoothie?

YEAR 1 – SPRING 2 – TEXTILES :T-SHIRT PRINTS

Prior learning: Printing shapes on paper in EYFS, using fruits and vegetables to make painted prints.

TIPS AND TRICKS

Intent

Aylward wants students to be able to evaluate the design choices of products. By choosing their own designs for t-shirts and creating mock-ups they will be able to reflect on the choices they have made. They will also develop an understanding of user requirements such as making sure the design is waterproof.

Vocab

Print, transfer, fabric, logo, design, create, fabric pen, printing method,

Knowledge

Design

Recognise that there are different ways to communicate an idea e.g. talking, drawing, 2Simple program

Make

To explore about different printing methods, potato printing, transfer, fabric pens

Evaluate

Research ideas on existing products, such as logos, prints, designs
Explain what designs they like and why.
Explain what tool is best for printing and why

Technical knowledge

To practise skills of how each tool used to create print will last when dunked in water.

Suggestions for implementation

- Explore current t-shirt designs, discuss their favourite t-shirts from home
- FPT- Children to explore different printing resources; potato printing, transfer, fabric pens
- FPT- Children to explore different printing methods; transfer
- Children to use 2simple to create designs
- Children to spend time printing their t-shirt
- Reflect on their designs and suggest future improvements

Enrichment opportunities

Fashion show for another class or key stage 1

Skills

- Design a t-shirt for a specific user based on design criteria (S4)
- Generate ideas through talking, drawing and technology (S5)
- Select from and use a range of tools for e.g. cutting, shaping, joining and finishing. (S6)
- Select from and use a wide range of materials and components such as fabric and printing materials (S7)
- Evaluate his/her ideas and products against design criteria (S8)

Suggested questions to measure Impact

What are the different methods we could use for printing?
What is the best method and why?
What are the requirements of t-shirt designs?

YEAR 1 – SUMMER 1 – MECHANISMS: MOVING PICTURES

Prior learning: Printing.

TIPS AND TRICKS

Suggestions for implementation

Explore existing moving pictures
Explore different mechanisms (wheels, axles, and levers)
Encourage children to think of their own moving picture to create- Can they create a moving picture to a story they have written or to a story read in class?
Children to design their own moving picture- a sketch while labelling mechanisms that will be used
Children to create their moving pictures (over 2+ lessons)
Children to evaluate their own moving pictures against existing moving pictures/evaluate their peers'

Enrichment opportunities

Writing a short paragraph/story to go along with their moving picture

Invite the parents or another class in to see their moving pictures

Suggested questions to measure Impact

Why did you choose your design?

What mechanisms have you used for your moving picture?

Why have you used that/those mechanisms?

Knowledge

Design

-Can talk about the different landmarks

-Can talk about the different movements and what mechanisms make it

Evaluate

Evaluate their mock up; what worked well and what didn't work well

Evaluate against their design criteria

Explain any changes that they made from original design

Make

Select from and use a wide range of material and components; split pins, lollipop sticks, boxes, spinner

Select from and use tools to join and finish; glue, scissors, cello tape

Technical knowledge

-To know about different mechanism, levers, sliders, wheels and axels.

-To understand how you might make a design stronger, stiffer and more stable.

-To understand how to make the design stable using other materials, cardboard.

Intent

Aylward wants students to understand the accurate use of mechanisms by creating a moving picture that uses a variety of mechanisms such as wheels and levers. They will evaluate their products against existing designs.

Vocab

Mechanism, lever, slider, pivot, stiff, stable, mock-up, slot, split pin, evaluate,

Skills

- Generate, develop, model and communicate his/her ideas through mock-ups
- Select from and use a range of tools and equipment for cutting, shaping, joining and finishing
- Select from and use a wide range of materials and components
- Explore and evaluate a range of existing products
- Evaluate his/her ideas and products against design criteria
- Build a moving picture, exploring how it can be made stronger, stiffer and more stable



YEAR 2



AUTUMN 2

Mechanisms

Fire Engine

SPRING 2

Structures

Stable Structures

SUMMER 2

Cooking

Seaside themed

snack

THE DESIGN PROCESS— YEAR 2

Research

- Look at and describe existing products
- Identify materials and purpose
- Make simple comparisons
- Think about potential users

Evidence:

- Annotated images
- A list of design criteria
- Sorting tables

Design

- Clear diagram with arrows and some details
- Begin using functional labels e.g. 'strong base', 'handle'
- Include materials and key features
- One design linked to purpose
- Begin to give reasons for design choices

Evidence:

- Single labelled design
- Applying key vocabulary to design

Sentence Stems

I researched...
The product is made from...
This is designed for...

My design will include...
It will be strong/safe
because...
I chose... because...

I measured by...
I solved a problem by...
I followed my design by...

My product works well
because...
One strength is...
It would be better if...

Evaluate

- Evaluate against the design criteria
- Describe what worked well
- Suggest an improvement

Evidence:

- Photo of final product
- Complete simple evaluation sheet

Make

- More accurate cutting and joining
- Begin measuring with simple units
- Make small changes during making process
- Begin to check progress against their design

Evidence:

- Photos of making process
- Sentence stems to complete/own sentences for process and changes

YEAR 2 – AUTUMN 2 – MECHANISMS: FIRE ENGINES

Prior learning- EYFS skills such as construction, junk modelling for a purpose, building and structures with bricks, Year 1- moving pictures (Su1).

Intent

Aylward wants students to understand the purpose of emergency vehicles. Students will develop an understanding of axis and wheels. Students at Aylward will begin to broaden their knowledge and use of tools, such as glue guns, as well as beginning to evaluate their product based on a success criteria.

Vocab

Vehicle, functional, tech card, **join**, shape, chassis, axle, wheel, frame, replica,

Skills

Design a strong and stable fire truck replica **(S1)**
To use talking, drawing and labels to design mock-ups **(S2)**
Select and use appropriate materials based on design properties **(S3)**
Use wheels and axels to create a moving vehicle **(S4)**
Evaluate product based on design criteria **(S5)**

Knowledge

Design

- To consider a design criteria
- To understand how to create a tester using tech card

Evaluate

- Evaluate functions of an existing truck
- Evaluate mock-up and whether they were able to move
- Share thoughts of other people's designs.

Make

- To choose materials based on their properties
 - To know the appropriate tools to join/stick

Technical knowledge

- To understand how to make structures stiffer and stronger

TIPS AND TRICKS

Suggestions for implementation

- Compare how they stopped fire of London to how they stop fires today
- Look at and compare a basic vehicle to a fire engine – what is different? What do fire engines need?
- FPT – Create a mock up cardboard chassis with an axel that moves
- FPT – Body work – how can we attached the axis
- Create
- Evaluate product and test if they work and hold the water

Enrichment opportunities

Fire engine visit form local emergency services thinking about how the vehicles have been adapted to meet the purpose

Suggested questions to measure Impact

- *What is the difference between a normal vehicle and an emergency vehicle?*
- How does the emergency services compare during Fire of London and modern day?*
- *What problems did you face? How did you fix it? Why did you do.....?*
- Did your fire engine hold the water?*
- What could you do different next time?*

YEAR 2 – SPRING 2 – STRUCTURES: STABLE STRUCTURES

Prior learning: Knowledge of structures-junk modelling, YR , Knowledge of tools & materials to cut and join YR

Intent

At Aylward, students to apply their knowledge of strong and stable structures to create a pencil pot. Students will conduct their own research about free-standing structures and what makes them strong and stable to support their designs. Students will use strong and desirable materials that will allow them to create a free-standing and aesthetic

Vocab

Purpose, structure, stable, unstable, free-standing, product, design, base, aesthetic,

Knowledge

Design

- To consider a design criteria- who are they making it for?
- To understand how to create a tester using tech card

Evaluate

- Explore existing products and discuss what they like
- Explore two similar products and say which is better for intended purpose

Make

- To know which skills and techniques to use.
- To select appropriate tools and materials to use
- Can follow my plan to make my structure

Technical knowledge

- To explain what makes a structure stable- wide, flat base
- To add weights to the structure to make it more secure

TIPS AND TRICKS

Suggestions for implementation

- Explore different structures- looking at base, shapes and strength
- Look at the importance of position and placement of shapes.
- Choose a range of appropriate materials
- Introduce different tools to design, cut and make structure.
- Evaluate techniques and product

Enrichment opportunities

- To sell to year 1 and the rest of the school
- Go to stationary shop to look at product design
- product with teachers to support with product design

Skills

Design a strong and stable structure (pencil pot)
To use talking, drawing and labels to design and plan
Select and use appropriate materials based on design properties
Use knowledge of different bases to build a stable structure
Evaluate product based on design criteria

Suggested questions to measure Impact

What makes your structure strong and stable?
What materials have you used to make your structure free-standing and aesthetic?
What did you need to make a successful structure?
How can you improve your structure.

YEAR 2 – SUMMER 2-COOKING: SEASIDE THEMED SNACK

Prior learning: Select from and safely use a range of tools and equipment to perform practical tasks such as cutting, chopping and blending (S1) , Select and use healthy foods (S2), Evaluate ideas and products against design criteria (S3)

Intent

Aylward wants students to use their food skills knowledge to assemble a sea-side themed snack. They will need to use the appropriate tools and ingredients to create a snack based on the theme, refining their design through the process and evaluating the finished product against their design and existing products.

Vocab

Ingredients, peel, safety, appearance, balanced diet, hygiene , portion, nutrition, sensory evaluation,

Knowledge

Design

To design and plan a snack

- Can discuss what they like to eat when they go to the seaside
- To know interesting combinations of ingredients for their seaside themed snack

Evaluate

-Research and evaluate different types of seaside themed snacks

- Evaluate recipes and the health factor of the ingredients
- Evaluate the look and taste of their finished product

Make

-To create a snack that has a theme

- Can identify and use the best tool/equipment to perform practical tasks (cutting, blending)

Technical knowledge

To discuss the importance of safety when handling tools & teach appropriate skills to use

- To know appropriate hygiene practises (l.e. hand washing, food handling)

TIPS AND TRICKS

Suggestions for implementation

- Look at and sample existing seaside themed snacks
- Look at existing recipes
- Practise using tools such as; knife, peeler,
- Write their own recipe/list of ingredients
- Draw and colour a picture of their snack- labelling the ingredients
- Make their seaside themed snack

Enrichment opportunities

- Trip to the seaside
- Have a picnic-allowing the children to taste each other's seaside themed snacks
- Have a seaside theme party & taste each others' snacks (waves sounds playing in the background)

Skills

- Select healthy and varied ingredients (S10)
- Choose and use appropriate tools to handle/manipulate the materials (S11)
- Handle food safely and appropriatley (S12)

Suggested questions to measure Impact

- What ingredients will make your snack healthy?
- Do your ingredients vary according to the food groups?
- Does your snack go along with the seaside theme?
- What tools will you use to manipulate the ingredients?



YEAR 3



AUTUMN 2

Cooking
Afternoon Tea

SPRING 2

Mechanisms
Children's pop up
toy

SUMMER 1

Textiles
Ancient Egyptian
Inspired collars

THE DESIGN PROCESS— YEAR 3

Research

- Investigate existing products in detail
- Identify purpose, user, functions and materials
- Compare features

Evidence:

- Annotated product photos
- Comparison tables
- A list of design criteria

Design

- Two different designs
- Detailed labels to explain why e.g. 'this makes it stronger'
- Greater accuracy in proportion
- Detailed labels with features, materials and functions
- Begin to use computer aided design to visualise their product

Evidence:

- Two labelled designs
- Applying key vocabulary to design
- Reference to design criteria

Evaluate

- Evaluate against the design criteria
- Begin to gather user feedback
- Describe strengths and weaknesses of the product with reasons why
- Suggest how they could improve it

Evidence:

- Photo of final product
- Completed evaluation sheet
- Notes from user feedback

Make

- Use tools more independently
- Begin to adapt design while making

Evidence:

- Photos of making process
- Sentences describing what they did and any changes they made.

Sentence Stems

I noticed that existing products...

A key feature is..

The purpose of this product is...

My design includes...

I chose this material because...

This will work well because...

I used... to improve...

A challenge I overcame was...

My product is effective because...

It meets the need of the user by...

If I made it again, I would..

YEAR 3 – AUTUMN 2 – COOKING : AFTERNOON TEA

Prior learning: EYFS- healthy eating and fruit salads (sum2) and Year 1 smoothie making (Aut1), Year 2-Seaside themed snacks

Intent

Aylward wants students to create an afternoon tea set-up, considering an understanding of ingredients that are in season and grown locally, creating a fresh and healthy set menu. Children can use previously learned skills to manipulate the ingredients in order to create recipes for an afternoon tea.

Vocab

Design, utensils, grow, seasonal, **portion size**, recipe, texture,

Knowledge

Design

- To discuss healthy foods
- To think of an appropriate set-up (plates, utensils)
- To think of how to present the food (garnish, portion size)
- To recognise where food comes from- is it in season?

Evaluate

- Evaluating different textures and colours.
- Evaluate foods and where they are grown/what time of the year they're grown

Make

- To understand use of tools when handling/manipulating the ingredients

Technical knowledge

- To understand what a healthy balanced diet is
- Understand/learn how to appropriately use utensils necessary to manipulate the ingredients

TIPS AND TRICKS

Suggestions for implementation

- See Yr1 Aut1 and Yr2 Sum2 for previously taught Knowledge and Skills
- Evaluate current Afternoon tea menus
 - Taste/Sample afternoon tea recipes (cakes, sandwiches, etc.)
 - Research ingredients and where/when they are grown
 - Review skills; cutting, grating, peeling, etc.
 - Create own recipes/menu for afternoon tea
 - Create food items & present them in an appropriate form
 - Evaluate afternoon tea menus

Enrichment opportunities

Trip to the grocery shop to buy the ingredients
Invite a group of children/adults (family members) to cater to

Skills

- Explore existing afternoon tea designs (S1)
- Explore and appropriately select and use a range of tools to manipulate ingredients (S2)
- Select and use a wide range of food (S3)
- Understand and use appropriate handwashing procedures (S4)

Suggested questions to measure Impact

Where are the ingredients grown?
How are you going to present your food stuffs?
What will you need to do with... in order to manipulate it?

YEAR 3 – SPRING 2 – MECHANISMS: CHILDREN'S POP UP TOY

Prior learning: See Yr1 Sum1 and Yr2 Aut2 for previously taught Knowledge and Skills

Intent

Aylward wants students to develop their understanding pneumatics to create movements. They will be able to recognise pneumatics within the wider world, explore different motions that can be created and apply their understanding to create a moving feature on a toy (pop-up toy).

Vocab

Pneumatics, appealing, motion, syringe, hydraulics, air pressure, tubing, moving feature

Knowledge

Design

- To consider design criteria for moving feature on a float (i.e. pop out teddy)
- To understand functional purpose of a toy (pneumatics involved)

Evaluate

- To consider views of others on their designs to improve their work.
- To know how you might test product

Make

- To know of appropriate tools to cut materials; scissors, cutting tool
- To know which materials could be used to make their product appealing

Technical knowledge

- To understand mechanical systems; pneumatics

TIPS AND TRICKS

Suggestions for implementation

- Watching videos of pop-up toys that currently exist- getting ideas as to design
- Researching real life pneumatic objects
- Exploring how to make pneumatics
- Focus skills: pneumatics
- Design pop-up toy
- Create pop-up toy
- Evaluate pop-up toy- peer evaluation, evaluate for function with pneumatics

Enrichment opportunities

To test their toys out on Reception or Nursery children

Skills

- Develop the ideas for a moving part to a pop-up toy based on design criteria (S5)
- Explore existing pop-up toy designs (S6)
- Appropriately use a form of pneumatics to create a moving feature on a toy (S7)
- Choose appropriate tools and join materials (S8)
- Evaluate pop-up toy based on design criteria (S9)

Suggested questions to measure Impact

Does your toy appeal to your audience?

Can your toy perform when the pneumatics aspect of it is tested?

YEAR 3 – SUMMER 1 – TEXTILES : EGYPTIAN INSPIRED COLLARS

Prior learning: Explore current t-shirt designs, explore different printing resources; potato printing, transfer, fabric pens, explore different printing methods; transfer, printing their t-shirt, reflect on their designs and suggest future improvements

TIPS AND TRICKS

Suggestions for implementation

- Compare clothes in modern day and ancient Egypt
- Practise different types of stitches and attaching multiple pieces of fabric together (running stitch, backstitch)
- Adding embellishments (using fabric glue- why do we use this?)
- Research fasteners for collars- what can be used to ensure it stays fastened during use?
- Look at Egyptian textile patterns- What colours are common in Egyptian textiles?

Enrichment opportunities

- Egyptian day where children can wear their collars
- Fashion show- get the children to show off their collars & use this as an opportunity to get peer feedback

Suggested questions to measure Impact

- Does your Egyptian inspired collar have a strong representation of Ancient Egypt?
- Can your collar be worn securely? (Does it fasten? How strong is it?)

Knowledge

Design

- To consider design criteria
- To understand purpose of collars

Make

- To select the appropriate stitch to ensure security
- To select the appropriate tools to use when cutting, joining, and finishing

Evaluate

- Peer evaluate collars
- Evaluate own design

Technical knowledge

- To use learnt skills of how to use a sewing needle and different types of stitching

Intent

At Aylward, building on prior knowledge of clothing from Year 1, students will understand some of the clothes in Ancient Egyptian times, in particular, head collars. Students will try to think about similar designs and fashion in the modern day and create a head collar that is suitable for today's user.

Vocab

Collar, sketch, secure, running stitch, back stitch, embellishments, needle, thread, textile pattern,

Skills

- Generate ideas through creating annotated sketches of design (S10)
- Explore existing Egyptian headdress (S11)
- Select and use appropriate tools to manipulate materials for e.g. cutting and joining (S12)
- Choose and use appropriate materials to create a functional, strong, and durable accessory (S13)
- Evaluate product against design criteria (S14)



YEAR 4



SPRING 1

Cooking

Making Pizza

SPRING 2

Structures

Pavilions

SUMMER 1

Mechanisms

Light Up Cards

THE DESIGN PROCESS— YEAR 4

Research

- Analyse existing products by identifying features
- Identify the audience and purpose, with reasons
- Compare the effectiveness of products

Evidence:

- Structured research page
- Comparison tables
- Independently structured design criteria considering purpose and user

Design

- Detailed annotated drawings from 2 perspectives (front and side)
- Exploded diagrams showing components
- Labels include features, purpose, materials, techniques
- Use computer aided design to visualise product from different perspectives

Evidence:

- Detailed diagrams with technical annotations e.g 'reinforced for strength'
- Design specification checklist self-assessed
- Comparison of designs with explanation of each
- Decision statement e.g I chose design B

Sentence Stems

I analysed existing products and found...
The target user is...
A limitation is...
This product is effective because...

My design will solve the problem of..
I selected this because it...
This feature will ensure...
I have designed it to be...

I adapted my design when...
I refined my design by...
I selected... because...

My product is successful because...
It meets the design criteria by..
Feedback suggests that...
It could be improved by...

Evaluate

- Evaluate against the design criteria
- Make use of user feedback
- Describe strengths and weaknesses of the product with reasons why, referencing user and purpose
- Suggest improvements with reasons

Evidence:

- Structured evaluation grid
- Written reflections
- Evidence of reference to user feedback

Make

- Independent tool selection
- Increased precision and accuracy
- Refinement during making

Evidence:

- Photos of making process
- Description of process e.g. bullet points
- Evidence of iteration recorded as sentences

YEAR 4 – SPRING 1 – COOKING: MAKING PIZZA

Prior learning: Smoothy making A1 yr1, sandwich making Su2 Yr2, afternoon tea A2 Yr3

Intent

Aylwards intent is to ensure children retain an understanding of how to apply the principles of a healthy and varied diet by learning how to prepare and cook a pizza. Students will build upon their previous learning about healthy foods to create a pizza using various preparation and cooking techniques.

Vocab

Roll, knead, aroma, woodfire oven, stone oven, smell

Skills

- Explore existing recipes in order to create own recipe based on ingredients and health factors (S1)
- Select and use appropriate ingredients according to taste, colour, and texture (S2)
- Use and select appropriate tools to manipulate ingredients for e.g. cutting, rolling, chopping, spreading, and mixing (S3)
- Demonstrate how to use and stay safe around cooking appliances (S4)

Knowledge

Design

- To recognise the features of a recipe for the pizza dough and toppings
- To recognise the features needed when drawing/labelling a picture of the finished product

Evaluate

- To explore ingredients typically used in pizzas
- Evaluate pizza against design criteria

Make

- To know how to use tools for cutting, mixing & rolling
- To know ingredients typically used in pizza recipes

Technical knowledge

- To understand how to use specific preparation tools (cutting appliances, etc.)
- To understand how to use cooking appliances

TIPS AND TRICKS

Suggestions for implementation

- Explore pizza recipes- looking at ingredients, texture, appearance, taste, and aroma
- Choose and taste a variety of different pizzas and ingredients
- Look at the importance of hygiene and food handling.
- Choose ingredients that they will use in their recipe & design a recipe
- Introduce different tools to cut and prepare ingredients. Discuss which are the most appropriate (I.e. cheese grater, knives, etc.)
- Create their pizza discussing their choice of ingredients, tools, hygiene practises and choices to do so.
- Evaluate their pizza against design criteria

Enrichment opportunities

Cook a pizza for an audience- at home
Invite parents into the classroom and encourage the children to cook and serve their pizzas to their family

Suggested questions to measure Impact

Does the pizza look appealing?
Does it taste appealing? Do the ingredients work together?
Is it cooked correctly?

YEAR 4 – SPRING 2 – STRUCTURES-PAVILIONS

Prior learning: EYFS-Junk modelling, Yr2- mechanisms and structures

TIPS AND TRICKS

Suggestions for implementation

- Explore different structures- looking at base, shapes and cladding
- Look at the importance of position and placement of shapes.
- Choose a range of appropriate materials
- Introduce different tools to design, cut and make structure.
- Evaluate techniques and product

Enrichment opportunities

*Use outdoor classroom (Pavilion) to carry out lesson 2- designing a pavilion.-**

Suggested questions to measure Impact

What makes your structure strong and stable?
What materials have you used to make your structure free-standing and aesthetic?
What did you need to make a successful structure?
How can you improve your pavilion?

Knowledge

Intent

At Aylward, students to apply their knowledge of strong and stable structures to create a Pavilion. Students will conduct their own research about free-standing structures and what makes them strong and stable to support their designs. Students will use strong and desirable materials that will allow them to create a free-standing and aesthetic pavilion structure.

Design

To recognise stable structures and design a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect

Make

To know how to build a framed structures designed to support weight.
Creating a range of different shaped frame structures.

Technical knowledge

To understand that;
- a framed structure is a 'free-standing' structure that can stand on its own.
- a pavilion is a decorative structure
- cladding can be applied to structures for different effects.

Evaluate

Explore a range of free-standing frame structures of different shapes and sizes.
Explore the structures strength and stability and aesthetics.
Explore the appropriate materials and construction techniques used to create a stable, free-standing frame structure and it's cladding.

Vocab

Pavilion, structure, stable, cladding, aesthetic, reinforce, free-standing prototype, frame

Skills

Making a variety of free-standing frame structures of different shapes and sizes.
Selecting appropriate materials to build a strong structure and for the cladding.
Reinforcing corners to strengthen a structure.
Creating a design in accordance with a plan.
Learning to create different textural effects with materials.

YEAR 4 – SUMMER 1 – MECHANISMS: LIGHT UP CARDS

Prior learning: Year 3- Designing and making a pop-up toy , Year 1- Researching and making moving pictures

Intent

Aylward intends to develop students understanding of the various purpose of lights and begin to develop products based on user needs. They will create the body of their light selecting materials that will be most appropriate for their product. Students will build upon their knowledge and confidence of using their tools.

Vocab

Conductor, insulator, component, series circuit, LED, switch, wire, circuit diagram, battery, casing,

Skills

- Design a torch giving consideration to a target audience.
- Create both design and success criteria.
- Make a working electrical circuit and switch.
- Use appropriate equipment to cut and attach materials.
- Evaluate electrical products.
- Test and evaluate the success of a final product.

Knowledge

Design

- To think of a target audience
- To describe what makes a torch successful.
- To draw a labelled diagram including what materials they will be using

Evaluate

- To assess their torch throughout the process
- To use different materials focussing on how they could be used on their design

Make

- An electrical circuit must be complete for electricity to flow.
- A switch to be used to complete and break an electrical circuit.

Technical knowledge

- Electrical conductors are materials which electricity can pass through.

TIPS AND TRICKS

Suggestions for implementation

- Research different lights and their purpose
- Research different materials and how they use light
- Research user – asking year ½ what they want in a light; colours, shapes etc.
- Design and create their light by drawing a labelled diagram with materials they will use.
- Evaluate product throughout

Enrichment opportunities

Cross-curricular: Science create switches, create circuits

Science museum- looking at circuits and energy

Suggested questions to measure Impact

- Did your product appeal to the user?
- Did your product work?
- Can you change the battery?
- Does your product look appealing?



YEAR 5



AUTUMN 2

Structures

Bridges

SPRING 2

Cooking

African Food

SUMMER 2

Textiles

Sewing Bags and

purses

THE DESIGN PROCESS – YEAR 5

Research

- Analyse existing products by identifying features
- Evaluate existing products – strengths and limitations
- Investigate materials and processes used
- Identify the audience and purpose, with reasons
- Compare the effectiveness of products

Evidence:

- Structured research page
- Comparison tables
- Independently structured design criteria considering purpose and user

Design

- Multiple design iterations refined into final design
- Scaled drawings introduced (Where appropriate)
- Exploded diagrams with labelled components
- Cross sections introduced
- Applying technical vocabulary
- Labels include features, materials, purpose techniques, rationale
- Clear justification of choices, linked to purpose and user
- Use computer aided design software (Tinkercad) to model a final product

Evidence:

- Iterative design e.g. version 1 -2 – final
- Exploded diagram with detailed labels (material, purpose, tools they will use, rationale)
- Scaled drawing with measurements
- Design linked explicitly to design criteria (with explanation of how it achieves it)
- Technical vocabulary in annotations and descriptions

Sentence Stems

The target audience requires...
A key element is...
I evaluated existing products and concluded that...

My design specification states that...
This choice is justified because...
It is important that...
I have designed it to be...by...

I ensured precision by...
I refined my design during making by...
I selected tools/materials by...
I solved a problem by...

My product meets the design brief because...
User feedback indicates...
Compared to existing products...

Evaluate

- Evaluate against the design criteria
- Make effective use of user feedback
- Describe strengths and weaknesses of the product with reasons why, referencing user and purpose
- Suggest improvements with reasons
- Compare to existing products

Evidence:

- Structured evaluation report
- Written reflections, including comparison to existing products
- User feedback analysis

Make

- Independent tool selection, including to measure
- High accuracy at all stages
- Independent decision making and problem solving
- Ongoing refinement of design

Evidence:

- Photos of making process
- Written process log recorded with reasoning
- Explanation of changes to design with reasons

YEAR 5 – AUTUMN 2 – STRUCTURES: BRIDGES

Prior learning- EYFS- construction skills, Year 1- construction, moving pictures (Su1) Year 2- construction fire trucks, Year3- Pop up toy (Sp2) Year 4- Night lights (Su1)

Intent

At Aylward, students to apply their knowledge of strong and stable structures to create a bridge. Students will conduct their own research about current bridges and what makes them strong and stable to use in creating their own bridge. Students will use strong materials and mechanisms that will allow them to create a functional bridge replica.

Vocab

Structure, cams, suspension, rigid, tension, truss, span, beam

Knowledge

Design

-To know the features needed to draw a labelled diagram with what materials they will be using
-To consider designs for a bridge based on product criteria- computer aided design

Evaluate

-To know different types of bridges
-Evaluate their bridges compared to existing bridges

Make

-To know use of a range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing]
-To recognise strong and stable materials

Technical knowledge

-Show an understanding of how to strengthen, stiffen and reinforce a complex structure
-Understand and use mechanical systems in their products (cams, pulley, levers, etc.)

TIPS AND TRICKS

Suggestions for implementation

- Conduct research on current bridges – materials used, mechanisms used, etc
- Evaluate materials- strong materials? Stable materials?
- Evaluate mechanisms- cams, pulleys, levers, etc.
- Design own bridge- sketch, materials needed, etc
- Create own bridge
- Evaluate bridge- against other bridges, peer evaluation

Enrichment opportunities

Class trip to look at bridges- London bridge, Tower bridge, etc.

Skills

- Explore current bridge designs in order to design original bridge using a computer aided design program (S1)
- Select and use a wide range of tools to cut, shape, join, and finish materials (S2)
- Select and use appropriate materials to create a strong and stable structure (S3)
- Understand and use mechanical systems in their products (cams, pulley, levers, etc.) (S4)
- Evaluate final product based on design criteria (S5)

Suggested questions to measure Impact

What makes your bridge strong and stable?

What mechanisms have you used to make your bridge functional?

YEAR 5 – SPRING 2 – COOKING: AFRICAN FOOD

Prior learning: See Yr1 Aut1, Yr2 Sum2, Yr3 Aut2 and Yr4 Sp1 for previously taught Knowledge and Skills

Intent

At Aylward, children develop their understanding of healthy eating by planning, preparing and cooking an African dish. They build on their knowledge of recipes, food preparation and cooking techniques while learning how to safely handle and store ingredients.

Vocab

Spice, bacteria, appetising, flavour, cuisine, preparation,

Knowledge

Design

- To understand how to create a recipe
- To know the features needed to draw a labelled diagram

Evaluate

- Evaluate their final product against design criteria
- Evaluate final dish for appearance, texture, & taste

Make

- To understand appropriate tools to use (cutting, peeling)
- To know how to use different cooking techniques (stove, hob, etc.)

Technical knowledge

- Understand how to use specific preparation tools (cutting appliances, etc.)
- Understand how to use cooking appliances appropriately and safely

TIPS AND TRICKS

Suggestions for implementation

- Explore African dish recipes- looking at ingredients, texture, appearance, taste, and aroma
- Choose and taste a variety of different African foods and ingredients
- Look at the importance of hygiene and food handling practices
- Choose ingredients that they will use in their recipe & design a recipe
- Introduce different tools to cut and prepare ingredients. Discuss which are the most appropriate (I.e. vegetable peeler, knives, etc.)
- Look at different cooking techniques (oven, stove top, etc.)
- Create their African dish discussing their choice of ingredients, tools, hygiene practises and choices to do so.
- Evaluate their dish against design criteria

Enrichment opportunities

Cooking for an audience- at home? Bring family members into school?

Encourage someone of African descent to come and talk about or bring in African food

Skills

- Explore existing African food dishes and recipes in order to create an original African food recipe, drawing a labelled picture based on appearance and texture (S6)
- Select appropriate ingredients in line with theme (S7)
- Select appropriate cooking techniques making sure to follow through with appropriate safety procedures (S8)
- Evaluate dish for it's appearance, texture and taste (S9)

Suggested questions to measure Impact

Are the dishes cooked based on the recipes?
Were the ingredients stored and handled correctly?
Does the dish look and taste appealing?

YEAR 5 – SUMMER 2 – TEXTILES : SEWING BAGS AND PURSES

Prior learning: Explore current t-shirt designs- Year 1, Generate ideas through creating annotated sketches of design
-Select and use appropriate tools to manipulate materials for e.g. cutting and joining
-Choose and use appropriate materials to create a functional, strong, and durable accessory- Year 4

Intent

At Aylward, children develop their creativity by designing and making purses. They research and evaluate existing products to understand how they are designed for a purpose. Children create a purse that is both attractive and functional, while considering the needs and preferences of a target audience.

Vocab

Running stitch, Blanket stitch, measure, tacking, seam, template, fastening,

Knowledge

Design

-To make a detailed labelled drawing of a design (including measurements, colour, materials, etc.)

Make

-To use knowledge of different purse designs in order to create a purse for a specific user and purpose

Evaluate

-To evaluate the use of different purses
-Evaluate their products against a success criteria

Technical knowledge

-To practise different stitches; running stitch, blanket stitch
-To practise different tacking techniques; buttons, material, sequins

TIPS AND TRICKS

Suggestions for implementation

-To explore features of a range of purses
Focused skills: To practise different sewing skills; running stitch, blanket stitch
-To test designs using templates
-To create an annotated design and sketch
-To create product (x 2 lessons) & tack on embellishments (fabric glue? Stitched on?)
-To evaluate and reflect on product

Enrichment opportunities

Provide a variety of purses and designs for students to explore (different stitching, embellishments, etc.)

Skills

-Explore existing purse designs (S10)
-Draw a labelled diagram of purse design based on given criteria (S11)
-Select and implement appropriate sewing tools and techniques to add embellishments to purse for e.g. sequins and buttons (S12)
-Evaluate product against design criteria (S13)

Suggested questions to measure Impact

-Is your purse secure? Can any coins spill out of the seams?
-Can your purse open and close?
-Is your purse appealing to your target audience?



YEAR 6



AUTUMN 2

Electrical

Steady Hand Game

SUMMER 1

Cooking

A baked Dessert

SUMMER 2

Mechanisms

Victorian toys -
Pulleys and Levers

THE DESIGN PROCESS – YEAR 6

Research

- In-depth product analysis, comparison and evaluation
- Make links to user needs and market purpose
- Consider sustainability and innovation

Evidence:

- Structured research page
- Comparative analysis with justification
- Independently structured design criteria considering purpose, user, sustainability and innovation.

Design

- Fully developed design portfolio
- Multiple viewpoints – front, side, top
- Scaled technical drawings with measurements
- Detailed exploded diagrams
- Cross sections to show internal mechanisms
- Technical labels, including features, materials, rationale

Evidence:

- Iterative design e.g. version 1 -2 – final
- Exploded diagram with detailed labels (material, purpose, tools they will use, rationale)
- Scaled drawing with measurements
- Design linked explicitly to design criteria (with explanation of how it achieves it)
- Technical vocabulary in annotations and descriptions

Sentence Stems

I conducted research into existing products and found...
The most effective designs...
A key limitation of current products is...

This is important for the user because...

My design meets the specification because...
This will improve efficiency/durability because...
The intended user will benefit from...

Evaluate

- Evaluate against the design criteria
- Make effective use of user feedback
- Describe strengths and weaknesses of the product with reasons why, referencing user and purpose
- Suggest realistic further improvements with reasons
- Compare to existing products

Evidence:

- Structured evaluation report
- Written reflections, including comparison to existing products
- User feedback analysis used to inform evaluation

Make

- Independent tool selection, including to measure
- High precision and craftsmanship
- Independent tool use and problem-solving
- Continuous refinement and quality control

Evidence:

- Photos of making process
- Written process diary with ongoing evaluation points
- Explanation of refinements with rationale

I maintained accuracy by...
I refined my design through...
I independently selected...
I quality-checked by...

My product meets the design specification because...
It is effective for the user because...
Compared to existing products...
If I were to develop this further, I would...

YEAR 6 – AUTUMN 2 – ELECTRICAL: STEADY HAND GAME

Prior learning: Year 4 science-electricity, Year 2- stable structures

Intent

At Aylward, students to apply their knowledge of strong and stable structures and circuits to create a steady hand game. Students will conduct their own research about current steady hand games and what makes them strong and stable to use in creating their own game. Students will use strong materials and circuits that will allow them to create a functional game.

Vocab
Form, function, buzzer, assemble, benefit, LED, Component, casing, conductor, proptotype

Knowledge

Design

- Recognise skills needed to play the game
- Use information to create a design and mock product
- To sketch diagram perspectives; 'top view', 'side view' and 'back'.
- Identify the components of a steady hand game.
- Create a secure base for their game, that relates to their design.

Evaluate

- Explore existing toys and evaluate them and their purpose/audience
- Evaluate each stage; sketches, base, circuits and completion of strcture.

Make

- Accurately cutting, folding and assembling a net.
- Constructing a stable base for a game
- Making prototypes
- Make and test a functioning circuit and assemble it within a case

Technical knowledge

- To know that 'form' means the shape and appearance of an object.
- To know the difference between 'form' -and 'function'.
- To understand that 'fit for purpose' means that a product works how it should
- To know the importance of 'form follows function' when designing: the product must be designed primarily with the function in mind.

TIPS AND TRICKS

Suggestions for implementation

- Conduct research on current steady hand games– materials used, mechanisms used, etc
- Evaluate materials- strong materials, Stable materials?
- Evaluate mechanisms- circuits, base, materials etc.
- Design own steady hand game- sketch, materials needed, etc
- Create own steady hand game
- Evaluate steady hand game- against other games and peer evaluation

Enrichment opportunities

Class trip to science museum

Skills

- Drawing a design from three different perspectives.
- Constructing a stable base for a game.
- Modelling ideas through prototypes.
- Making and testing a circuit.
- Incorporating a circuit into a base.

Suggested questions to measure Impact

What makes your base strong and stable?

What materials have you used to make your game functional?

What did you need to complete a successful circuit?

How can you ijprove your game?

YEAR 6 – SUMMER 1 – COOKING: A BAKED DESSERT

Prior learning: See Yr1 Aut1, Yr2 Sum2, Yr3 Aut2, Yr4 Sp1 and Yr5 Sp2 for previously taught Knowledge and Skills.

Intent

At Aylward, children design, prepare and bake a dessert, building on their previous cooking skills. They measure ingredients accurately, use safe food handling and cooking techniques, and improve their recipes by evaluating the appearance, taste, texture and aroma. They also consider how their dessert fits within the Eatwell Guide

Vocab

Equipment, Eatwell guide, nutrients, healthy, bake, **aroma, texture, ratio ingredients, recipe**

Knowledge

Design

- To know what ingredients to use in the recipe
- To know the features needed to write a step-by-step recipe, including a list of ingredients, equipment, and utensils

Evaluate

- Evaluate a range of relevant products- look at recipes for baked desserts
- Evaluate final products with reference to the design brief and specification

Make

- To know which tools and equipment are suitable for cooking specific food items
- To know how to prepare and cook dishes safely and hygienically

Technical knowledge

- Understand how to use specific preparation tools (cutting appliances, etc.)
- Understand how to use cooking appliances (oven, stove top, etc.)

TIPS AND TRICKS

Suggestions for implementation

- Research various baked desserts- look at and evaluate pre-existing recipes
- Choose and taste a variety of different premade desserts based on chosen dessert
- Look at the importance of hygiene and food handling practices
- Demonstrate use of different cooking techniques (stove top, oven, etc.) and food preparing techniques (knives, peelers, scissors, etc.)
- Create and refine recipe, based on methods, cooking times and temperature
- Create baked dessert- Measuring ingredients accurately and calculating ratios based on amount
- Evaluate 2-course meal against design criteria & eatwell guide

Enrichment opportunities

To create and prepare their dishes for their family then take pictures and do a write up about the experience.

Skills

- Design a baked dessert and create a recipe (S6)
- Select and implement appropriate and safe cooking techniques (S7)
- To prepare and cook dish safely and hygienically, using appropriate and hygienic food handling procedures (S8)
- Use specific preparation tools safely and appropriately e.g. cutting appliances (S9)

Suggested questions to measure Impact

Were the ingredients measured correctly?
Does the dessert look appealing?
Does the dessert taste appealing?
Does the dish have a variety of nutrients? (To evaluate based on Eatwell guide)

YEAR 6 – SUMMER 2 – MECHANISMS: VICTORIAN TOYS PULLEYS AND LEAVERS

Prior learning: EYFS- construction skills, Year 1- construction, moving pictures (Su1) Year 2- construction fire trucks, Year3- Pop up toy (Sp2) Year 4- Night lights (Su1)

Intent

At Aylward, children evaluate, design and make a Victorian toy for a specific audience. They build on their knowledge of mechanisms to create a moving 3D toy and choose suitable materials to make it strong and durable.

Vocab

durability, cams, reinforce, pulley, lever, axle, linkage

Knowledge

Design

- To develop a design criterion for a toy aimed at a specific target group
- To understand the features needed to complete a detailed annotated sketch of toy design

Evaluate

- Evaluate Victorian toys versus modern day toys
- Evaluate materials
- Evaluate mechanisms used

Make

- To know use of a range of materials
- To know and understand use of tools and equipment suitable for the task

Technical knowledge

- To know how to reinforce/strengthen a 3D framework
- To understand how certain mechanisms, create movement (pulleys and levers)

TIPS AND TRICKS

Suggestions for implementation

- Conduct research on current Victorian toys
- Evaluate materials-durability
- Evaluate mechanisms- cams, pulleys, levers, etc.
- Design own toy- sketch, materials needed, etc.
- Create own toy
- Evaluate toy- against other toys, peer evaluation

Enrichment opportunities

- British toy museum
- Taking apart and looking at modern toys-what mechanisms used, etc.

Skills

- Explore existing Victorian toys in order to design an annotated sketch of a new idea (\$10)
- Select and use appropriate materials (\$11)
- Select and use tools appropriately in order to reinforce and strengthen materials (\$12)
- To successfully use pulleys and levers in order to create movement (\$13)
- Evaluate toy against design criteria (\$14)

Suggested questions to measure Impact

- How durable is your toy?
- What mechanisms have you used? How do they function?
- What age is your toy targeted at?

USEFUL WEBSITES AND LINKS

