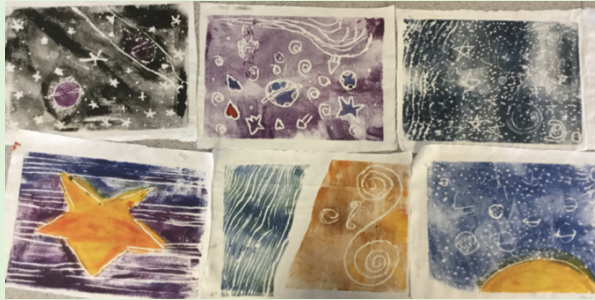


Year 3

Autumn 1

Textiles- Cushions



To design and make a cushion

Design:

- Designing for a purpose.
- Following design criteria
- Design pattern pieces (shape of cushion)

Make:

- Selecting and cutting fabrics with scissors
- Sewing straight stitch and cross stitch with a needle to join edges and add detail.
- Decorating by printing on fabric
- Decorating fabric using appliqué (extension)

Evaluate:

- Evaluate existing products
- Evaluate against original design

Technical knowledge:

- Knowing different types of stitches and when each could be used.

Spring 2

Cooking and Nutrition- Eating seasonally



To create a vegan pizza using existing products to support with the design and making process

Design:

- Designing to a given criteria

Make:

- Following a recipe
- Working with cooking equipment safely and hygienically

Evaluate:

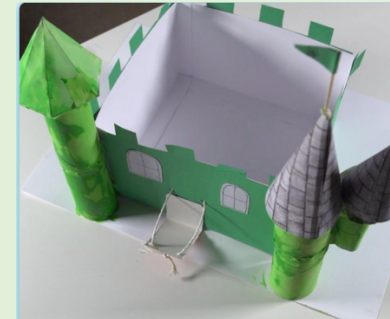
- Evaluate against intended outcome

Technical Knowledge:

- Learning that vegetables and fruit grow in certain seasons
- Learning that each fruit and vegetable gives us nutritional benefits

Summer 2

Castles



To construct a building inspired by the Parthenon

Design:

- Designing for a purpose
- Using annotated sketches of 2D shapes, labelling: - the 3D shapes that will create the features – materials

Make:

- Constructing a range of 3D geometric shapes using nets
- Making facades from a range of recycled materials

Evaluate:

- Evaluate against original design

Technical knowledge:

- Identifying suitable materials considering weight, compression and tension
- Knowing flat based objects are more stable
- Understanding the terminology of strut, tie, span, beam
- Understanding the difference between frame and shell structure

Year 4

Autumn 1

Electrical Systems- Kapow Torches



Spring 1

Structure- Kapow Pavilions (adapted)



Summer 1

Cooking and Nutrition- Kapow adapting a recipe.



To design and make a torch.

Design:

- Designing an appealing and functional product for a target audience
- Show design using a cross sectional diagram

Make:

- Using appropriate equipment to cut and attach materials

Evaluate:

- Evaluate existing electrical products
- Understand how key events and individuals in design and technology have helped shape the world- important
- Evaluate their own and others final products and suggest an improvement.

Technical knowledge:

- Using an electrical circuit with a bulb and switch

To design a building inspired by the Romans

Design:

- Designing for a purpose and to a design brief
- Using labelled diagrams

Make:

- Selecting appropriate materials to build a strong structure and for the cladding
- Learning to create different textural effects with materials
- Evaluate their own and others final products and suggest an improvement.

Technical Knowledge:

- Reinforcing corners to strengthen a structure
- Implementing frame and shell structure knowledge

To design a biscuit by adapting a recipe

Design:

- Design to a design brief

Make:

- Adapting and following a baking recipe
- Cooking safely, following basic hygiene rules

Evaluate:

- Evaluate their own and others final products and suggest an improvement.

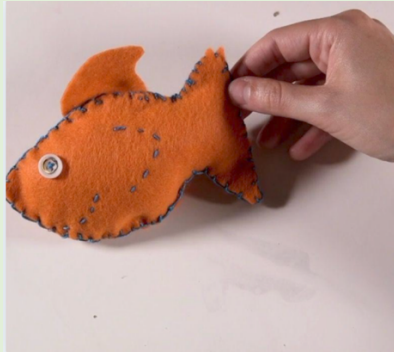
Technical Knowledge:

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

Year 5

Autumn

Textiles -Kapow Stuffed Toys



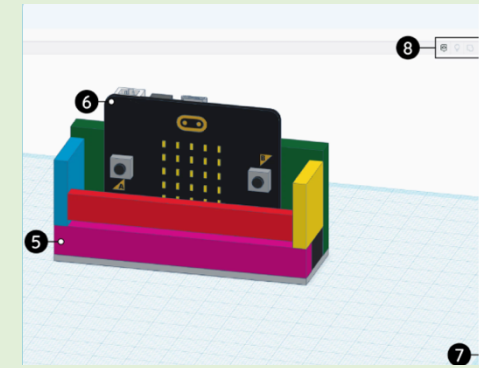
Spring 1

Structures – Kapow bridges



Spring 2

Digital World – Kapow Monitoring Devices



To design and make a stuffed toy.

Design:

Designing for a purpose

Designing pattern pieces

Make:

Measuring, marking and cutting fabric accurately and independently

Blanket stitch to join fabric

Using applique to attach pieces of fabric

Evaluate:

Evaluating existing -products

Testing and evaluating an end product and giving points for further improvements

Technical Knowledge

Creating strong and secure blanket stitches when joining fabric

To design a bridge using woodwork.

Design:

Design using an exploded diagram to show how the pieces will fit together.

Designing a prototype

Make:

Independently measuring and marking wood accurately

Using the correct techniques to saw safely

Cutting and joining wood accurately.

Evaluate:

Evaluating an end product and giving points for further improvements

Technical Knowledge:

Identifying where a structure needs reinforcement and using card corners for support

To learn about and practice 3D CAD skills

Design:

Research a chosen animal's key information to develop a list of design criteria for an animal monitoring device.

Make:

Build a variety of brick models to invent Micro:bit case, housing and stand ideas, evaluating the success of their favourite model.

Write a program that monitors the ambient temperature and alerts someone when the temperature moves from a specified range.

Identify errors (bugs) in the code and ways to fix (debug) them.

Evaluate:

Explain key pros and cons of virtual modelling vs physical modelling.

Technical Knowledge:

Recall and describe the name and use of key tools used in Tinkercad (CAD) software

Year 6

Spring 1

Electrical Systems- Kapow Steady Hand Games



To design and make a steady hand game.

Design:

Designing their own SC.

Drawing designs from different perspectives.

Modelling ideas through prototypes

Make:

Constructing a stable base

Accurately cutting, folding and assembling a net

Incorporating a circuit into a base

Evaluate:

Testing and evaluating an end product and giving points for further improvements relating to different and specific areas

Technical knowledge:

Understanding how electromagnetic motors work

Spring 2

Mechanisms- Kapow Automa animals



To make an automa toy

Design:

Designing an appealing and functional product for a purpose

Make:

Measuring, marking and cutting, checking the accuracy of the jelutong and dowel

Assembling components accurately to make a stable frame

Evaluate:

Evaluating existing -products

Testing and evaluating an end product and giving points for further improvements relating to different and specific areas.

Technical knowledge:

Exploring cams, learning that different shaped cams produce different follower movements

Summer 1

Food and Nutrition – Come Dine with Me



To design and create a 3-course meal

Design:

Write a recipe using research.

Make:

Cutting and preparing vegetables safely

Using equipment safely, including knives, hot pans and hobs

Knowing how to avoid cross contamination

Evaluate:

Evaluating a recipe, considering: taste, smell, texture and origin of the food group

Technical knowledge:

Understanding where food comes from, describing the process of 'Farm to Fork' for a given ingredient

Considering food groups to create a balanced and healthy meal