

# The DT Curriculum at Brownlow Fold

## The Learning Challenge

The Learning Challenge concept is built around the principle of greater **learner involvement** in their work. It requires deep thinking and encourages learners to work using a question as the starting point. In designing the curriculum, teachers and learners are using a **prime learning challenge**, expressed as a question, as the starting point. Using the information gained from pre learning tasks and our school context, a series of **subsidiary challenges** are then planned. Each subsidiary learning challenge is also expressed as a question. Importantly, the learning challenges need to make sense to the learners and be something that is within their immediate understanding.

Within each Learning Challenge unit of work, we always include a 'Green for Growth Challenge.' These challenges are designed to enable pupils to work at greater depth within a particular unit. Some of the characteristics of a child who is working at greater depth might include:

- Working independently
- Applying what they have learned in one area of a subject to other areas
- Applying their knowledge consistently, confidently and fluently
- Being able to explain what they have been doing to others, including teaching other children what they have learned.

**Pre-learning tasks** to ensure that our pupils are directly involved in the planning process. Well planned pre-learning tasks to help bring out what our pupils already know; what misconceptions they may have and what really interests them. Our teachers then take account of the outcomes from pre-learning tasks to plan the subsidiary learning challenges for each major area of study.

# Empowered Learners

By adopting the 'Empowering Learning' skills, we recognise the impact that personal skills can have on the academic success and well-being of our children. They play a vital role in developing the ability of learners to enjoy and reflect on their learning across the curriculum. The six areas for personal development; Self-Management, Effective Partnership, Resourceful Thinkers, Reflective Learners, Independent Enquirers and Team Workers; form what we class as personal skills which are worked upon throughout a child's time at Brownlow Fold Primary School.

## **Self-Manager**

- Ability to organise themselves and work out goals and priorities
- Show personal responsibility, initiative, creativity and enterprise
- Anticipate, take and manage risks
- Commit themselves to learning and self-improvement
- Respond positively to change

## **Effective Participators**

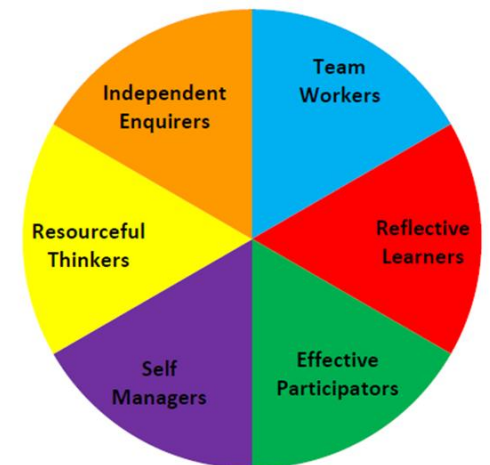
- Engage actively with issues that affect them and those around them.
- Play a full part in the life of the school
- Take responsible action to bring improvement for others as well as themselves
- Discuss issues of concern, seeking resolution
- Present a persuasive case for action
- Propose practical ways forward
- Try to influence others, negotiating and balancing diverse views

## **Resourceful Thinker**

- Think creatively by generating and exploring relevant ideas, and making original
- Find links and see relationships
- Explore and experiment with resources and materials
- Ask 'why', 'how' and 'what if' questions
- Apply imaginative thinking to solve a problem
- Try different ways to tackle a problem
- Work with others to find imaginative solutions and outcomes that are of value

## **Reflective Learner**

- Evaluate their strengths and limitations as learners
- Review their work and act on outcomes
- Set themselves realistic goals and criteria for success



- Monitor their own performance and progress
- Invite feedback and deal positively with praise, setbacks and criticism.
- Make changes to improve their learning
- Communicate their learning in relevant ways to different audiences

**Independent Enquirer**

- Gather, process and evaluate information in their investigations
- Plan what to do and how to go about it
- Draw conclusions and evaluate outcomes
- Take informed and well-reasoned decisions, recognising that others have different beliefs and attitudes
- Use range of techniques to collect and organise information

**Team Worker**

- Work confidently with others, adapting to different contexts and taking responsibility for their own role
- Listen and take account of others' views
- Form collaborative relationships, resolving issues and reaching agreed outcomes
- Adapt behaviours to suit different roles and situations
- Show fairness and consideration towards others

### Green for Growth Challenge

Can you create a robot that has component switch lights up, makes a sound and has an option to switch on and off?

## Prime Learning Challenge

Can you design and make a robot with a circuit inside it?

### Big Question



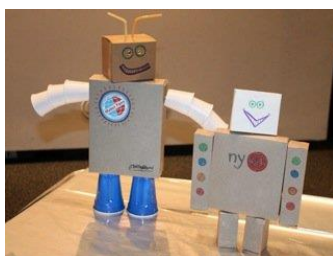
### Small Questions

Which help to answer the big question.

Can you come up with a range of ideas for the design of your robot and say what materials you will use?	Can you work in a small group, sharing ideas and supporting each other?	Can you use a range of tools and equipment with an increased ability?	Can you make your robot strong so it can stand up on its own?
Can you carefully measure so you don't make mistakes when cutting out materials?	Can you consider and use appropriate finishing techniques?	Can you evaluate your end model and say what worked well and suggest ways it can be improved?	

## Key Vocabulary

Design	Evaluate	Modify	Techniques	Improve
Circuits	Strengthen	Components	Designers	Cutting



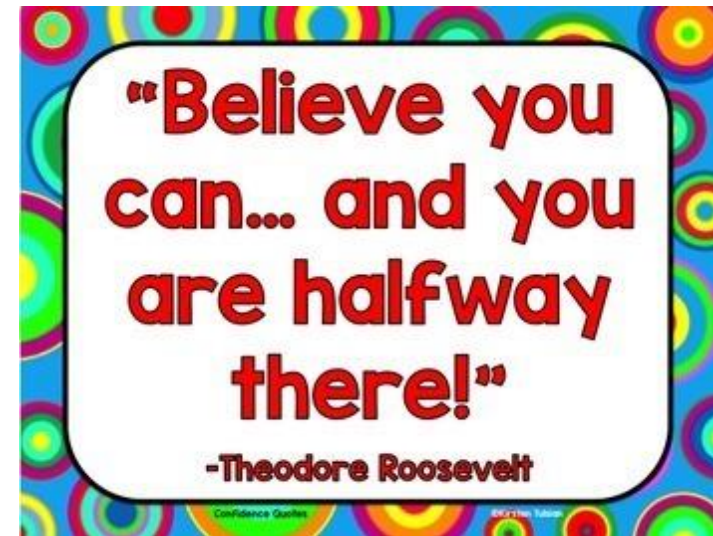
## Empowered Learner Links



### Effective Participant

- I can persuade others to accept a proposal even though others may not at first agree with my suggestion.
- I know that sometimes my ideas can help other people.
- I can decide when I need 'time out' or 'thinking time' to deal with my emotions.
- I can manage disappointments and keep my emotions in check.
- I am determined not to give in too easily.

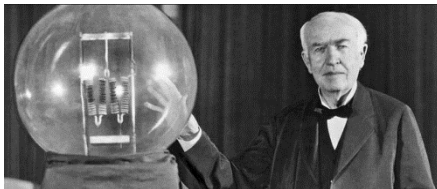
## Growth Mindset Links



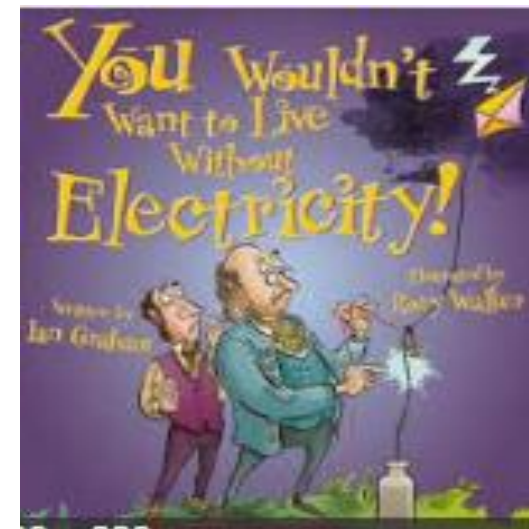
## Cross-Curricular Writing Opportunities



- Planning booklet – list resources needed, labelled diagram, evaluation.
- Thomas Edison (inventor of the light bulb) homework

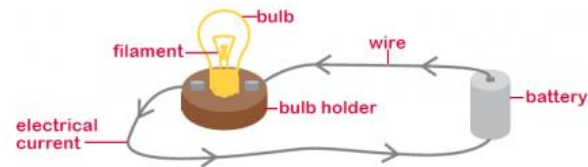


## Text





## Terminology



### Design

A plan or drawing to show the look and function of an object before it is made.

### Components

A part of a model, machine or vehicle.

### Modify

To make changes to something.

### Designer

A person that plans the look or workings of something before it is made.

### Circuit

A circular route that starts and finishes at the same place.

### Strengthen

To make something stronger.

### Evaluate

To make a judgement about something, for example about its appearance.

## Options of resources

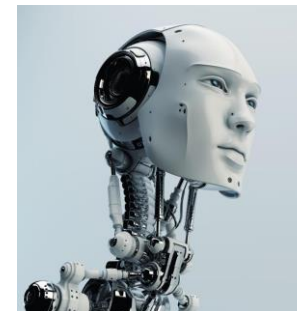
- Boxes
- Masking tape
- Batteries
- Bulbs and buzzers
- Wires for a circuit

## Designer to be studied



Clayton Bailey

## Products to explore



## Assessment Criterion

### Emerging



Emerging – the robot contained lights for the eyes. Children were supported by an adult to get the circuits working.

### Expected



Expected – the robot had eyes that would light up. The children worked independently of adult support.

### Exceeding



Exceeding – the robot contained a light, buzzer and a switch made out of paper clips and paper fasteners.

## Enrichment opportunities

- Research different robot and what they can be used for.
- Collaborating in small groups to designing and making robots with flashing lights.
- Links with the science curriculum – electricity.

## Home Learning/Parental Links

- Find out about Thomas Edison.
- Look for ideas for robot designs.
- Collect resources, such as boxes, empty bottles, lids etc to make your robot.

### Green for Growth Challenge

Can you create a questionnaire and interview your peers to find out what they like and what they would improve about your product?

## Prime Learning Challenge

Can you say how the Ancient Greeks created their pottery?

### Big Question



### Small Questions

Which help to answer the big question.

Can you find out about how Ancient Greek pottery was created and what was it used for?

Can you design your own Greek pottery, carefully considering existing products as the basis to your design?

Can you use the coil technique and different tools to create a piece of pottery?

Can you recognise that Josiah Wedgwood (significant designer) made an influence on the production of pottery?

## Key Vocabulary

Pottery	Tools	Technique	Compare	Kiln
Clay	Coil and pinch	Evaluate	Smooth	Thumb technique





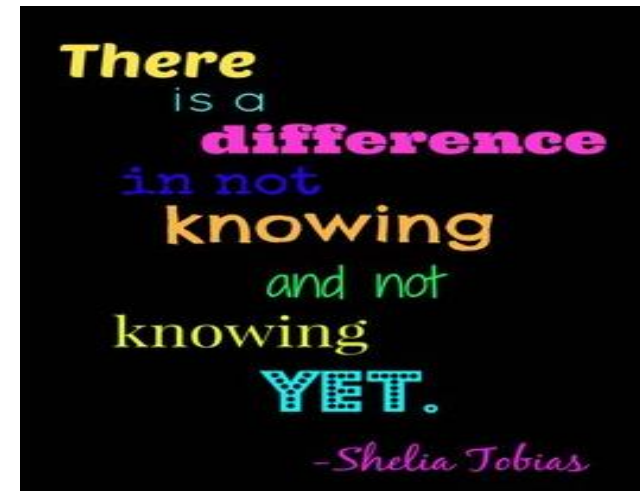
## Empowered Learner Links



### Reflective Learner

- I value feedback that will help me improve their learning.
- I can review my learning and ponder what will help make me be more effective as a learners.
- I know when a piece of work has been completed to the best of my ability.
- I use more than one piece of evidence to support my learning.

## Growth Mindset Links

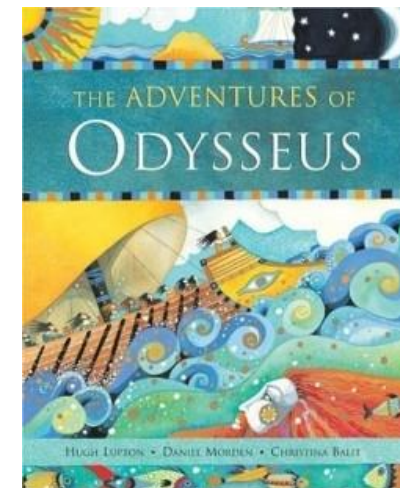


## Cross-Curricular Writing Opportunities



Re-write a Greek myth to create a play script.

## Text



## Terminology

### Pottery

Pots, dishes, and other articles made of fired clay. Pottery can be broadly divided into earthenware, porcelain, and stoneware.

### Tools

A device or implement, especially one held in the hand, used to carry out a particular function.

### Technique

A way of carrying out a particular task, especially the execution or performance of an artistic work or a scientific procedure.

### Kiln

A furnace or oven for burning, baking, or drying, especially one for calcining lime or firing pottery.

### Clay

A stiff, sticky fine-grained earth that can be moulded when wet, and is dried and baked to make bricks, pottery, and ceramics.

### Coil

To wind a length into a joined sequence of concentric rings.



## Designer to be studied

Josiah Wedgwood



## Options of resources

- Air drying clay
- Clay boards
- Clay tools
- Images of pottery by Josiah Wedgwood
- Images of pottery from the Ancient Greek times



## Assessment Criterion

Emerging



Expected



Exceeding



### Enrichment opportunities

- Designing and making a piece of Greek pottery.

### Home Learning/Parental Links

- Research how Ancient Greek pottery was made.

### Green for Growth Challenge

Evaluation - Can you write a persuasive script for a three minute advert persuading people to purchase your new product?

## Prime Learning Challenge

Can you design and make a case for a member of your family?



## Big Question



Can you come up with a range of ideas for the design of your case and say what materials you will use?	Can you learn to sew using a variety of stitches – running stitch and over stitch?	Can you cut out a template for your case, pin it onto the fabric, cut it out and sew it together with increasing accuracy?	Can you add interest to your case by adding applique and explain what this is?
Can you carefully measure so you don't make mistakes when cutting out materials?	Can you add appropriate finishing techniques suitable for your audience?	Can you thread a needle?	Can you design several ideas for your case to meet the design brief and audience it is aimed at?

**Small Questions**  
Which help to answer the big question.

## Key Vocabulary

Textile	Stitches	Fabric	Applique	Thread
Needle	Finishing	Template	Design	Evaluate



## Empowered Learner Links



### Independent Learner

- I can follow up a question to gain clarification.
- I can use more than one piece of evidence to support my findings.
- I will get on with a task without anyone reminding me what to do.
- I make lists when it is helpful to do so.
- I can sort information and choose what is relevant.

## Growth Mindset Links



## Cross-Curricular Writing Opportunities



Design booklet – Plan, design and evaluate.

## Text



Power point presentation



## Terminology



### Textile

A type of cloth or woven fabric.

### Stitches

A loop of thread from a movement with a needle in sewing.

### Applique

Pieces of fabric that are sewn or glued on to a larger piece to form a picture or pattern.

### Thread

A long, thin strand of fibres used in sewing or weaving.

### Needle

A slender piece of metal with a point at one end and a hole or eye for thread at the other.

### Finishing

To give something an attractive surface appearance.

### Template

A piece of rigid material used as a pattern for cutting out or shaping.

### Pattern

A model or design used as a guide in needlework and other crafts.

## Options of resources

- Felt
- Thread
- Scissors
- Pins
- Template or pattern
- Buttons

## Designer to be studied






Vivienne Westwood

## Products to explore



## Assessment Criterion

Emerging	Expected	Exceeding
		

### Enrichment opportunities

- To link their cases to promoting WWF and endangered animals.
- Thinking carefully about the finishing's for their cases.
- Parents to be invited in to school to support with the sewing.

### Home Learning/Parental Links

- Look at bags, purses and wallets that you have at home. How are they made? How do they fasten? Do they have pockets?
- Find out about the famous British fashion designer, Vivienne Westwood.



## Photographic evidence of the curriculum in action at Brownlow Fold

