

# Year 6 Knowledge Organiser: *Project Protection*

Curriculum Driver: Discovery, Success, Inspiration

Cross-curricular subject links: English class reader – Skellig by David Almond, Maths (Geometry).

Trips/Enrichment:

GARP/GASP: How did Lewis Latimer's inventions impact the world? (Science)

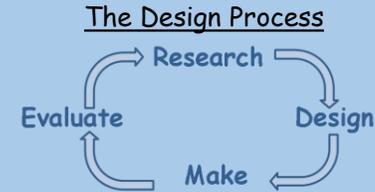
**Subject/Conceptual knowledge/skills:** Structures (technical knowledge), design, make and evaluate

**LEAPS:**

- I can develop a simple design specification to guide my thinking.
- I can generate innovative ideas through discussion, drawing on research.
- I can confidently select a range of tools, components, materials and equipment suitable for the task.
- I can accurately measure, mark out, cut and shape materials and components, using appropriate tools, equipment and techniques.
- I can accurately assemble, join and combine materials and components to make working models.
- I can demonstrate resourcefulness when making modifications as I go along
- I can investigate and analyse how well products have been designed and made. I can investigate and analyse why materials have been chosen.
- I confidently can evaluate original design criteria and suggest ways it can be improved

**Core Knowledge:**

An architect is a person who designs buildings and in many cases also supervises their construction. **Norman Robert Foster, Baron Foster of Thames Bank**, (born 1 June 1935) is an English architect. His company, Foster and Partners, has an international design practice. He is the United Kingdom's biggest builder of landmark office buildings. In 1999, he was awarded the [Nobel Prize](#) of architecture. 30 St Mary Axe (known as 'The Gherkin') is a free standing structure, in London, which was designed by Norman Robert Foster. A free standing structure is something that can support it's own weight and is stable

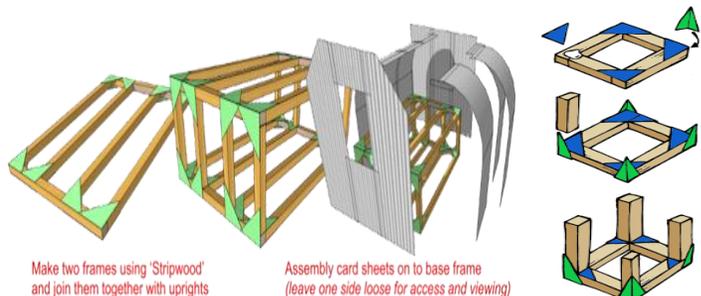


Thoughts	Action
What type of structure shall I make? What will be its purpose? Who will use it?	Discussing ideas, drawing annotated sketches. Generating a simple design criteria
Which structure will be the best shape and why? What features will it have?	Discussing, modelling and evaluating different options
Which materials will I use to make it? How will I make it strong and waterproof?	Investigating and testing possible materials Discussing, exploring and evaluating prototypes
What will I use to cover the structure?	Discussing, exploring and evaluating different fabric and rigid covering options
What tools and materials will I need? What order will I work in? Will I work with someone? What constraints I am working to?	Negotiating, developing and agreeing a step-by-step-plan
Do I need to change anything?	Discussing, testing and modifying the design
Will my product meet the needs of the user?	Evaluating the product with the intended user and against the original design criteria.

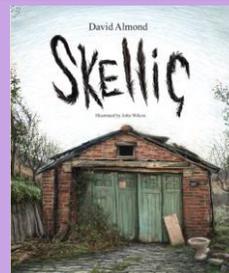
**Vocabulary**

Words	Meaning
Shelter	a place giving temporary protection from bad weather or danger.
Structure	a building or other object constructed from several parts.
Purpose	the reason for which something is done or created or for which something exists.
Product	the result of an action or process.
Design	a plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made.
Specification	a detailed description of the design and materials used to make something.
Components	a part or element of a larger whole, especially a part of a machine or vehicle.
Modification	the action of modifying something.
Analyse	examine (something) methodically and in detail, typically in order to explain and interpret it.

**Key Visuals**



**Books/associated reading:**



## Subject/Conceptual knowledge/skills: PSHE

### Keeping Myself Safe

#### LEAPS

Accept that responsible and respectful behaviour is necessary when interacting with others online and face-to-face;

Understand and describe the ease with which something posted online can spread;

Identify strategies for keeping personal information safe online;

Describe safe behaviours when using communication technology;

Know that it is illegal to create and share sexual images of children under 18 years old;

Explore the risks of sharing photos and films of themselves with other people directly or online;

Know how to keep their information private online;

Define what is meant by addiction, demonstrating an understanding that addiction is a form of behaviour;

Understand that all humans have basic emotional needs and explain some of the ways these needs can be met;

Explain how drugs can be categorised into different groups depending on their medical and legal context;

Demonstrate an understanding that drugs can have both medical and non-medical uses;

Explain in simple terms some of the laws that control drugs in this country;

Understand some of the basic laws in relation to drugs;

Explain why there are laws relating to drugs in this country;

Understand the actual norms around drinking alcohol and the reasons for common misperceptions of these.

## Core Knowledge

### British Value Focus: Tolerance

- willing to accept or respect what is different in others, especially their beliefs and customs.

We should always think carefully about what we post online. We should think about our safety and we should never share anything that might hurt or embarrass someone. It's almost impossible to remove something once it is online.

It is illegal (against the law) to produce sexual images of a person under 18 years old. It is also illegal to distribute a sexual image to others.

A drug is a 'substance that people use to change the way they think, feel or behave.'

Some drugs you may have heard of include:

- Caffeine
- Paracetamol
- Cannabis
- Alcohol
- Nicotine



Some drugs are illegal; this means it is against the law to possess, supply or produce.

We have both *physical needs* and *emotional needs*. Physical things like food, water and so on keep us alive. Things like contact with others, feeling a sense of self worth, feeling that we are good at some things, contribute to our emotional health and wellbeing.

### Subject Key Vocabulary

Internet safety, responsible, respectful, keeping safe, decisions, behaviours, communication, bullying, sexting, law, information, emotional needs, drugs, addiction, alcohol, medical, medicines, rules, law, smoking, risk taking

## Subject/Conceptual knowledge/skills:

### Science: Electricity Working scientifically LEAPS:

• To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.

• I can compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.

• I can use recognised symbols when representing a simple circuit in a diagram.

• I can construct simple series circuits to answer questions about different components.

• I can construct a simple series circuit to investigate real life circuits like burglar alarms.

## Core Knowledge

Electricity is an energy. This energy can be used to power items such as: Toasters, kettles, laptop, fridge, television, cooker etc.

Electricity is transported to our homes, schools and places of work through wires and cables. Electricity can also be stored in batteries (sometimes called cells).

There are two types of electric currents that can be generated- direct current and alternating current.



Alternating current (AC) - the electric charge changes direction periodically.



Direct current (DC) - the electric charge flows in one direction.

### Subject Key Vocabulary

Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage, brightness, volume, danger, electrical safety

## Subject/Conceptual knowledge/skills:

### Music

#### LEAPS

• I can sing songs from a variety of different countries and traditions.

• I can begin to hold harmony parts when singing as part of a group.

• I can follow hand signals from a conductor, responding with accurate timing, entries and with expression.

## Core Knowledge

Anna Meredith is a Scottish composer who writes electronic and acoustic music. She likes to work with orchestras, bands and choreographers to create music that uses clapping, stamping, shouting and beatboxing instead of instruments.

In Anna Meredith's body percussion piece 'Connect It' a variety of rhythmic sounds and movements are passed between the performers. This musical effect is known as a canon. A canon is where two or more instruments, voices or sounds play the same music, starting at different times.

### Subject Key Vocabulary

Canon, Motif, Orchestrate, Pulse



**Subject/Conceptual knowledge/skills:**

RE: Christianity

**LEAPS:**

Personal Resonance and Reflection.

- I can express the feelings I have when I think about situations or things I would like to last forever.

Knowledge and Understanding.

- I can make links between different Christian beliefs and their views on whether anything is ever eternal.

Evaluation and Critical Thinking

- I can reflect on my own beliefs about whether anything is eternal

**Core Knowledge**

Concept: Salvation

Theme: Beliefs and Meaning

Key Question: Is anything ever eternal?

Eternal means: lasting or existing forever; without end.

Christians believe Jesus died to save everyone from their sins. They follow the Ten Commandments. Christians believe that they can have eternal life with God in Heaven once they die. They believe God, Jesus and Heaven are eternal. Christians try to live their lives like Jesus did.

**Subject Key Vocabulary**

Eternity, Everlasting, Forever, Unconditional, Agape, Heaven, Hell, Resurrection, Bible, Parable, Commandments Forgiveness,

**Subject/Conceptual knowledge/skills:**

Computing: INetwork

**LEAPS:**

- I know that computer networks are a group of connected computers that allow users to communicate and share.
- I know that the router sends/receives information as packets of data.
- I know that every computer in the world has an IP address that can be traced back to a webserver.
- I understand how internet search engines work.
- I can use basic HTML syntax in a webpage.

**Core Knowledge**

A computer network is a number of computers linked together to allow them to "talk" to each other and share resources. Networked computers can share hardware, software and data.

Connecting computers to form computer networks and the internet (which is a network of networks) has had a huge impact on our lives.

Computer networks provide multiple services, such as the world wide web and they offer many opportunities for communication and collaboration

**Subject Key Vocabulary**

Network, Router, Internet, URL, Data, Search engine



**Subject/Conceptual knowledge/skills**

PE: Basketball

**LEAPS**

- I can confidently demonstrate a range of ball skills and can link these together effectively
- I can keep possession of a ball during games situations.
- I can consistently apply and demonstrate co-ordination, control and fluency skills.
- I can take part in a range of invasion/competitive games with a strong understanding of tactics and composition

**Core Knowledge**

Basketball is an invasion game played on a rectangular court between two teams.

The main objective is to shoot a basketball through the defender's hoop while preventing the opposing team from shooting through your hoop.

Players move the ball around by bouncing it while walking or running (dribbling), or by passing it to a teammate.

There are five players from each team on court at one time. The five positions are:

- Centre and power forward
- Point guard
- Shooting guard
- Small forward



**Subject Key Vocabulary**

Tactic , Technique , Strategy, Effectiveness, Invasion game, Invasion, Attacking, Defending, Dribbling, Control, Possession, Pass, Centre, Forward, Rebound, Footwork

**Subject/Conceptual knowledge/skills:**

French: The Weekend

**LEAPS:**

- I can ask what the time is in French.
- I can tell the time accurately in French.
- I can say what I do at the weekend in French
- I can integrate connectives into my work.
- I can present an account of what I do and at what time at the weekend

**Subject Key Vocabulary**

- The Weekend = Le Week-end
- Et quart = quarter past
- Et demie = half past
- Moins le quart = quarter to
- Je me lève = I get up
- Je prends mon petit déjeuner = I have my breakfast
- Je regarde la télé = I watch TV
- Je lis des bandes dessinées = I read comic books
- J'écoute de la musique = I listen to music
- Je joue à l'ordinateur = I play on the computer
- Je joue au foot = I play football
- Je vais à la piscine = I go to the swimming pool
- Je vais au cinéma = I go to the cinema
- Je me couche = I go to bed
- Après = After
- Et = And