



D&T
SUMMER 1
KNOWLEDGE
ORGANISERS

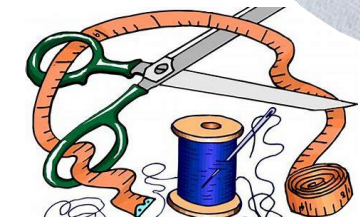
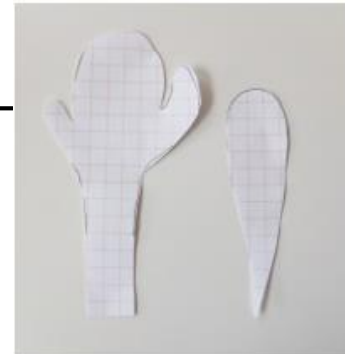
Year 5 - Textiles Cactus Project



Design Brief:
Design and make a handsewn cactus plant. This is to be created for a target audience of your choice. It could be used as a prop for learning facts about plants, decoration for a home, part of a small world set up for younger children.

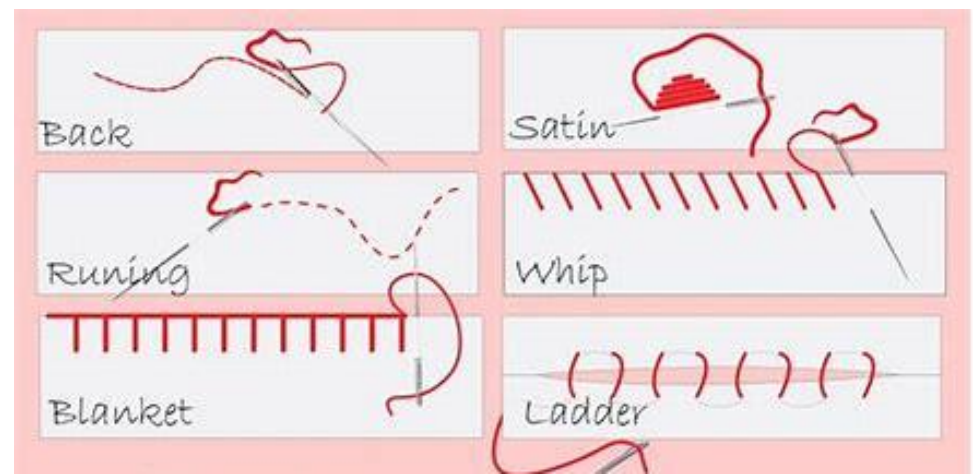
- Project aims:** In this project you will learn how to...
- ✓ Design for a purpose
 - ✓ Analyse existing products and how to use this information to help you design
 - ✓ Design and make a fabric cactus
 - ✓ Sew simple hand stitches
 - ✓ Use development work and prototyping to design and make your cactus
 - ✓ Assemble your final product to a good standard, making sure it is commercially viable

Templates in sewing are used to ensure accuracy and consistency when cutting fabric pieces. They act as a guide, helping to cut the same shape or size repeatedly, which is especially useful for patterns, shapes, and designs. Using templates helps save time, reduces mistakes, and ensures that the final product fits together correctly



Six basic hand stitches.

Key word	Meaning
aesthetics	The way something looks, how beautiful or pleasing it is to the eyes.
adornment	Decorations or things added to make something look more attractive.
decoration	Items or changes made to enhance the appearance of a place or object.
functionality	How well something works or how useful it is for a specific purpose.
quality	The standard or level of how good something is.
specification	A detailed description of the features or requirements of something.



Year 6 - Sustainability Project



Artist/Designer Inspiration

Darrell Wakelam's cardboard turtle art sculpture is a remarkable example of sustainable art that combines creativity with environmental awareness. Made entirely from recycled cardboard, the sculpture features a lifelike turtle, symbolizing the importance of ocean conservation and the protection of marine life. Wakelam's use of cardboard not only highlights the versatility of recyclable materials but also draws attention to the impact of waste on the environment, especially in our oceans. The cardboard turtle serves as both an artistic expression and a powerful reminder of the need to reduce plastic waste and protect vulnerable species from pollution and habitat destruction.

In this project you will learn how to...



- Design for a purpose
- Analyse existing products and how to use this information to help you design
- Design and make a 3D turtle
- Use research to create a poster raising awareness of the importance of recycling
- Assemble your final product to a good standard

What is the importance of recycling for our oceans.

Recycling is crucial for protecting our oceans from pollution. By recycling materials like plastic, we reduce waste that could end up in the sea, harming marine life. Plastics can take hundreds of years to break down, causing damage to ecosystems. Recycling helps conserve resources, reduces landfill waste, and keeps our oceans cleaner and safer for wildlife.

Paint texture techniques

Use your paint in many different directions to get the effect of ripples in the water.

TOP TIP - try to avoid using too much water and don't wash your brush in between colours!



What does Font mean?

A font refers to a specific style and size of text used in writing or printing. It defines how letters, numbers, and symbols look when displayed on a screen or printed on paper. For example, Arial, Times New Roman, and Comic Sans are different fonts. Fonts can vary in thickness, slant, spacing, and other design elements, giving text a unique appearance.



Key word	Meaning
Aesthetics	The way something looks, how beautiful or pleasing it is to the eyes.
Target audience	Who the product is aimed at.
Functionality	How well something works or how useful it is for a specific purpose.
Quality	The standard or level of how good something is.
Specification	A detailed description of the features or requirements of something.

Year 7 - Bottle Kiln Candle Holder

In this project you will learn how to...

- ✓ Design for a purpose.
- ✓ Analyse existing products and how to use this information to help you design.
- ✓ Design and make a tealight candle holder.
- ✓ Assemble your final product to a good standard.



Product analysis - CAFÉ QUE

C = Cost	how much would the product cost to make and to buy? Is it good value for money?
A = Aesthetics	Is it attractive to look at? what makes it so?
F = Function	Function: what does the product do? How does it work? Is it effective?
E = Ergonomics	how easy or comfortable is it to use/hold?
Q = Quality	how well manufactured is it? What materials have been used to make it?
U = User	who will buy or use the product? Has it been designed appropriately for the targeted user?
E = Environment	what impact does the product have on the environment? Is it recyclable? Will the materials used harm the environment? How long will it be used before it is thrown out?



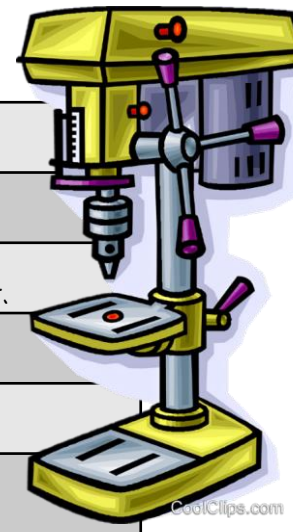
Artist Chris Parr



Key word

Meaning

Aesthetics	The way something looks, how beautiful or pleasing it is to the eyes.
Decoration	Items or changes made to enhance the appearance of a place or object.
Functionality	How well something works or how useful it is for a specific purpose.
Quality	The standard or level of how good something is.
Specification	A detailed description of the features or requirements of something.



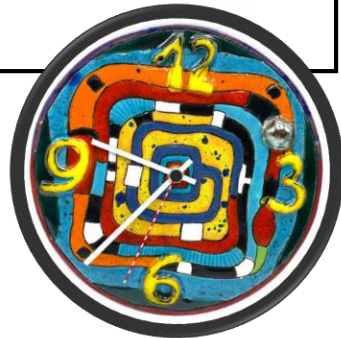
Bottle Kilns

Bottle ovens are a unique feature of Stoke-on-Trent, a city in England famous for its pottery industry. The history of bottle ovens dates back to the 18th century, during the time when pottery production was booming. These large, chimney-like structures were used for firing clay pots, plates, cups, and other pottery items. The reason they were called "bottle ovens" is because of their distinctive shape. The oven was round and tall, resembling a bottle. It was made of brick and had a domed roof. Inside, pottery was placed in racks and then heated in intense fires to harden the clay. This process is known as firing, and it was crucial for making pottery that could hold liquids or be used for everyday items.

Year 8 Resistant Materials - Clocks

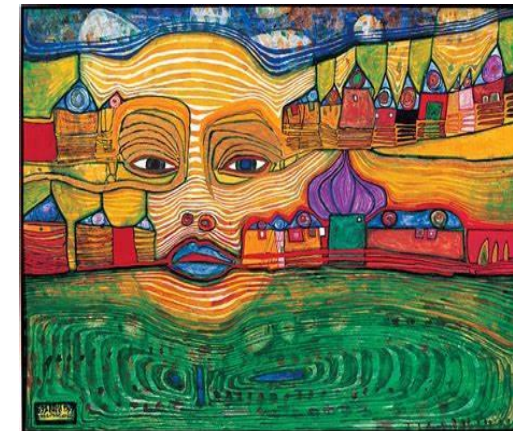
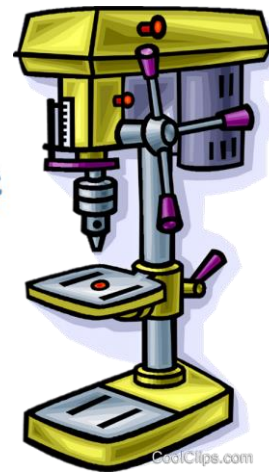
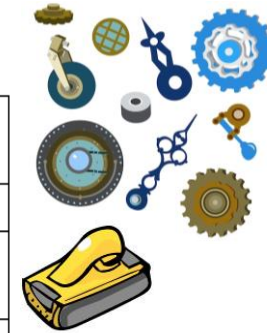
Project aims: In this project you will learn how to...

- ✓ Design for a purpose.
- ✓ Analyse existing products and how to use this information to help you design.
- ✓ Design and make a clock inspired by an artist.
- ✓ Improve your knowledge of abstract art.
- ✓ Assemble your final product to a good standard.



Product analysis - CAFÉ QUE

C = Cost	how much would the product cost to make and to buy? Is it good value for money?
A=Aesthetics	Is it attractive to look at? what makes it so?
F = Function	Function: what does the product do? How does it work? Is it effective?
E = Ergonomics	how easy or comfortable is it to use/hold?
Q = Quality	how well manufactured is it? What materials have been used to make it?
U = User	who will buy or use the product? Has it been designed appropriately for the targeted user?
E = Environment	what impact does the product have on the environment? Is it recyclable? Will the materials used harm the environment? How long will it be used before it is thrown out?



ABSTRACT Artist Inspiration

Friedensreich Hundertwasser (1928–2000) was an Austrian artist and architect known for his unique, colourful style. His work often featured vibrant, flowing shapes, spirals, and organic forms, inspired by nature. Hundertwasser rejected straight lines, believing they were unnatural and oppressive. He designed buildings with uneven floors, colourful facades, and rooftop gardens, aiming to create harmony between people and the environment. His most famous architectural work is the *Hundertwasserhaus* in Vienna, a building with bright colours and irregular shapes. Hundertwasser's art and architecture encourage creativity, individuality, and a closer connection to nature, challenging conventional design principles.



Key word	Meaning
Aesthetics	The way something looks, how beautiful or pleasing it is to the eyes.
Quality assurance	The process of making sure that a product or service meets certain standards and is free from problems. It involves checking and testing the product to make sure it works well and is safe for users.
Functionality	How well something works or how useful it is for a specific purpose.
Quality	The standard or level of how good something is.
Target audience	Who the product is aimed at.