Key Words

Equipment – The necessary items for a particular purpose.

Robotics – the branch of technology that deals with the design, construction, operation, and application of robots.

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Fair-Trade – trade between companies in developed countries and producers in developing countries in which fair prices are paid to the producers.

Sustainable – causing little or no damage to the environment and therefore able to continue for a long time.

Environment – the surroundings or conditions in which a person, animal, or plant lives or operates.

Consumer – a person who purchases goods and services for personal use

Trend – a general direction in which something is developing or changing

Manufacturer – a person or company that makes goods for sale

Recycle - convert (waste) into reusable material

Cooperatives – organisations and businesses that are owned and run by its members.

New and Emerging Technologies

Emerging technology has influenced change in:

- Personnel, job roles and hierarchical structure
- Physical space and layout of the workplace
- Systems, processes and workflow

Small businesses can use technology to compete with their larger competitors.

Robotics has also impacted the industry. Robotic **automation** of manufacturing processes offers significantly greater **consistency**, **accuracy**, **reliability** and **productivity** than human workers.
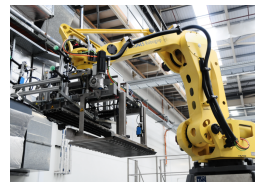
People, Culture and Society

Understanding the **market** is one of the most challenging aspects for **designers** and **manufacturers**.

New **invention**, discovery or **technological change** drives new product development.

Research and **Development** (R&D) drives invention discovery.

New technology is often pushed onto the market, driven by research. This is called **technology push**.

Consumer driven pressure causes manufacturers to continuously develop new products or add functionality to existing products. This is called **market pull**.

Evolution in the development of materials, technology and fashion has driven design **trends**.

Production Techniques

Automation – Automatic control is often used in production lines, communication networks and guidance systems.

CAD – Computer Aided Design software is used to create precision 2D or 3D drawings, models or technical illustrations. It is commonly used by designers, architects, engineers and artists.

JIT – Just In Time production is a process where items are created as they are demanded. No surplus stock of raw material, component or finished parts are kept.
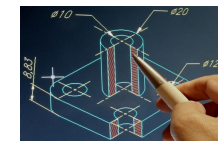
Sustainability and the Environment

Our planet is a **well-balanced** environment. Our **consumption** of the earth's **finite** resources is damaging the **environment**.

Non-finite resources include those that are unlikely to be exhausted, or those that are **replaced** faster than we can use them.

This includes the different forms of **renewable energy** such as:

- Wind
- Wave
- Solar
- Geothermal
- Tidal
- Biomass

Informing Design Decisions

The success of new technologies and products are frequently evaluated according to the following points:

- Cost
- Reliability
- Longevity
- Sustainability
- Recyclabili

Key Words

Composition – The position and layout of a group of visual information.

Mood – The atmosphere or emotion communicated through the Visual Elements.

Contrast – Colours that are opposite on the colour wheel.

Expressive – Artworks that communicate emotion or express feelings.

Visual Representation – Demonstrating abstract concepts and ideas through images, shapes, patterns, textures and texts.

Abstract – An artwork made of shapes, forms or colours that are not recognisable.

Representational – Groups who are grassroots, political and/or social activists e.g. independent music, art and film.

Fauvism – An art movement known for its use of vibrant and unusual colour to represent familiar subjects.

Content

Consider the importance of colour in abstract and representational artworks.
Create a series of your own artworks that display differing moods.
Develop art analysis skills by commenting in your own work and artists' work.

Image

Steps for Success

1. Learn about primary and secondary colours.

2. Research artists who use colour to convey emotion and comment on this.

3. Decide what different colours represent to you.

4. Create artworks inspired by memories / emotions.

5. Use colour to create mood in the artwork.

6. Create final painting inspired by emotion.

Colour Knowledge

Mixing	The creation of secondary or tertiary colours from primary colours.
Colour Theory	The theory of colour including gradient, contrast and complementary colours.
Blending	To use water to dilute and/or mix different shades of colour.
Application	To apply paint to paper or card to explore its impact.
Receding / Advancing colours	The use of warm colours
Contrast	To use colour wheel knowledge to select and enhance an opposite colour to improve the image.
Overlap	To place differing or similar colours over one another for effect.