COPYRIGHT:

COPYRIGHT is a piece of legislation that aims to protect people, companies and organisations that produce create and artistic works.

Copyright law states that when someone creates an **artistic work** (such as writing a story, composing a piece of music, or creating computer software), other people may not copy it without permission.

Copyright protection is **awarded automatically** — you do not have to apply for it. Copyrighted works can be marked with the © symbol, along with the name of the creator and year, but whether the mark is added or not, copyright protection still applies.

TRADEMARKS

TRADEMARKS are a way of protecting a logo, name, phrase or word that represents a business or product. This is very important to protect a company's branding.

An example is Nike— their company name, their written logo, the "swoosh" logo, and their slogan "Just Do it", are all **REGISTERED TRADEMARKS.** A trademark can be represented by the letters "TM", but these do not represent any legal protection.

To ensure a trademark is protected, it must be registered with a trademark office. ONLY when a trademark is properly registered can it be marked with the circled R symbol.

REGISTERED DESIGN

Closely related to the registered trademark is the **REGISTERED DESIGN**.

When a design is registered with a trademark or intellectual property office, the distinctive appearance of the product is legally protected.

Registering a design prevents other companies from copying it (or allows a company to take legal action against someone who does copy it).

Registered designs, like patents, can be licensed to other people, who pay a fee for using the design. Registered designs must be renewed every 5 years, and can protect the design for up to 25 years.

BRITISH STANDARDS INSTITUTION

The **BSI KITEMARK** is a symbol that shows a product has been tested to meet **BRITISH STANDARDS.** The Kitemark means that the **BRITISH STANDARDS INSTITUTE (BSI**) has independently tested it and found it meets nationally recognised standards for safety and quality.

Manufacturers are not legally required to display a Kitemark on their products, but many everyday products have them.

EUROPEAN CONFORMITY

The **EUROPEAN CONFORMITY** mark **(CE MARKING)** is a similar mark that shows a product has been tested to meet standards set by the European Union (EU) for safety and quality..

Engineering

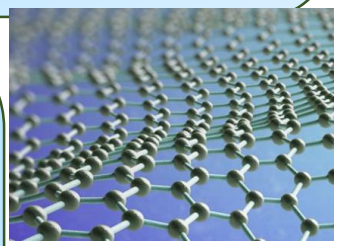
Traditional materials are those that have been in use for centuries, such as paper, wood, stone and metals. We have also developed modern materials, which can be used alongside them.

Concrete, **aluminium** and **steel** are all commonly used modern materials, but more recent additions include materials that have changed the way we manufacture and use products.

GRAPHENE

Graphene is a single carbon layer material, which is hypothetically 100 times stronger than steel. It is hypothetical because we are yet to manufacture it in large enough quantities to prove this.

In theory, it could provide body armour that is bulletproof, invisible and almost weightless.
If the whole of Wembley Stadium was covered in a layer of graphene, it would be almost invisible and be unbreakable, yet it could all be lifted it with one finger.



METAL FOAMS

Metal foams are a strong but lightweight modern material produced by injecting a gas or **foaming agent** into **molten** metal.

Typically, only 5-25 per cent of the foam is the metal, and this allows the material to retain much of its strength but without the **density** or weight of a solid metal.

Metal foams are often used in vehicles such as planes and cars as they absorb shock effectively if the vehicle crashes.

TITANIUM

Titanium is a modern metal and is used in sporting and medical applications, such as replacement hip joints and high-performance bicycles. It is an excellent material for these purposes as it has a high strength-to-weight ratio and is resistant to corrosion.

CARBON FIBRE

Carbon fibres are usually combined with other materials to form a composite.
Old tennis rackets were made out of wood, but are now made from carbon fibre because it is very strong, but light to carry