**Design Technology**
**Year Reception**

# What Can We Use To Carry Our Shopping?

## Technical Knowledge

- Know that materials can be joined together
- Know that products must be able to meet the purpose of the design
- Know that staples can be used to join materials
- Know that some fastenings are stronger that others


## Skills

Design
- Decide what the bag must be able to do
- List what criteria of a good bag

Make
- Uses simple tools to effect changes to materials.
- Handles tools, objects, construction and malleable materials safely and with increasing control.
- Constructs with a purpose in mind, using a variety of resources.
- Uses simple tools and techniques competently and appropriately.
- Selects appropriate resources and adapts work where necessary.
- Selects tools and techniques needed to shape, assemble and join materials they are using.

Evaluate
- Say if they like or do not like their produce
- Say what they like and what they might change

## Vocabulary

Heavy

Light

Strong

Weak

Handle

Staple

Stapler

sellotape

material

## Materials and Equipment

Materials
- Cardboard
- Paper

Equipment
- Scissors
- Glue
- Ruler
- Pencil
- Sellotape
- Stapler

## Materials used to make bags

fabric plastic leather paper

## Real life applications

Know that different bags have different purposes

**Design Technology**
**Year 1**

# Design A Home

## Technical Knowledge

- about the simple working characteristics of materials and components
- how freestanding structures can be made stronger, stiffer and more stable
- the correct technical vocabulary for the projects they are undertaking
- know how to use tools safely

## Skills

Design
- state what products they are designing and making
- say whether their products are for themselves or other users
- describe what their products are for
- use simple design criteria to help develop their ideas
- generate ideas by drawing on their own experiences
- use knowledge of existing products to help come up with ideas
- develop and communicate ideas by talking and drawing

Make
- plan by suggesting what to do next
- select from a range of tools and equipment, explaining their choices
- select from a range of materials according to their characteristics
- assemble, join and combine materials

Evaluate
- explain if they like or do not like their finished product and why
- suggest how they can improve their products

## Vocabulary

Structure

Construct

Materials

Wood

Plastic

Stable

stronger

decorate

join

## Materials and Equipment

Materials
- Cardboard
- Wood
- Straws

Equipment
- Scissors
- Glue
- Ruler
- Pencil
- Sellotape
- Paint

## Famous British Buildings

## Real life applications

Homes Around the World

**Design Technology**
**Year 3**

# Present a Picture

## Technical Knowledge

- how to use learning from mathematics to help design and make products that work
- that materials have both functional properties and aesthetic qualities
- that materials can be combined and mixed to create more useful characteristics
- the correct technical vocabulary for the projects
- they are undertaking how to make strong, stiff shell structures

## Skills

Design
- describe the purpose of their products
- indicate the design features of their products that will appeal to intended users explain how particular parts of their products work
- gather information about the needs and wants of particular individuals and groups
- develop their own design criteria and use these to inform their ideas
- model their ideas using prototypes and pattern pieces
- use annotated sketches

Make
- select tools and equipment suitable for the task and explain choice
- explain their choice of materials and components according to functional properties and aesthetic qualities
- order the main stages of making
- assemble, join and combine materials and components with some accuracy

Evaluate
- how well products have been designed and made
- how well products achieve their purposes
- how well products meet user needs and wants

## Vocabulary

| | |
|---|---|
| wood | mark out |
| join | cross |
| joint | Glue gun |
| butt joint | Sand paper |
| strengthen | clamp |
| Jink's corner | frame |
| saw | |

## Materials and Equipment

Materials
- Hard wood
- Soft wood
- Cardboard

Equipment
- Scissors
- Ruler
- Needle
- Glue spreader
- Glue gun


## Famous Designer

**Name** Ettore Sottsass

**Born** 1917

**Job** Furniture designer

**Achievements** Italian designer who made bold, unique furniture out of wood

## Real life applications

Upcycled wood products

**Design Technology**
**Year 5**

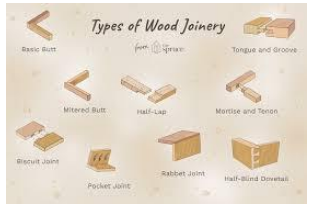
# Bridge the Gap

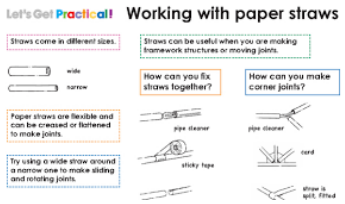
## Technical Knowledge

Triangulation
- Know and use triangles to build strong and stable structures
- Use struts to create triangles for reinforcement

Frame Structures
- Frame structures have different parts combined to make the structure strong
- Frame structures have joins to keep them together
- Frame structures us beams, columns and slabs

Joining Techniques
- To know and use different joining techniques




## Skills

**Design**
- carry out research, using surveys, interviews, questionnaires and web-based resources
- develop a simple design specification to guide thinking
- generate innovative ideas, drawing on research share and clarify ideas through discussion
- model their ideas using prototypes and pattern pieces
- use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas
- use computer-aided design to develop and communicate their ideas

**Make**
- formulate step-by-step plans as a guide to making
- accurately measure and cut materials
- accurately assemble and combine materials
- accurately apply a range of finishing techniques
- use techniques that involve a number of steps
- demonstrate resourcefulness when tackling practical problems

**Evaluate**
- critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make
- evaluate their ideas and products against their original design specification

## Vocabulary

| | |
|---|---|
| Butt joint | Girder |
| Jinks corner | Prototype |
| Strut | Qualities |
| Structure | Saw |
| Column | Mitre |
| Slab | Cutting board |
| Beams | Section |
| Construction | Flexible |
| framework | Sturdy |

## Materials and Equipment

Materials
- wood
- art straws
- glue
- card


Equipment
- Ruler
- saw
- Clamp
- Sand paper
- Cutting mat
- Goggles

## Famous Designer

**Name** Isambard Kingdom Brunel

**Born** 1806

**Job** Bridge, road and canal engineer

**Achievements** Great Western Railway – created network of bridges, canals and tunnels - 1833
Great Western Ship – 1837
Great Eastern Ship - 1859

## Real life applications

**Famous bridges**
- Golden Gate Bridge: ISA
- Tower Bridge: England
- Forth Bridge: Scotland
- Tianjin Grand Bridge: China.

**Careers**
- Structural engineer
  - bridges
  - aeronautical
  - aircraft
  - satellites
  - buildings
- Architect