



# JUNK KOUTURE

**STEAM TECHNIQUES**

INSPIRATION



# INTRODUCTION

A booklet filled with inspiration to spark your creativity, offering ideas for your design process and innovative ways to manipulate your recycled materials!

Inside, you'll find a breakdown of **7 Material Elements** and a wide range of techniques you can use with each, all based on **STEAM** (*Science, Technology, Engineering, Arts, and Maths*).

This inspiration guide will help you **explore, experiment, and work** with different materials, offering **examples of materials and SDGs** that could align with your chosen design elements.

Manipulation techniques don't end here—there are endless ways to experiment with your materials. Be bold and explore new methods of shaping and transforming them, using this guide as your foundation. Let it inspire innovative ideas as you bring your Junk Kouture design to life!

## THE SEVEN ELEMENTS

NATURE

PAPER

ELECTRONICS

OBJECTS

PLASTICS

METALS

TEXTILES

## SAFETY NOTE

Some techniques in this booklet can be dangerous, and all involve a certain level of risk. Ensure you have the necessary training and permission from a teacher or guardian before attempting them. It's essential to research, assess dangers, and fully understand each process beforehand. Junk Kouture is not responsible for any injury, loss, or damage caused by trying these techniques—they are undertaken entirely at your own risk.

# TOP TECHNIQUES CHART

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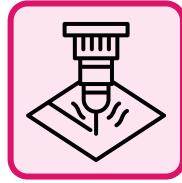
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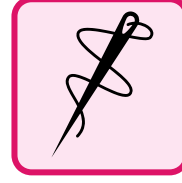
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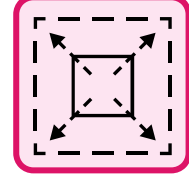
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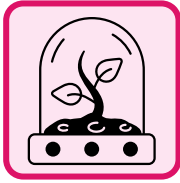
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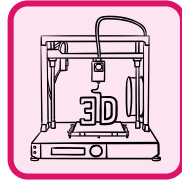
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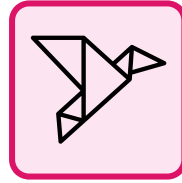
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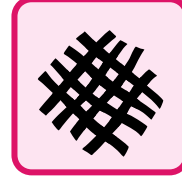
PRESERVING



3D PRINTING



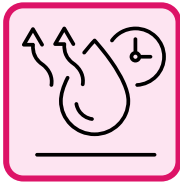
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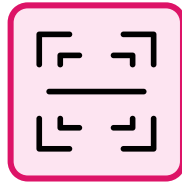
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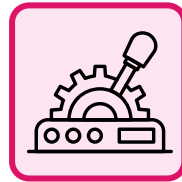
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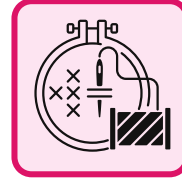
DEHYDRATION



SCANNING



LEVERING



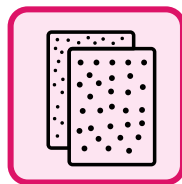
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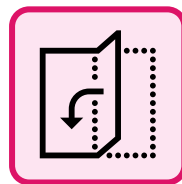
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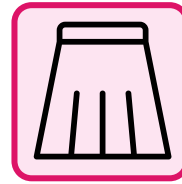
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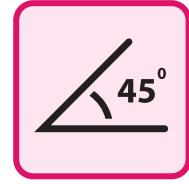
SANDING



FOLDING



PLEATING



ANGLING



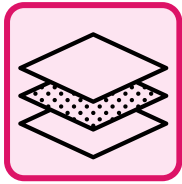
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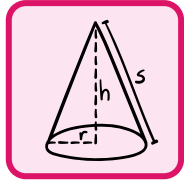
WELDING



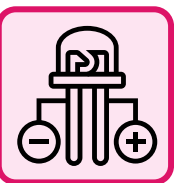
BURNING



LAYERING



VOLUME



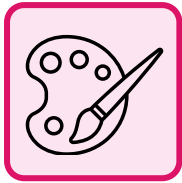
ANODIZING



VACUUM FORMING



GLUEING

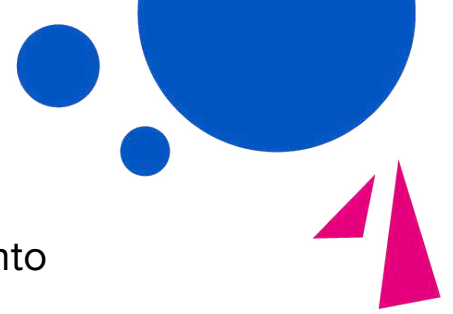


PAINTING



RATIO

# NATURE



This section explores how to incorporate nature into your design using STEAM principles

## SCIENCE

### COLOUR DYING

Pre-soak vegetable or fruit scraps in a dye solution, then use the natural dye to colour fabric scraps.

### FOOD PRESERVATION

Use a preservation technique to prevent waste food from spoiling.

### PLANT PRESERVATION

Use a heavy, flat object to press plants and flowers, then leave them in a place to dry completely.

### DEHYDRATION

Use an oven to dehydrate and dry out old fruit.

### DRYING

Pick flowers or plants and hang them upside down to dry. You can add hairspray to help preserve them and maintain their shape.

### LASER CUTTING

Use a laser to cut precise holes, shapes, or etch designs onto natural materials.

### SCANNING

Use a scanner to digitise dried natural materials, then print the images onto scrap fabric using sublimation or transfer techniques.

## ENGINEERING

### LEVERS

Use natural materials to inspire movement in your design through use of levers, weights and pulleys.

### LINKAGES

Use linkages to connect your natural materials, allowing the design to move naturally.

## ART

### SEWING

Sew together dried or dehydrated materials to form a unique, textured material.

### PRINTING

Use dried natural materials, sublimation dye, scrap fabric, and a heat press to create a natural print

### PATTERN

Create a pattern using different natural materials.

### HEAT PRESSING

Use a heatpress to either print, trap or flatten natural material.

### PINNING

Take your waste material and pin it to a mannequin to get an idea of shape and texture and overall look.

## MATHS

### TESSELLATION

Patterns naturally repeat themselves, use this idea to help you create the back of your design.

### SCALE

Use scale to ensure durability. Try using large pieces as fixed points and smaller ones as moveable parts.

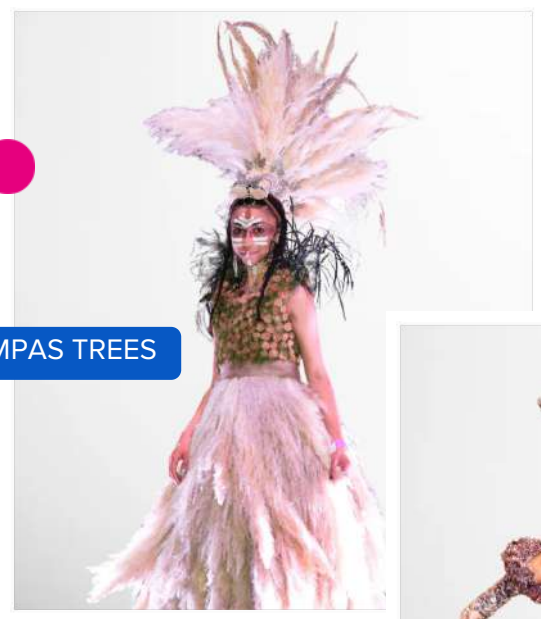
### GOLDEN RATIO

Use the golden ratio to help you place your materials for the most natural looking design.

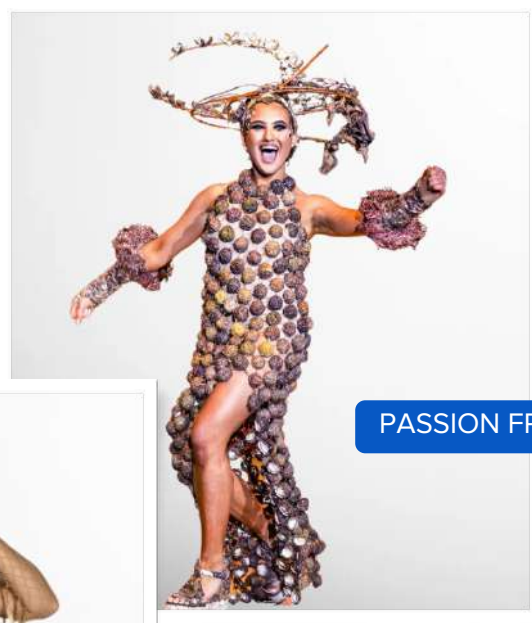
# NATURE

## MATERIAL AND SDG IDEAS

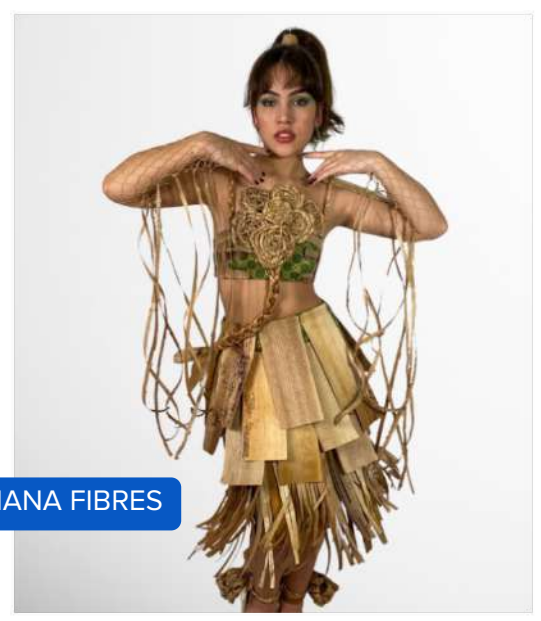
PAMPAS TREES



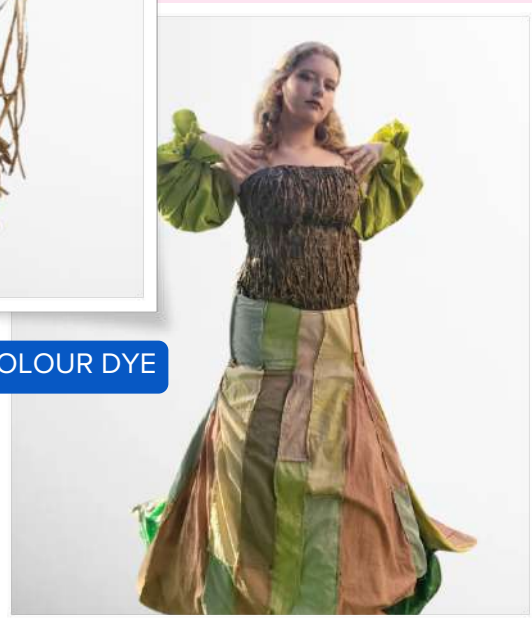
PASSION FRUIT



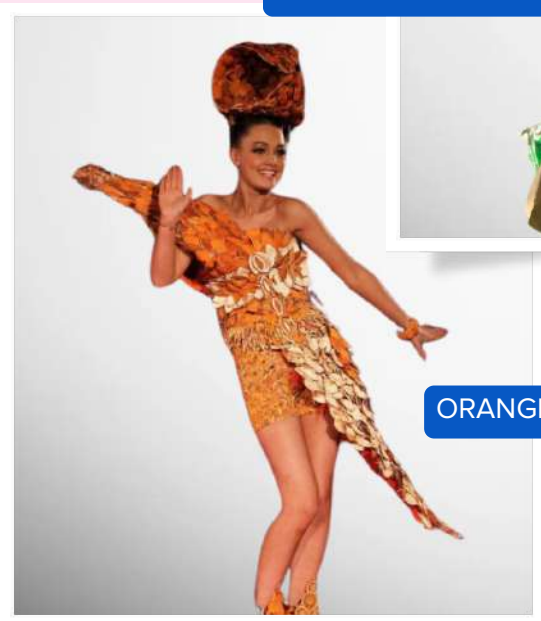
BANANA FIBRES



FRUIT COLOUR DYE



ORANGE PEELS



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



11 SUSTAINABLE CITIES AND COMMUNITIES



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



# PAPER

This section explores how to incorporate paper into your design using STEAM principles

## SCIENCE

### BURNING

Use a controlled flame to burn parts of the paper to give different colours, holes or texture.

## TECHNOLOGY

### LASER CUTTING

Use a laser cutter to cut shapes in scrap paper or to make a block patten.

## ENGINEERING

### ORIGAMI

Paper has good strength when folded. Use origami techniques to give structure or shape to the design.

### FOLD OUTS

Use linkages or paper hinges to create hidden aspects of the design or fold out aspects.

### POP UPS

Use levers to create hidden or moving aspects of the design.

## ART

### PINNING

Fold, cut and manipulate scrap paper and pin to a mannequin to get the shape or look of your design.

### SEWING

Paper can be effectively sewn together using a sewing machine, or it can be used as a surface for decorative embellishments.

### RECYCLED PAPER

Shred scrap paper and re-dry it using a frame, adding your own colours and personal touches to create a unique material.

### DRAWING

Draw patterns or art onto scrap paper or display paper.

### PAINTING

Paint scrap paper or use it to highlight elements, such as text from a newspaper.

### PAPIER MACHE

Dip strips of scrap paper in a PVA and water mix, then lay them over a mould and let them dry to form 3D elements.

### COLLAGE

Collage paper pieces together and fuse them with heat using fusible fleece or a plastic wallet to create a new material.

## MATHS

### ANGLES

Paper holds its shape well, especially when folded. Use angled folds to build structure and stability in your design.

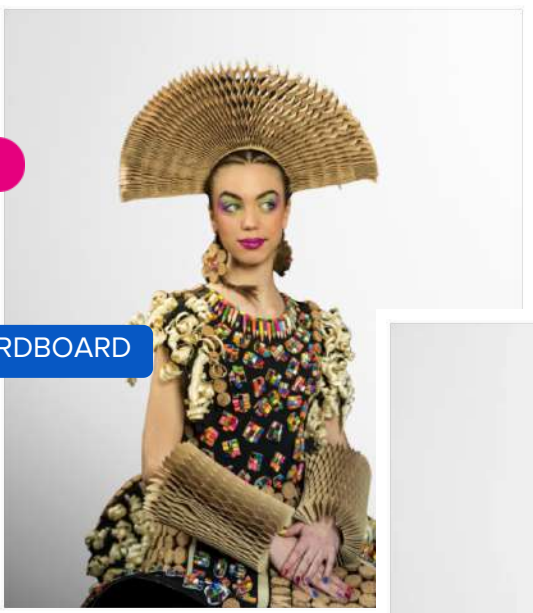
### SCALE

Paper varies in rigidity based on its weight and can be adapted for different scales depending on its thickness and strength.

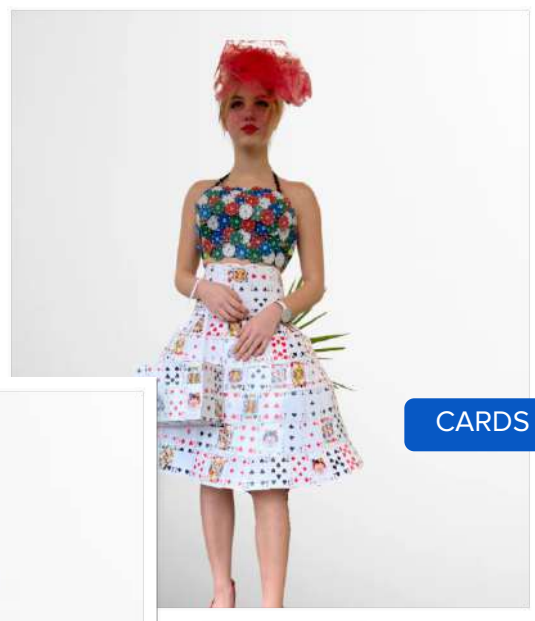
# PAPER

## MATERIAL AND SDG IDEAS

CARDBOARD



CARDS



MAGAZINES



WOOD PULP



NEWSPAPERS



9 INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



12 RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



# ELECTRONICS

This section explores how to incorporate electronics into your design using STEAM principles

## SCIENCE

### REWIRING

Rewire old circuits to add movement, light, or power to your design.

### SOLDER

Solder or re-solder old electronic components to make a new circuit.

## TECHNOLOGY

### CODING

Re-code an obsolete piece of electronic equipment to add movement or light to your design.

### 3D PRINTING

Use 3D Printing to fix parts of an electronic component to add to your design.

## ENGINEERING

### CONNECTION

Connect old wires using solder or electrical tape, then knit or weave them together.

## ART

### PLAITING

Plait, weave or intertwine electronics to create new, interesting yarns, threads or material.

### POSITIONING

Position the back of the circuit board against the skin to ensure models are not harmed by components.

### COMPOSITION

Use the colours of the circuit boards or wires to create patterns or words in your design.

## MATHS

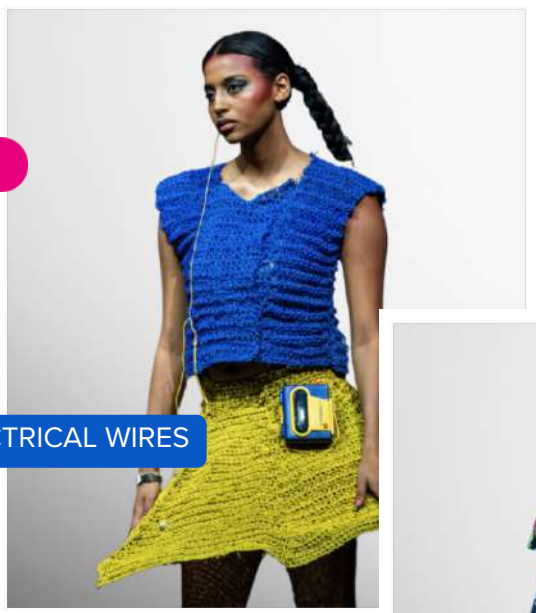
### SCALE

Electronic circuits come in all shapes and sizes. Use scales to ensure fixed and moving parts.

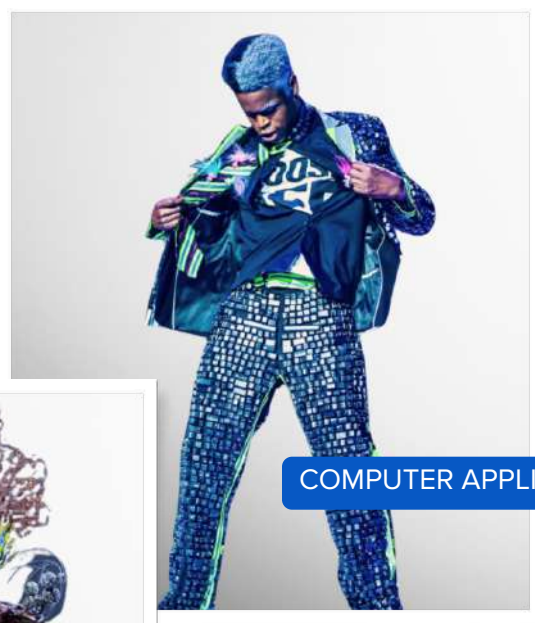


# ELECTRONICS

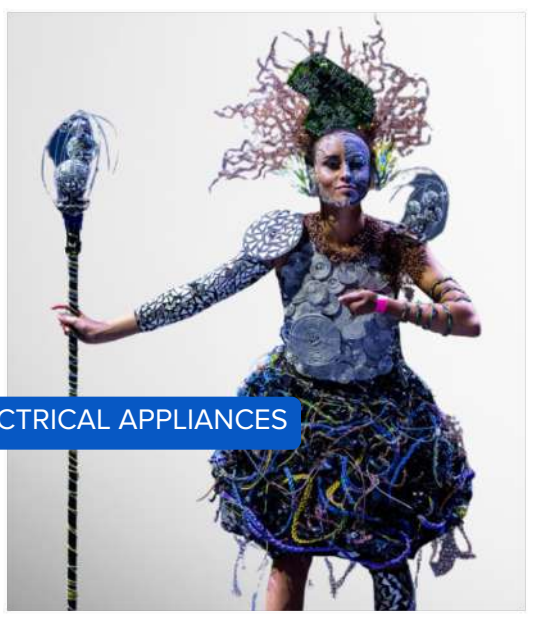
## MATERIAL AND SDG IDEAS



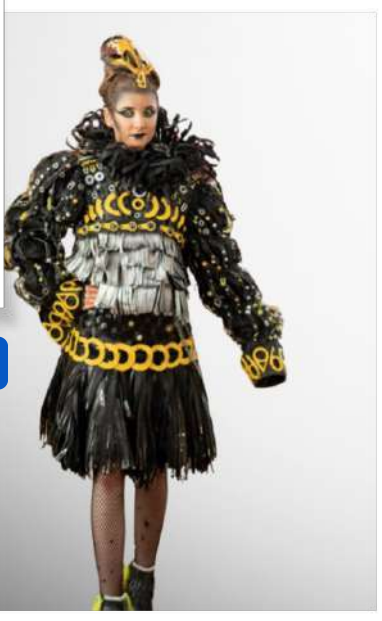
ELECTRICAL WIRES



COMPUTER APPLIANCES



ELECTRICAL APPLIANCES



ELECTRIC FENCES



ELECTRIC REELS

8 DECENT WORK AND  
ECONOMIC GROWTH



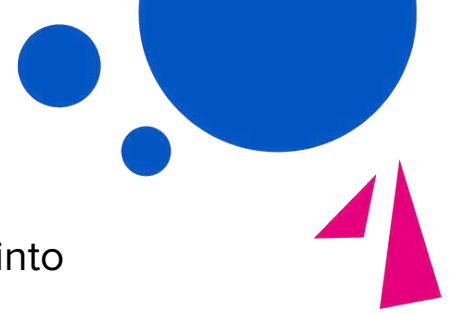
12 RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



15 LIFE  
ON LAND



# OBJECTS



This section explores how to incorporate objects into your design using STEAM principles

## SCIENCE

### CONNECTION

Depending on the material composition, objects can be changed via fusing, melting or connection.

## TECHNOLOGY

### DISASSEMBLY

Take apart plastics and use parts of them in your design or link them to other parts of another object.

### FINISHING

Apply a different finish to an object such as a varnish or paint to give a different look or colour.

### LASER ETCHING

Etch patterns or text into objects using a laser cutter.

## ENGINEERING

### RESEARCH

Research your material and how it reacts with others or under heat, use this to engineer a new material!

### BALANCE

Balance objects on top of each other to work out the connection points for your design.

### ATTACHMENT

Objects are all different shapes, use this unique quality to identify suitable places to join them together.

### FORMERS

Use old objects as formers for other processes to get the shapes you want in your design.

## ART

### COMPOSITION

Find all your objects and place them on the floor, create a 2D composition of your design to get the look.

### DISPLAY

Display key messages in your design, making some objects obvious and others part of the construction.

### SEWING

Try sewing objects together if they are material or thin enough to fit under a sewing machine needle.

### EMBROIDERY

If possible, embroider directly onto an object to give it a different surface finish

### PYROGRAPHY

Try burning images or text into wood or other suitable objects.

## MATHS

### ANGLES

Objects will sit at different angles naturally, use this to help you work out how to connect them all.

### WEIGHTS

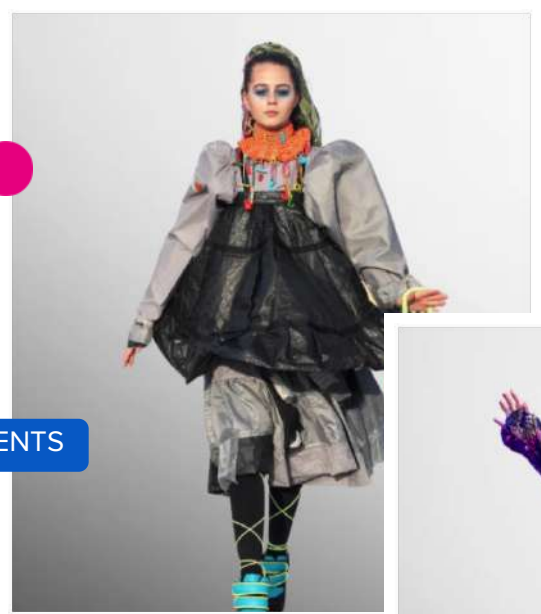
Objects are all different weights move differently. Test the movement before connecting them all.

### SCALES

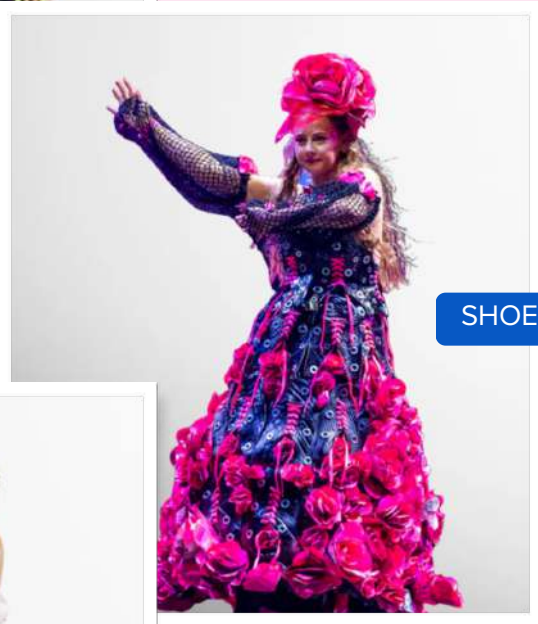
A large object will not move unless flexible, use this to help positioning when creating the design.

# OBJECTS

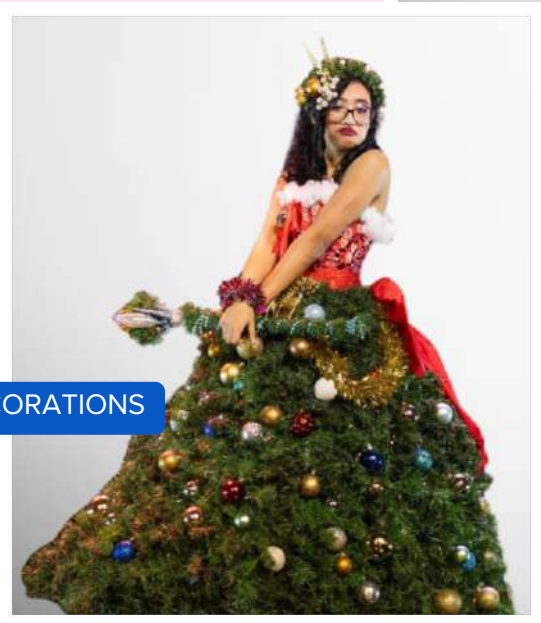
## MATERIAL AND SDG IDEAS



TENTS



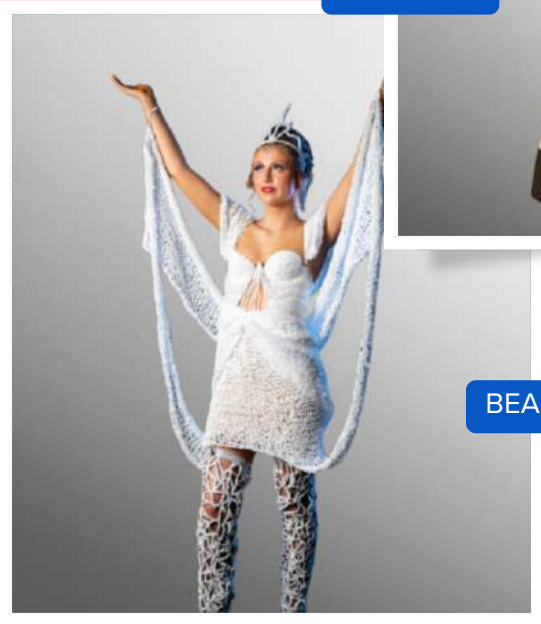
SHOES



DECORATIONS



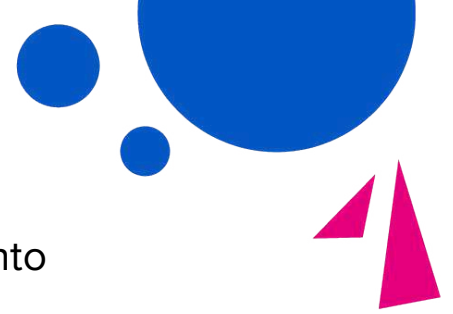
BUCKETS



BEADS



# PLASTIC



This section explores how to incorporate plastic into your design using STEAM principles

## SCIENCE

### HEATING

If your material is a thermopolymer, you can melt it and reshape it as many times as you would like.

### MELTING

Holes can be melted in some plastics with a soldering iron to create connection points or detail.

## TECHNOLOGY

### LASER CUTTING

You can cut or etch many types of plastic in a laser cutter to get shapes or patterns.

### VACUUM FORMING

Thermopolymers can be melted into sheets and vacuum formed around formers to create 3D shapes.

### FORMING

Thermopolymers can be heated by heat gun and formed over formers.

## ENGINEERING

### LINKAGES

Plastics create strong linkages and are a good option to consider when attaching objects together.

## ART

### DRAWING

Draw onto recycled plastic to give different colours, patterns or effects depending on the transparency.

### ETCHING

Etch onto plastic using a laser or sharp etch tool.

### LINO PRINT

Use scrap lino to create your own lino print pattern which you could then re-print back onto plastic.

### CURVING

Curve thin plastic and set with heat.

### LAYERING

Layer different recycled plastics together to get different textures, colours and transparencies.

### COLLAGE

Plastics can be collages together and then flattened by heatpress to get a new, rigid material.

### WEAVING

Cut up plastic bags or bottles and weave them together to create a new material.

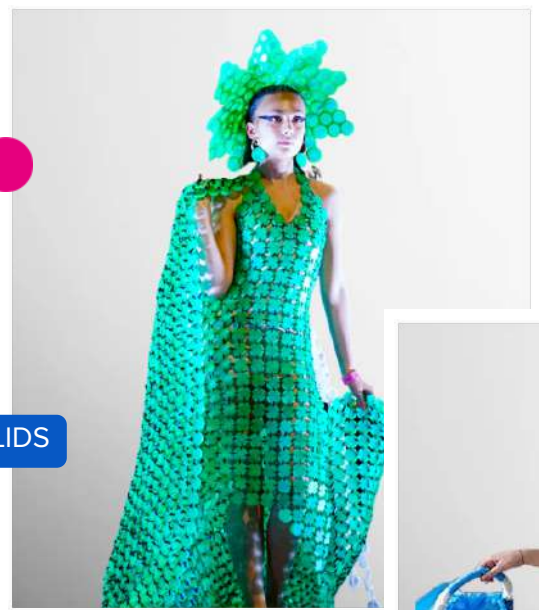
## MATHS

### SURFACE AREA

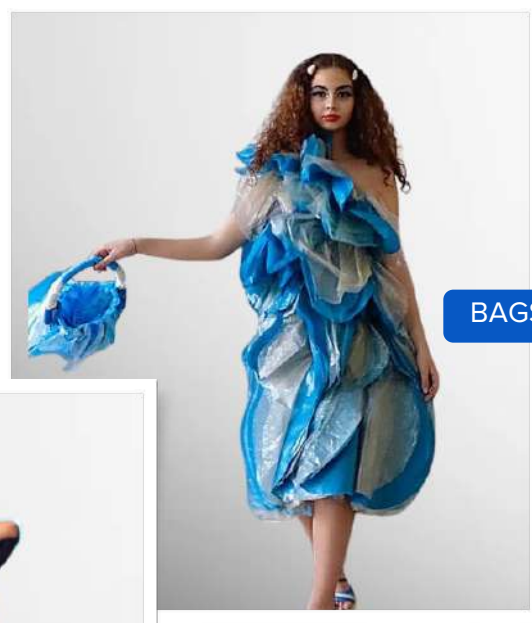
Work out the surface area of your recycled plastic before cutting it to work out how many you will need.

# PLASTICS

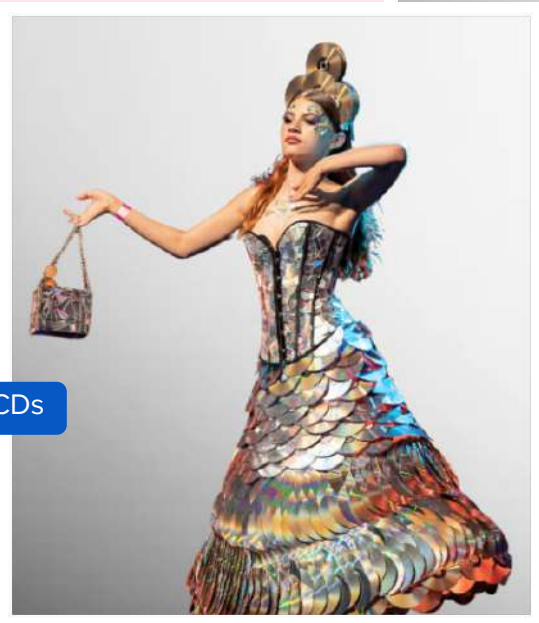
## MATERIAL AND SDG IDEAS



LIDS



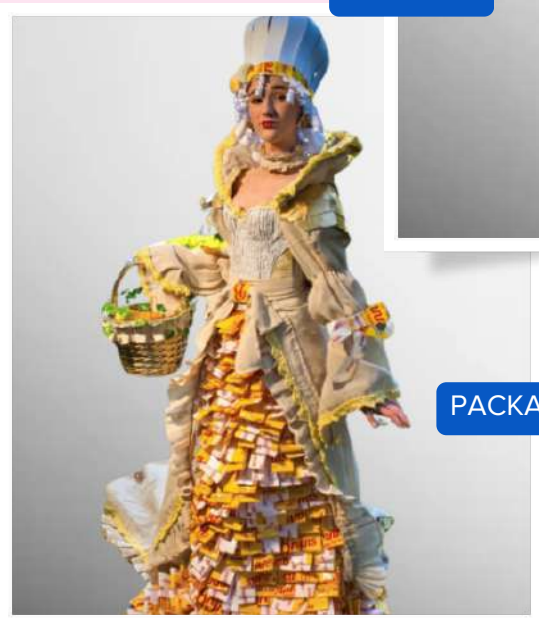
BAGS



CDs



BOTTLES

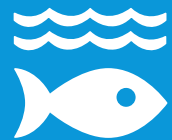


PACKAGING

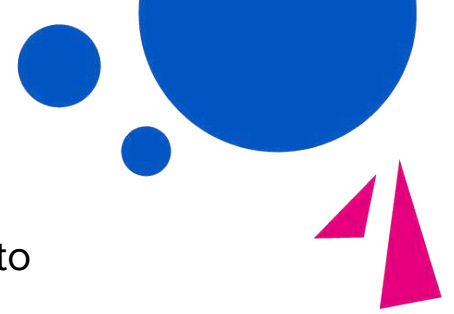
6 CLEAN WATER  
AND SANITATION



14 LIFE BELOW  
WATER



# METAL



This section explores how to incorporate metal into your design using STEAM principles

## SCIENCE

### CRUSHING

Crush or flatten lightweight materials in a press to create a 2D material.

### QUENCHING

Once heated to change the chemical composition, metals can be quenched to further adjust this.

### ANODIZING

Transform a metal surface into a decorative one by anodizing it.

## TECHNOLOGY

### WELDING

Weld suitable metal elements together to create strong elements of the design or connections.

### SANDING

Sand metal down using a file or suitable sandpaper to get a smoother finish or remove scratches.

### FINISHING

Apply a finish to a metal to create a different look.

### HAMMERING

Hammer thin metal sheet, such as a flat aluminum can, to get a dappled effect.

## ENGINEERING

### LINKAGES

Use nuts and bolts, split pins or ring pulls to create metal connections which allow movement.

### STRUCTURE

Metal elements can be glued onto and will hold their shape, use them as structural points in your design.

### OPENING OUT

Open out and flatten your metal to get a sheet. Use a craft knife to do this on aluminum cans.

## ART

### DRAWING

Drawing on the back of an aluminum can achieve a raised design on the other side.

### DISPLAY

Etch or stamp onto metal to create raised patterns.

### CURVING

Curve light metals and hammer them or attach them to keep them in place.

### SCULPTURE

Use metal wire to sculpt elements or use it for structure under the design.

## MATHS

### WEIGHT

Use heavy metal elements to weigh down pieces of material.

### AREA

Work out the surface area of cans before cutting them up to ensure you have enough!

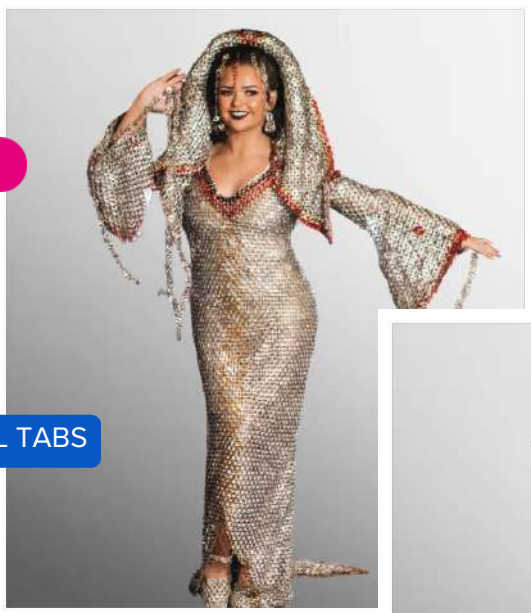
### VOLUME

Work out the volume of pieces and use this to help your design take shape.

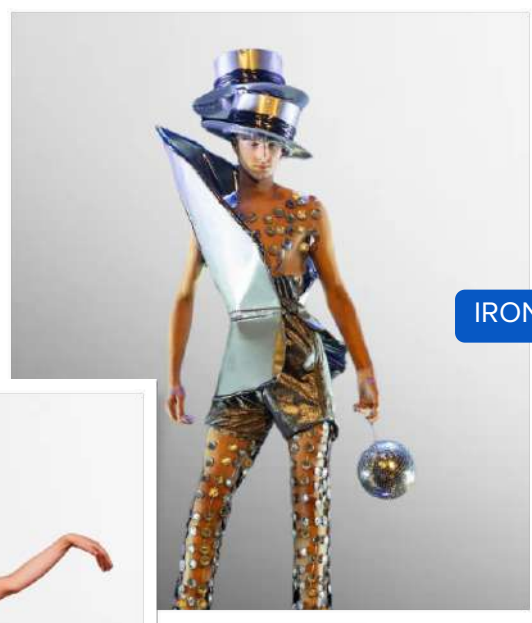
# METAL

## MATERIAL AND SDG IDEAS

PULL TABS



IRON



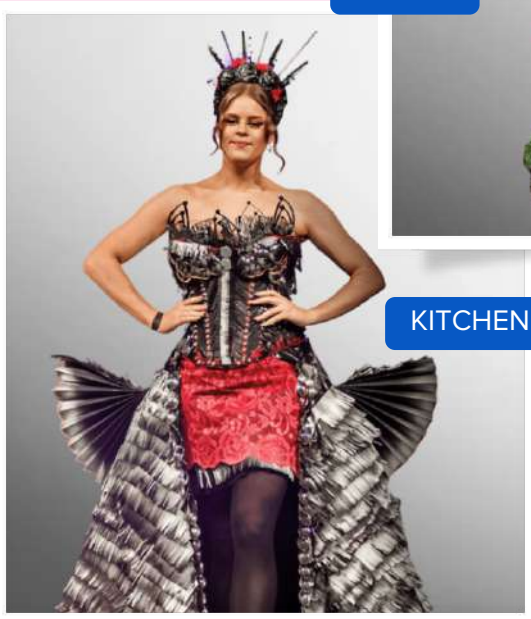
ALUMINIUM



COPPER



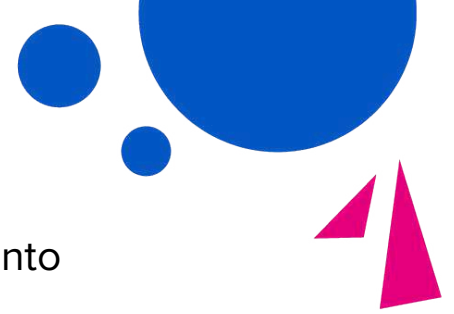
KITCHEN UTENSILS



9 INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



# TEXTILES



This section explores how to incorporate textiles into your design using STEAM principles

## SCIENCE

### DYEING

Use fabric dye to dye scrap fabrics different colours. Use food or natural materials to do this too.

### DEVORE

Make a pattern in piled fabric by applying chemical paste to disintegrate some of the pile.

### BURNING

Burn parts of a material to achieve holes, texture, colour or a different material feel.

## TECHNOLOGY

### LASER CUTTING

Etch or cut material using a laser cutter to get precise shapes or lines.

### RECYCLING

Create yarns and threads out of scrap fabric to knit, weave or bond together to make new material.

### WATER DISSOLVE

Trap scraps or loose yarns in water dissolvable fabric, sew over and then soak in water.

## ENGINEERING

### 3D PRINTING

3D Print onto scrap netting or thin fabric to give structure or intrigue to a design.

### FORMING

Dip fabric scraps in PVA/Water or Hardener and lay over a former to dry to get 3D shapes.

## ART

### HEAT PRESSING

Dip fabric scraps in PVA/Water or Hardener and lay over a former to dry to get 3D shapes.

### PLEATING

Pleat fabric using an iron or heat press to give structure, decoration or to provide movement.

### ORIGAMI

Use origami principles to fold scrap material. Set with the heat of an iron or use interfacing to reinforce.

### PINNING

Pin scraps to a mannequin or pin to a final design to add detail so you know where to sew or attach.

### SEWING

Sew together different scraps of fabric to create patchwork or appliques.

### EMBROIDERY

Hand or machine embroider over scrap fabric to give a new look to the fabric.

### WEAVING

Cut fabric into strips and weave together to create a different fabric.

## MATHS

### AREA

Work out the area of scraps you have left before creating your final design, you may not have enough.

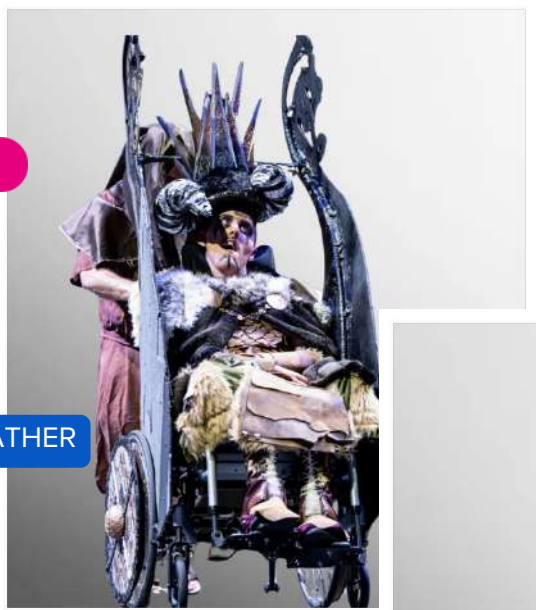
### TESSELLATION

Use tessellation to make the most out of your fabric scraps.

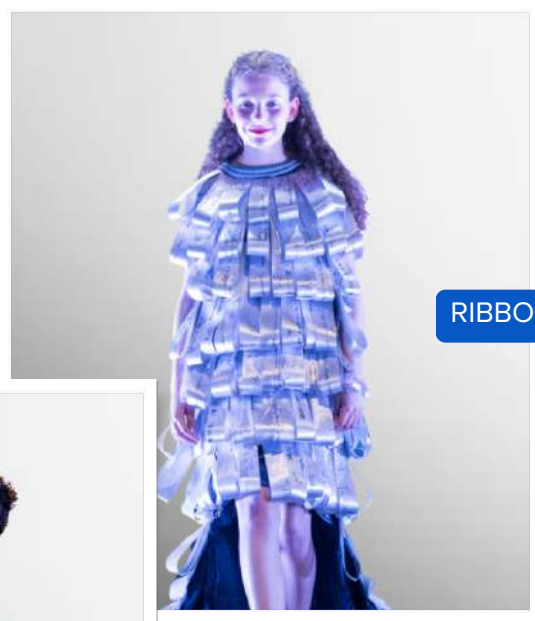


# TEXTILES

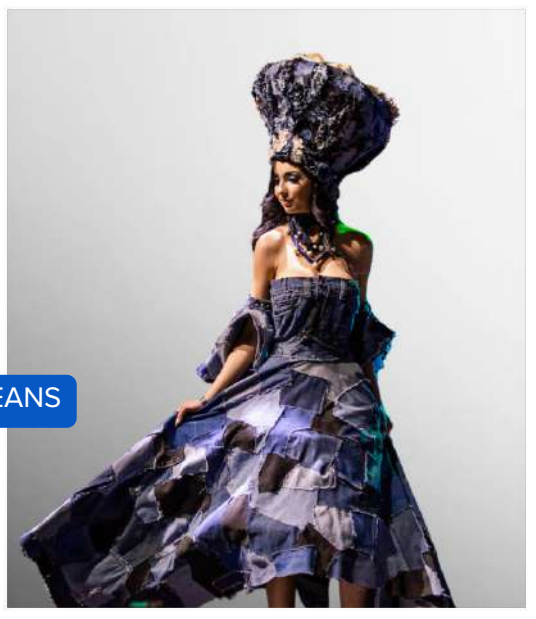
## MATERIAL AND SDG IDEAS



LEATHER



RIBBONS



JEANS



WOOL



YARN SCRAPS