Progression in Design and Technology

YEAR 1

Developing, Planning and Communicating Ideas

a) Follow verbal instructions
b) Explain what they are making and which materials they are using
c) Name the tools they are using
d) Describe what they need to do next
e) Select materials from a limited range that will meet the design criteria
f) Select and name the tools needed to work the materials
g) Select appropriate technique explaining First……Next……Last….
h) Explore ideas by rearranging materials
i) Model ideas with kits, reclaimed materials
j) Select pictures to help develop ideas
k) Use pictures and words to convey what they want to design and make
l) Describe their models and drawings of ideas and intentions
m) Use kits/reclaimed materials to develop an idea
n) Use drawings to record ideas as they are developed
o) Discuss their work as it progresses
p) Add notes to drawings to help explanations

Materials and Components – Knowledge and Understanding

Sheet Materials

a) Fold, tear and cut paper and card
b) Roll paper to create tubes
c) Cut along lines, straight and curved
d) Curl paper
e) Use hole punch
f) Insert paper fasteners for card linkages
g) Create hinges
h) Use simple pop ups
i) Investigate strengthening sheet materials
Investigate joinings temporary, fixed and moving

Food

a) Develop a food vocabulary using taste, smell, texture and feel
b) Group familiar food products e.g. fruit and vegetables
c) Cut, peel, grate, chop a range of ingredients
d) Work safely and hygienically
e) Understand the need for a variety of foods in a diet
f) Measure and weigh food items, non statutory measures e.g. spoons, cups

Evaluating

a) Say what they like and do not like about items they have made and attempt to say why
b) Talk about their designs as they develop and identify good and bad points
c) Talk about changes made during the making process
d) Discuss how closely their finished products meet their design criteria

YEAR 2

Developing, Planning and Communicating Ideas

a. Follow verbal instructions
b. Explain what they are making and which materials they are using
c. Name the tools they are using
d. Describe what they need to do next
e. Select materials from a limited range that will meet the design criteria
f. Select and name the tools needed to work the materials
g. Select appropriate technique explaining First……Next……Last….
h. Explore ideas by rearranging materials
i. Model ideas with kits, reclaimed materials
j. Select pictures to help develop ideas
k. Use pictures and words to convey what they want to design and make
l. Describe their models and drawings of ideas and intentions
m. Use kits/reclaimed materials to develop an idea
n. Use drawings to record ideas as they are developed
o. Discuss their work as it progresses
p. Add notes to drawings to help explanations

Materials and Components – Knowledge and Understanding

Construction

a) Make vehicles with construction kits which contain free running wheels
b) Use a range of materials to create models with wheels and axles e.g. tubes,
c) dowel, cotton reels
d) Attach wheels to a chassis using an axle
e) Join appropriately for different materials and situations e.g. glue, tape,
f) Mark out materials to be cut using a template
g) Cut strip wood/dowel using hacksaw and bench hook
h) See glue gun used by an adult

Textiles

a. Colour fabrics using a range of techniques e.g. fabric paints, printing, painting
b. Cut out shapes which have been created by drawing round a template onto the fabric
c. Join fabrics by using running stitch, glue, staples, over sewing, tape
Decorate fabrics with buttons, beads, sequins, braids, ribbons
d. Match and sort fabrics and threads for colour, texture, length, size and shape.
e. Change and modify threads and fabrics, knotting, fraying, fringing, pulling threads, twisting and plaiting.
f. Cut and shape fabric using scissors/snips.
g. Apply shapes with glue or by stitching.
h. Apply decoration using beads, buttons, feathers etc.
i. Create cords and plaits for decoration.

Colour

j. Apply colour with printing, dipping, fabric crayons.
k. Create and use dyes i.e. onion skins, tea, coffee.

Texture

l. Create fabrics by weaving materials i.e. grass through twigs, carrier bags on a bike wheel.

Evaluating

a. Say what they like and do not like about items they have made and attempt to say why
b. Talk about their designs as they develop and identify good and bad points
c. Talk about changes made during the making process
d. Discuss how closely their finished products meet their design criteria

YEAR 3

Developing, Planning and Communicating Ideas

a) Investigate similar products to the one to be made to give starting points for a design
b) Draw/sketch products to help analyse and understand how products are made
c) Think ahead about the order of their work and decide upon tools and materials
d) Plan a sequence of actions to make a product
e) Record the plan by drawing (labelled sketches) or writing
f) Develop more than one design or adaptation of an initial design
g) Propose realistic suggestions as to how they can achieve their design ideas
h) Add notes to drawings to help explanations

Materials and Components – Knowledge and Understanding

Sheet Materials

a) Cut slots
b) Cut internal shapes
c) Use lolly sticks/card to make levers and linkages
d) Use linkages to make movement larger or more varied.
e) Use and explore complex pop ups
f) Create nets

Food

a) Develop sensory vocabulary/knowledge using, smell, taste, texture and feel
b) Analyse the taste, texture, smell and appearance of a range of foods
c) Follow instructions
d) Make healthy eating choices from and understanding of a balanced diet
e) Join and combine a range of ingredients e.g. snack foods
f) Work safely and hygienically
g) Measure and weigh ingredients appropriately

Evaluating

a) Identify the strengths and weaknesses of their design ideas
b) Decide which design idea to develop
c) Consider and explain how the finished product could be improved
d) Discuss how well the finished product meets the design criteria and how well it meets the needs the needs of the user.

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YEAR 4

Developing, Planning and Communicating Ideas

a. Investigate similar products to the one to be made to give starting points for a design
b. Draw/sketch products to help analyse and understand how products are made
c. Think ahead about the order of their work and decide upon tools and materials
d. Plan a sequence of actions to make a product
e. Record the plan by drawing (labelled sketches) or writing
f. Develop more than one design or adaptation of an initial design
g. Propose realistic suggestions as to how they can achieve their design ideas
h. Add notes to drawings to help explanations

Materials and Components – Knowledge and Understanding

Construction

a) Incorporate a circuit with a bulb or buzzer into a model
b) Create shell or frame structures, strengthen frames with diagonal struts
c) Make structures more stable by giving them a wide base
d) Prototype frame and shell structures
e) Measure and mark square selection, strip and dowel accordingly to 1cm
f) Use glue gun with close supervision (one to one)

Textiles

a. Understand seam allowance
b. Join fabrics using running stitch, over sewing, back stitch
c. Explore fastenings and recreate some e.g. sew on buttons and make loops
d. Prototype a product using J cloths
e. Use appropriate decoration techniques e.g. appliqué(glued or simple stitches)
f. Create a simple pattern
g. Understand the need for patterns
h. Use a variety of techniques, e.g. printing, dyeing, weaving and stitching to create different textural effects.
i. Match the tool to the material.
j. Develop skills in stitching, cutting and joining
k. Experiment with paste resist.

Evaluating

a. Identify the strengths and weaknesses of their design ideas
b. Decide which design idea to develop
c. Consider and explain how the finished product could be improved
d. Discuss how well the finished product meets the design criteria and how well it meets the needs the needs of the user.

YEAR 5

Developing, Planning and Communicating Ideas

a) Investigate products/images to collect ideas
b) Sketch and model alternative ideas
c) Develop one idea in depth
d) Combine modelling and drawing to refine ideas
e) Plan the sequence of work using a storyboard
f) Record ideas using annotated diagrams
g) Use models, kits and drawings to help formulate design ideas
h) Make prototypes
i) Use found information to inform decisions
j) Use a computer to model ideas
k) Draw plans which can be read/followed by someone else
l) Give a report using correct technical vocabulary

Materials and Components – Knowledge and Understanding

Sheet Materials

a) Cut slots
b) Cut accurately and safely to a marked line
c) Join and combing materials with temporary, fixed or moving joinings
d) Use a craft knife, cutting mat and safety ruler under one to one supervision if appropriate
e) Choose an appropriate sheet material for the purpose

Food

a) Prepare food products taking into account the properties of ingredients and sensory characteristics
b) Select and prepare foods for a particular purpose
c) Taste a range of ingredients, food items to develop a sensory food vocabulary for use when designing.
d) Weigh and measure using scales
e) Cut and shape ingredients using appropriate tools and equipment e.g. grating
f) Join and combine food ingredients appropriately e.g. beating, rubbing in
g) Decorate appropriately
h) Work safely and hygienically
i) Show awareness of a healthy diet from an understanding of a balanced diet

Evaluating

a) Use the design criteria to inform their decisions about ways to proceed
b) Justify their decisions about materials and methods of construction
c) Reflect on their work using design criteria stating how well the design fits the needs of the user
d) Identify what does and does not work in the product.
e) Make suggestions as how their design could be improved

YEAR 6

Developing, Planning and Communicating Ideas

a) Investigate products/images to collect ideas
b) Sketch and model alternative ideas
c) Develop one idea in depth
d) Combine modelling and drawing to refine ideas
e) Plan the sequence of work using a storyboard
f) Record ideas using annotated diagrams
g) Use models, kits and drawings to help formulate design ideas
h) Make prototypes
i) Use found information to inform decisions
j) Use a computer to model ideas
k) Draw plans which can be read/followed by someone else
l) Give a report using correct technical vocabulary

Materials and Components – Knowledge and Understanding

Construction

a) Use bradawl to mark hole positions
b) Use hand drill to drill tight and loose fit holes
c) Cut strip wood, dowel, square section wood accurately to 1mm
d) Join materials using appropriate methods
e) Incorporate motor and a switch into a model
f) Control a model using an ICT control programme
g) Use a cam to make an up and down mechanism.
h) Build frameworks using a range of materials e.g. wood, card corrugated plastic to support mechanisms
i) Use glue gun with close supervision

Textiles

a. Create 3D products using pattern pieces and seam allowance. Use fabrics to create 3D structures Understand pattern layout
b. Decorate textiles appropriately often before joining components
c. Pin and tack fabric pieces together
d. Join fabrics using over sewing, back stitch or blanket stitch. Use different grades of threads and needles.
e. Combine fabrics to create more useful properties
f. Make quality products
g. Experiment with batik techniques.
h. Experiment with a range of media to overlap and layer, creating interesting colours, textures and effects.

Evaluating

a. Use the design criteria to inform their decisions about ways to proceed
b. Justify their decisions about materials and methods of construction
c. Reflect on their work using design criteria stating how well the design fits the needs of the user
d. Identify what does and does not work in the product.
e. Make suggestions as how their design could be improved

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