

BASIC DESIGN AND TECHNOLOGY

CORE SKILLS

JUNIOR HIGH SCHOOL 1

SECTION 1: BASIC LIFE SKILLS

General Objectives: The pupil will

1. appreciate foods and their nutritive value.
2. develop skills in planning and serving balanced meals for different groups of people.
3. be aware of the different types of stitches
4. acquire skills in making stitches and seams for simple repair of clothes

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 NUTRITION The Three Food Groups Food Nutrients and Their Sources	<p>The pupil will be able to:</p> <p>1.1.1 explain the term “food” and describe its functions.</p> <p>1.1.2 identify and classify food into its functional groups.</p> <p>1.1.3 identify nutrients and their food sources.</p>	<p>Food – is anything solid or liquid which when taken into the body provides heat and energy, promotes growth, protects and regulates body processes.</p> <p>Classification of Foods:</p> <ol style="list-style-type: none"> 1. Body building: Animal food e.g., meat, eggs, pulse (beans, agushi) 2. Energy giving: Cereals and grains, fats and oils. 3. Protective foods:- Fruits and vegetables. <p>Nutrients are substances found in food. The Body needs nutrients for growth, energy, health etc. Nutrients are classified as proteins, carbohydrates, fats, vitamins and minerals.</p> <p>-Proteins are found in meat, eggs, milk, liver, beans etc.</p> <p>Carbohydrates are found in corn, rice, yam, sugar, bread etc.</p> <p>Fats – palm oil, margarine, shea butter etc.</p> <p>-Vitamins – whole grain, green leafy vegetables, citrus fruits etc.</p> <p>Minerals – liver, green leafy vegetables, sea food, milk, small whole fish etc.</p>	<p>Pupils to describe what they eat or drink and give reasons why they eat or drink them.</p> <p>-From the above, pupils to explain what food is.</p> <p>Using real food items or models, assist pupils to classify food items into functional groups. (You may also use a list of food items suggested by pupils for the classification)</p> <p>-Assist pupils to discuss the functions of each food group.</p> <p>-Pupils to give reasons why it is important to eat from each group daily.</p> <p>Assist pupils to explain the meaning of nutrients and identify the food sources of nutrients.</p>	<p>Class Exercise:</p> <p>Pupils to;</p> <ul style="list-style-type: none"> - Classify food according to function. - List nutrients and their sources. - Draw the Three Food Groups circle and colour using the appropriate food colours <p>NOTE:</p> <p>Apply knowledge in principles and elements of design and drawing for the above exercise.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 MAINTAINING GOOD HEALTH Food Spoilage	<p>The pupil will be able to:</p> <p>1.2.1 explain the terms Food Spoilage and Food Preservation.</p> <p>1.2.2 identify causes of food Spoilage</p> <p>1.2.3 choose suitable methods to preserve specific food commodities</p>	<p>Food Spoilage is a state in which food has gone bad and is usually dangerous to eat.</p> <p>Food Preservation is the treatments given to foods to enable them stay fresh for sometime.</p> <p>Causes of Food Spoilage</p> <ul style="list-style-type: none"> • Micro-organisms • Enzyme action • Yeast activities. • Oxidation, worms, bugs, weevils etc. <p>Methods of Preserving Specific Food Commodities.</p> <ul style="list-style-type: none"> • Drying – e.g. pepper, cassava • Smoking – e.g. Fish • Freezing – e.g. meat , vegetables • Applying high heat – fruits (jam, marmalade) • Addition of (safe) chemicals e.g. fish vegetable etc. • Use of charcoal in corn dough, and okro dishes. 	<p>Display different perishable food commodities and let pupils express their opinion on what will happen to the foods within a few days time.</p> <p>-Assist pupils to deduce the meaning of Food spoilage from the discussion.</p> <p>Pupils to identify the different causes of food spoilage.</p> <p>-Assist pupils to discuss each of the causes using the appropriate terminology.</p> <p>-Ask pupils to think of what can be done to foods to preserve them.</p> <p>Discuss various methods of preserving foods.</p> <p>-Demonstrate the preservation of one or two foods using some of the methods discussed. e.g. jam/marmalade.</p> <p>-Organize pupils in groups to preserve different food items, using appropriate methods.</p> <p>-Guide pupils to critique and assess each group's work.</p> <p>-Teacher to draw pupils attention to the following moral values: Cooking and serving wholesome food to show love, empathy, fellow feeling etc.</p>	<p><u>Class Exercise:</u> Pupils to - explain Food Spoilage and Preservation.</p> <p>Display the different preserves for a mini-fair</p>

	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 COOKING FOODS Basic Methods of Cooking	<p>The pupil will be able to:</p> <p>1.3.1 give reasons for cooking food</p> <p>1.3.2 identify and describe the basic moist methods of cooking</p> <p>1.3.3 state types of foods and the method for their preparation</p> <p>1.3.4 use the basic methods of cooking effectively in meal preparation.</p>	<p>Reasons for cooking food:</p> <ul style="list-style-type: none"> - to kill germs - to make raw food edible - to make food attractive etc. <p>Basic Methods of cooking: Boiling, Stewing, Frying, Steaming Poaching, Sautéing Pressure cooking,</p> <p>Boiling – yam, rice, porridge etc. Stewing – Fruits, vegetables, meat, fish Frying – Doughnut, pancake etc. Baking – cake, abolo, rockbuns, Grilling – plantain, chicken,</p> <p>using the basic methods of cooking to prepare food.</p> <ul style="list-style-type: none"> - boiling - stewing - baking - grilling 	<p>Through question and answer, pupils to give reasons for cooking food.</p> <p>Let pupils describe how they cook specific food items e.g. yams/cocoyam, potatoes, cassava chips, fresh fish, kakro, akla, egg, abolo, yakayake. From the above, guide pupils to identify and discuss the basic methods of cooking and the techniques associated with each method of cooking.</p> <p>NOTE: Discussion must include reasons for using the particular method, advantages and disadvantages etc. Ensure the techniques for the different methods listed are adequately covered in the lesson. -Pupils to discuss and give examples of food that can be prepared with each method.</p> <p>Practicals – Working in small groups, let pupils prepare dishes to illustrate the methods in content.</p>	<p>Pupils to display their prepared dishes for appreciation and comments</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4 MEAL SERVICE Table laying	The pupil will be able to: 1.4.1 set a table correctly using the appropriate equipment	<p><u>Table setting:</u> Part of meal management is setting an orderly and attractive table in a clean environment.</p> <ul style="list-style-type: none"> - Table setting makes eating more pleasant. - A well laid table stimulates the appetite <p>Equipment needed: A table with attractive table cloth and napkins (serviette), cutlery, crockery (plates, glasses etc.) and flowers</p> <p>'Cover' refers to the table space in front of a person's seat. Covers are the number of customers you are catering for.</p>	<ul style="list-style-type: none"> - Through question and answer, pupils to describe how a table is laid at home for meals. - Teacher to follow up with a discussion of the contemporary ways of setting a table. - Pupils to pre-image various table settings. - Pupils to sketch the pre-imaged ideas for their table setting <p>Show pictures of some of the different ways of table setting and demonstrate the different ways of table setting.</p> <ul style="list-style-type: none"> -Pupils to explore the environment for ideas for napkin folding. <p>Pupil to sketch their folded napkins, -Assist pupils to fold table napkins in attractive ways (pupils to use knowledge and skill in paper craft to create different shape/folds)</p> <ul style="list-style-type: none"> -Pupils set a table correctly. <p>Teacher to look for originality and creativity.</p> <p><u>NOTE:</u> Stress that the cover is set depending on the type of meal served.</p>	Assign individual pupils to set a 'cover'. Assess the setting. Look out for: - availability of all equipment - correct placement of equipment
	1.4.2 demonstrate proper table etiquette.	<p>Table Etiquette refers to the actions/manners that are considered appropriate at table.</p> <ul style="list-style-type: none"> - be on time for meals - eat slowly and quietly - do not talk with your mouth full - do not reach across other people's plates to pick salt or pick fish etc. - proper use of cutlery etc. 	<p>Brainstorm for the meaning of table etiquette.</p> <p>Pupils to discuss the etiquette/manners to be observed at table and explain why etiquette is important.</p> <p><u>NOTE:</u> Draw out the moral values of sharing, caring, fellow feeling, empathy, etc.</p>	<p><u>Class Exercise:</u> Pupils to bring food, set a table and eat at table.</p> <p>Teacher to look out for: - how balanced the food is -how well the table is laid -table manners.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 5 PROCESSES IN SEWING Basic Stitches Basic Seams	<p>The pupil will be able to:</p> <p>1.5.1. identify and classify different stitches.</p> <p>1.5.2 make specimens of the stitches.</p> <p>1.5.3 explain the meaning of a seam.</p> <p>1.5.4 state and describe commonly used seams.</p> <p>1.5.5 fix a button.</p> <p>1.5.6 demonstrate skills in patching articles.</p>	<p>Classification of stitches: Temporary e.g. tacking, basting. Permanent e.g. backstitches, over sewing.</p> <p>Working of stitches: Tacking: even, long and short, basting, Tailor's tacks Running Backstitches Blanket stitches Satin etc.</p> <p>A Seam is made when two or more fabrics are joined together with a permanent stitch.</p> <p>Types of seams: Flat seam – open/plain, Machine – stitched seam French seam</p> <p>Fixing a button</p> <p>Practical Work on Patching</p>	<p>Pupils to name the stitches they are familiar with and state the classes the stitches belong to i.e. temporary or permanent stitches.</p> <p>Demonstrate the working of the stitches listed in content to pupils in small groups. -Guide pupils to make specimens of the stitches. -Values: aesthetic</p> <p>Pupils to describe a seam and explain what a seam is.</p> <p>Teacher to display and describe the type of seam used in different garments and articles. -Let pupils examine their uniforms and state the seams used.</p> <p>Demonstrate how to fix a button. -Pupils to practice fixing buttons.</p> <p>Demonstrate the steps for patching by hand and by machine. -Guide pupils to make specimens on patching (hand and machine)</p>	<p>Pupils to display their specimens for assessment and mount in their specimen albums.</p>

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SECTION 2

GRAPHIC COMMUNICATION

General Objectives: The pupil will

1. develop knowledge and skills in communicating ideas graphically in designing
2. recognize graphic communication as a tool for thinking in the basic design and technology process
3. acquire skills for drawing objects in two and three dimensions
4. apply the principles of development of surfaces

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 DRAWING Exploration of tools	<p>The pupil will be able to:</p> <p>2.1.1 test different tools in making different marks</p>	<p>Making different marks on a surface with a variety of tools.</p> <p>Tools: hard and soft pencil, variety of pens, brushes, sticks, metal tools etc.</p> <p>Materials: inks, suede, dye, chalk, crayon, charcoal, washing blue. etc.</p>	<p>Before teaching this unit, help pupils to understand the meaning of Basic Design and Technology (Refer to description on page (ii) of Preamble</p> <p>Pupils to bring different tools that can make marks on a surface to class for this lesson</p> <p>Display a sample of tools and discuss their characteristics and uses.</p> <p>Demonstrate how to make different marks with the tools on different surfaces.</p> <p>Pupils to test the tools by making different marks on a surface to determine their characteristics.</p> <p>Pupils display their works for evaluation.</p>	<p>Pupils to describe the characteristics and uses of the tools sampled</p> <p>Pupils to make different marks with a variety of tools</p> <p>Pupils to test each tool and explain the result</p>
Type of Line	<p>2.1.2 draw different types of lines by free-hand</p>	<p>Drawing types of lines e.g. vertical, horizontal, parallel, diagonal, curved, concentric, straight, zigzag, broken, wavy, converging, diverging.</p> <p>Tools: pen, pencil.</p> <p>Materials: paper, card, colour</p>	<p>Guide pupils to identify types of lines by listing them.</p> <p>Demonstrate how to draw each type of line by free-hand. Pupils to draw the different types of lines and name them.</p> <p>Check the accuracy of the lines drawn.</p> <p>Pupils display their work for evaluation.</p>	<p>Check pupils' ability to identify different types of lines?</p> <p>Pupils to draw types of lines accurately and label them</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (Cont'd) DRAWING Pictorial Drawing in Perspective Orthographic projection	The pupil will be able to:			
	2.1.9 explain the principles of perspective drawing	Explanation of the principles of perspective drawing.	Help pupils to explain the principles of perspective drawing. Show photographs of objects in perspective e.g. school building etc.	Pupils to draw objects in both single-and two-point perspectives.
	2.1.10 draw objects in perspective	Drawing objects in perspective using: Single-point Two-point	Discuss with pupils the single-point and two-point perspective drawings. Demonstrate how to draw given objects using both the single and two-point perspective drawings. NOTE: All drawings should be done by using free-hand and grid paper	
	2.1.11 explain orthographic projection.	Explanation of orthographic projection.	Assist pupils to learn the meaning of orthographic projection.	Pupils to write the explanation of orthographic projection in their jotters.
UNIT 2 DEVELOPMENT OF SURFACES Prisms and Pyramids	2.1.12 identify the three principal planes.	Identification of the two principal planes. <ul style="list-style-type: none"> horizontal plane (HP) vertical plane (VP) Side vertical plane (SVP) 	Guide pupils to describe the horizontal plane (H.P) and the vertical plane (V.P). Use a model or chart to identify them.	Pupils to differentiate between H.P. and V.P.
	2.1.13 draw orthographic views of an object.	Drawing orthographic projection in: <ul style="list-style-type: none"> First Angle Third Angle 	Demonstrate how to draw the orthographic views of objects. NOTE: The three views are the: <ul style="list-style-type: none"> Front view Plan End view Emphasize that the views should be drawn in both First and Third Angle Projections.	Pupils to practise drawing the three views in both First and Third Angle Projections.
	2.2.1 explain the principles of surface development of prisms and pyramids.	Explanation of principles of surface development.	Explain what pyramids and prisms are and show models or charts of the various types. Discuss principles of surface development of prisms and pyramids.	Pupils to draw surface development of a cylinder, triangular square and hexagonal prisms and pyramids.
	2.2.2 draw the surface development of prisms and pyramids.	Development of surfaces of prisms and pyramids. <ul style="list-style-type: none"> cylinder. square, triangular, hexagonal prisms. 	Draw given prisms and pyramids. Demonstrate how to develop the surfaces of given prisms and pyramids using parallel and radial lines methods for pupils to practice. NOTE: All drawings should be done using drawing instruments or computer	

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SECTION 3

DESIGNING

General objectives: The pupil will

1. recognize the importance of the elements and principles of design
2. develop skills in drawing, designing and colourwork

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Elements of Design	<p>The pupil will be able to:</p> <p>3.1.1 explain the meaning of design.</p> <p>3.1.2 identify natural and man-made elements</p>	<p>Explaining the meaning of design. Materials: samples of design.</p> <p>Identifying elements of design e.g. dot, line, shape, texture, colour, form.</p> <p>Elements in nature: Dot: seeds, pebble, moon, orange etc. Line: tree branch, river, snake, earthworm, hair tail etc. Shape: leaf, orange, yam, mountain etc. Texture: sand, tree bark, crocodile skin, rock surface etc.</p> <p>Man-made Elements Dot: full stop, ball, button Line: pillar, pen, cable, telephone wire. Shape: box, board, bag, bottle Texture: floor, table top, chalkboard. etc.</p>	<p>Pupils to brainstorm and explain the meaning of design as the plan of a work.</p> <p>Teacher to show samples of design.</p> <p>Guide pupils to explore the environment to identify and list the elements they find.</p> <p>Pupils to draw images using dot, lines and shapes.</p>	<p>Pupils to explain the meaning of design</p> <p>Pupils to identify and list the elements of design in the environment</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (Cont'd) Principles of Design	The pupil will be able to: 3.1.3 create the elements of design	Creating the elements of design by drawing, painting, rubbing, spraying etc. <u>Tools:</u> pen, pencil, brush, spray diffusers etc. <u>Materials:</u> paper, card, crayon, colour, washing blue, suede dye etc	Guide pupils to create the elements of design using any appropriate technique. Pupils display their works and evaluate.	
	3.1.4 describe the principles of design in nature and man-made environment.	Describing principles of design in nature and man-made environment. <u>Principles of Design</u> unity contrast variety repetition balance dominance rhythm scale	Guide pupils to identify principles of design.	
	3.1.5 organize the elements according to principles of design.	Organising the elements according to principles of design. <u>Tools:</u> pen, pencil, brush <u>Materials:</u> colour, ink, crayon, suede dye, washing blue.	Demonstrate how to organize the elements according to principles. Pupils individually organize the elements according to principles. Pupils to display their works and evaluate.	
UNIT 2 COLOURWORK Basic concepts and importance of colour	3.2.1 explain basic ideas about colour	(a) Scientific concepts about colour: Colour and light; the colour spectrum and the rainbow. (b) Ghanaian concepts of colour: Sources and association with things in nature. <u>Tools:</u> Bowl, mirror, white plain sheet of paper, water <u>Materials:</u> Chart of the rainbow	Revise the lesson on colour as an element of design and its identification in the natural and man-made environment. Guide pupils to brainstorm and discuss the scientific and Ghanaian concepts of colour using simple scientific experiment (glass prism or mirror to reflect colour from rays of the sun) and natural phenomenon e.g. rainbow and colour spectrum. Guide pupils to discuss Ghanaian concepts of colour based on associations with objects in nature. E.g. Tomato = Red colour Pupils in groups compare the scientific and Ghanaian concepts of colour to determine similarities and differences and discuss in class.	Pupils to: (1) Explain the scientific and Ghanaian concepts of colour verbally. (2) Prepare a chart on Ghanaian concept of colour (3) Find out the concept of colour and its associations from 6 older persons in the community (3 men and 3 women) and report in class. (Example colour concept is black or red for mourning etc)

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 (Cont'd) COLOURWORK Colour symbolism	The pupil will be able to:			
	3.2.2 identify different colours and their meaning in the Ghanaian culture	Identification and meaning of colours <u>Ghanaian meaning of some colours</u> Red, blood, human relations, danger Blue: love, peace Yellow: richness, prosperity, male royalty Silver: female royalty White: victory, joy Violet: vision, creativity Green: vegetation growth Black: strength, sadness Brown: decay, sadness Materials: chart on colour, symbolism etc.	Lead pupils to revise the lesson on Ghanaian and scientific concepts of colour. Guide pupils to identify different colours as used in the community. Pupils brainstorm about reasons why colours have meanings. (Use the colours of the Ghanaian flag as example) Help pupils to explain the meanings of colours as listed in the content. Organize pupils in groups to find out meanings of other colours and present reports for class discussion.	Pupils to give reasons why colours have meanings Pupils in groups to find out more information about colours and report to class. Pupils design a chart on colour symbolism. ASSIGNMENT Pupils to: (1) find out the role of colour in food and manufactured products in the community.
	3.2.3 identify the characteristics and significance of primary and secondary colours as pigments.	<u>Characteristics and Significance of primary and secondary colours</u> Primary colours are colours that cannot be made by mixing other colours. Tools and Materials Samples of primary colours.	Guide pupils to identify, discuss and state the significance of primary and secondary colours as pigment (matter). Brainstorm and discuss natural and man-made primary and secondary colours.	(2) interview people in the community to find out the importance of colour to them and report for class discussion.
	3.2.4 mix the primary colours to form the six-point colour wheel	Mixing colours to form the six-point colour wheel.	Lead pupils to mix the primary colours in the colour wheel.	Pupils to explain the significance of primary and secondary colours.
	3.2.5 paint the colours to form the six-point colour wheel.	Tools: brushes, palettes. Materials: colours e.g. powder, poster, acrylics, goache.	Guide pupils to paint the six-point colour wheel.	Pupils to create colours to form the colour wheel?
	3.2.6 use the colour wheel to explain colour terminologies.	Using the colour wheel to explain colour terminologies e.g. primary, secondary, cool, warm, contrasting, opposite/complimentary.	Assist pupils to discuss the colour terminologies using the colour wheel.	Pupils to explain terminologies correctly.

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SECTION 4

PROBLEM IDENTIFICATION AND IDEA DEVELOPMENT

General Objectives: The pupil will

1. be aware of ways for identifying problems
2. accurately define problems identified
3. use pre-imagining techniques for developing major aspects of solution visualized
4. develop sketches of artifacts/products

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 IDENTIFICATION OF PROBLEM(S) Problem definition Investigating possible solutions	The pupil will be able to:			
	4.1.1 identify a problem in a given situation or environment.	Problem Areas: <ul style="list-style-type: none"> • Home • School • Church • Mosque • Trading/selling • Transportation 	Assist pupils to identify problems in the home, environment and other sources.	
	4.1.2 define the problem(s) identified	Problem definition; reasons why the issue is a problem; constraints of the problem (i.e. what are some of the reasons why the problem cannot be solved)	Pupils in pairs or groups, to define the problem(s) in clear terms. What is the problem? Why is it a problem? What are some of the constraints of the problem? -Pupils to identify problems in a given environment, define the problem and give reasons why the issue involved is a problem.	Can the pupil define a problem accurately? <u>Home work</u> Pupils in pairs or groups, to carry out investigations to collect ideas on possible solutions to the identified problem(s) from the community (A sample of 10 persons to be interviewed should be enough). -People to read about the problem from books, journals etc. -Pupils to present their interview and other investigation results in class for discussion
	4.1.3 state the benefits to be derived if the problem is solved	Benefits derived from solving a problem	Pupils to discuss the benefits to be derived by persons or by society if the problem is solved.	
	4.1.4 identify possible solutions for the problem through investigations	How the problem can be solved: Conducting investigations: research, interviews; careful observation of relevant situations	Pupils in pairs, or individually, to think through and provide possible solutions based on reading, investigations results or personal observations for class discussion	
	4.1.5 generate a number of possible solutions and solution ideas	Generation of solution alternatives; develop ideas for designing a product	Pupils to select a set of problems and think of possible ways for solving the problem. Class to discuss the various solutions offered.	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (Cont'd) IDENTIFICATION OF PROBLEM(S) Idea development; selecting possible solution, pre-imaging and sketching UNIT 2 MAKING	The pupil will be able to:			
	4.1.6 select one or two possible solutions, pre-image the solutions and develop a sketch of the solution(s)	Selection of possible solutions, pre-imaging (that is visualizing the solution: gadget, artifact etc) and sketch solution or product <u>Tools:</u> brush, pencil, pen etc. <u>Materials:</u> colour, paper, card, drawing/sketch book etc.	-Assist pupils to discuss possible solutions they have thought about, select one or two possible solutions and pre-image the solutions. -Pupils discuss the image they have formed of the solution or gadget: its look and performance -Assist pupils to discuss the importance of pre-imaging.	Pupils to practice pre-imaging and sketch the image formed in the mind. ASSIGNMENT Pupils in groups to select one of the following: identify the problem, state the problem in clear terms, why it is a problem and some of the constraints of the problem; benefits if the problem is solved, possible solutions, selection of one best solution, pre-imaging, and sketching the solution
	4.1.7 refine/modify a sketch in preparation for making	Refinement of sketch in preparation for making	Pupils to refine their sketches and provide information on some of the materials they will need for making the product	
	4.2.1 follow the operation sequence of Option 1 leading to making an artifact/product	Catering and Sewing Operational sequence: plan; choose tools, materials and equipment; prepare materials; make/construct	Assist pupils to understand the sequence of processes to be followed in making an artifact/product in Option 1	
	4.2.2 follow the operational sequence of Option 2 leading to making an artifact/product	Pre-Technical Skills operational sequence: select materials, tools and equipment; prepare materials; organize materials, tools and equipment; set out/mark out; hold supporting work pieces; cut, drill, bore etc; shape, bend or fold; assemblage; finish; test and evaluate. NOTE: Observe safety measures in all the sequence	Assist pupils to understand the sequence of processes to be followed in making an artifact/product in Option 2	(1) Feeding family members of different ages and those with special dietary needs. (2) Fishermen carrying their canoes to the beach, about fifty metres away from the sea. (3) Throwing fish back into rivers and the sea after bumper harvest; tomatoes going to waste after bumper harvest (4) Effects of flood waters on farms and villages
	4.2.3 follow the operational sequence of Option 3 leading to making an artifact/product	Visual Arts Operational sequence: Identification of the problem; definition/explanation of the problem; investigation of the problem; pre-imaging suggested solutions; designing (making sketches/models); selection tools, materials and equipment; making the item; carrying out evaluation of processes and end-product	Assist pupils to understand the sequence of processes to be followed in making an artifact/product in Option 3	Pupils to display and evaluate their works.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
	<p>The pupil will be able to:</p> <p>4.2.4 use appropriate procedures for evaluating a finished product</p>	<p><u>Evaluating Catering products:</u> Assess the following—methods of cooking; appearance; taste</p> <p><u>Evaluating Sewing products:</u> construction details; appropriateness of materials; finishing techniques</p> <p><u>Evaluating technical products:</u> Test finished product based on specifications; write a report based on the test; suggest modifications</p>	<p>Pupils in groups to develop a product in one of the options, and evaluate the product based on the procedures described in content.</p>	

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SECTION 5: BASIC HOME MAINTENANCE

General Objectives: The pupil will

1. acquire understanding of the use and repairs of home electrical appliances
2. acquire understanding of ways for repairing and maintaining household furniture

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 ELECTRICAL APPLIANCES	<p>The pupil will be able to:</p> <p>5.1.1 detect basic faults when home appliances do not function and report them.</p>	<p>Meaning of the Colours of electrical wires</p> <p>Fuses of electrical gadgets</p> <p><u>Ways for detecting faults:</u> In case any of the appliances do not work, check if any of the wires in the socket on the wall is disconnected.</p> <p>If a wire is disconnected, use a screw driver to screw the wire in its proper place and tighten.</p> <p>In case, the appliance does not still work, check the fuse. Replace the fuse. If appliance still does not work, see a qualified repairer.</p>	<p>Teacher to bring the following items to class:</p> <ol style="list-style-type: none"> i. Electric iron ii. Food mixer iii. Electric kettle <p>Assist pupils to understand the need for taking safety precautions when dealing with electrical appliances.</p> <p>Let pupils inspect the appliances</p> <ul style="list-style-type: none"> -Discuss possible sources that could stop an appliance from functioning as in content. -Assist pupils to screw electrical wires in place and change fuses in the plug. 	
UNIT 2 HOUSEHOLD FURNITURE	<p>5.2.1 detect faults in household furniture and report them.</p>	<p><u>Weakness at a joint</u> When a piece of furniture becomes weak at a joint, reason may be due to: Nail missing Broken tongue Insufficient glue</p>	<p>Help pupils to detect faults in furniture. Help them to undertake basic repairs on furniture</p>	

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SECTION 6

ENTREPRENEURIAL SKILLS

General objectives: The pupil will

1. develop skills for setting up an enterprise
2. recognize business risks and take necessary steps to minimize such risks
3. be aware of available job opportunities and the procedures for preparing one's self for employment

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 SETTING UP A SMALL-SCALE ENTERPRISE	<p>The pupil will be able to:</p> <p>6.1.1 identify types of enterprise.</p> <p>6.1.2 state the factors to be considered when setting up a small scale business</p>	<p>Identifying types of enterprise. Sole Proprietor and Partnership.</p> <p>Factors to consider when setting up a small scale enterprise: -Your interest and strengths -The market niche -Equipment needs -Supplies and suppliers -Capital -Location -Personnel needs</p>	<p>Identify and discuss the advantages and disadvantages of the sole proprietor and partnership type of enterprises.</p> <p>Guide pupils to identify and state the factors to consider when setting up a small scale enterprise. (Cover the items in content)</p> <p>Assist pupils to discuss the meaning and importance of market niche</p> <p>Use why questions for pupils to discuss the importance of the items in content: Why is a person's personal interest and strengths important as a factor for setting up a business? Why is market niche important; why is consideration of equipment important? etc</p> <p>NOTE: You may invite a business person in the community to help with this lesson</p>	<p>Pupils to state two each of advantages and disadvantages of sole proprietor business</p> <p>Pupils should state three steps to consider when setting up a small scale enterprise.</p>
Management and functions of the manager	<p>6.1.3 explain the concept of management.</p>	<p>The concept of management: the person who sets up a business, directs and controls it</p>	<p>Assist pupils to discuss the concept of management.</p>	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (Cont'd) Management process Controlling business risks	The pupil will be able to:			
	6.1.4 describe the functions of a manager. 6.1.5 analyze the business risks a manager can face. 6.1.6 develop a plan for controlling business risks.	The management process - planning - organizing - controlling - directing - motivating staff Direct risks and indirect risks. <u>Direct risks:</u> - Theft - Fire <u>Indirect risks</u> - Low sales due to low quality products. - Low sales due to wrong Location - Low sales due to poor worker attitude <u>Plan for Direct risks</u> Insurance Regular audit <u>Plan for Indirect risks</u> Advertising Staff training	Pupils to discuss each of the steps in the management process. Pupils in groups, to make a chart showing the functions of a manager. Put pupils in groups to discuss the two types of risks a business faces. (Ensure the two direct risks are covered and any others pupils may identify) Pupils to discuss the indirect risks and consider why poor worker attitude is a risk to a business Guide pupils to understand the -reasons for taking insurance against fire, floods etc. -reasons for carrying out regular audit Guide pupils to develop a plan for minimizing some of the business risks. -Why is advertising important? -In what ways can one advertise a business and its products? -Why is staff training important?	Pupils to state the management process in setting up a small scale enterprise. Pupils to state and explain the two types of business risk. Pupils to develop a plan to control business risks. <u>Class exercise</u> A sole proprietor business was located on the outskirts of a large town. The owner travels to her hometown every Friday. After six months the business had lost a lot of money. Identify some of the problems the business could possibly be facing and that had led to financial losses.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 INTRODUCTION TO THE JOB MARKET	The pupil will be able to:			
	6.2.1 identify career opportunities.	Career opportunities: Plumbing, masonry, carpentry, catering, dressmaking/tailoring, graphic designing, painting and decorating, metal crafts, computer repairs, computer programming, radio and television repairs etc	Discuss career opportunities with pupils and stress the relationship of TVET skills to the careers mentioned.	Pupils to interview apprentices and record findings based on: <ul style="list-style-type: none"> • requirement of master craftsmen, • how they are taught, • number of years of apprenticeship, • passing out procedure, • views on job prospects
	6.2.2 describe the avenues available for further training towards vocations after Basic Education.	Forms of training: Example: -Apprenticeship -Formal training in institutions e.g. NVTI, OIC, YWCA, Technical Institutes, ITTU	Discuss apprenticeship with pupils: - formal and informal Discuss other forms of training after BECE as indicated in content	
UNIT 3 PACKAGING	6.2.3 describe the avenues available for advanced training	Enrolment in higher institutions <ul style="list-style-type: none"> • Polytechnic • University 	Discuss qualifications for entry into tertiary institutions and certificates to be offered at the end of the course.	
	6.3.1 explain the need for packaging a product.	The importance of packaging an end product. <ul style="list-style-type: none"> • Protects and preserves contents • Attracts buyers, gives information, • Promotes easy handling, • Adds value. 	Pupils to brainstorm to bring out the need for packaging technical products.	Pupils to list five reasons for packaging.
	6.3.2 package items appropriately.	<u>Types of Packaging</u> Satchets, boxes, hangers, wrappers. <u>Qualities of good and effective packaging</u> Labels, instructions, neatness, appropriate use of packaged material.	Assist pupils to discuss qualities of good and effective packaging with examples, consider types of packaging, how to package a product and effective packaging qualities.	

OPTIONS

BASIC DESIGN AND TECHNOLOGY

HOME ECONOMICS

JUNIOR HIGH SCHOOL 1

SECTION 1: TOOLS AND EQUIPMENT

General Objectives: The pupil will

1. recognize the importance of catering and sewing tools/equipment.
2. acquire skills in using catering and sewing tools/equipment
3. use appropriate ways for caring and maintaining catering and sewing tools

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 TOOLS AND EQUIPMENT FOR CATERING Types of Tools and Equipment.	<p>The pupil will be able to:</p> <p>1.1.1 identify and describe the different types of catering tools and equipment.</p>	<p>Catering Tools and Equipment:</p> <p>1) Large equipment: e.g. Table, Boiling pan, Steamers, Ranges, Fryers, Sink etc.</p> <p>2) Mechanical/electrical equipment: e.g. Blenders, refrigerators, mixers, peelers, mincers, washers, food slicer, masher (hand or electric) etc.</p> <p>3) Tools (small equipment): Utensils, knives, rolling pins, spoons, mortar, pestle, colander etc.</p>	<p>Pupils to list equipment used for cooking in their homes.</p> <p>Pupils to group the equipment under:</p> <ol style="list-style-type: none"> a) Large b) Mechanical/electrical c) Tools (small equipment) <p>Teacher to show actual or pictures of equipment for class discussion.</p> <p>Assist pupils to discuss the type of materials used for constructing the identified equipment e.g. wood, aluminium, copper, China, stainless steel. etc.</p> <p>Help pupils to understand reasons why wood, aluminium and the other metals listed above are used in the manufacture of the equipment above</p>	<p>Pupils to draw and label some of the unfamiliar equipment in their note books. (Teacher to inspect pupils' drawings).</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (CONT'D) TOOLS AND EQUIPMENT Choice, care, maintenance and storage.	<p>The pupil will be able to:</p> <p>1.1.2 use equipment appropriately</p> <p>1.1.3 select and purchase suitable equipment to meet specific needs.</p> <p>1.1.4 demonstrate appropriate skills in the care and maintenance of catering equipment and tools.</p>	<p>Functions and Handling of equipment: - Bread knife for cutting bread and not for chopping onions. (Do not handle bread knife or any knife by the blade). Colander for draining and not for straining palmnut liquid. Sieve for sifting flour etc.</p> <p>Choice of equipment and tools is based on:</p> <ul style="list-style-type: none"> - money available - space for storage - the intended purpose - availability of spare parts - how easy to clean and maintain - how well constructed - life span of equipment <p><u>Care and maintenance</u> of catering equipment and tools using sifted wood ash, powdered egg shell, steel wool, vim, soaps to clean.</p> <ul style="list-style-type: none"> - ensuring proper handling and not dropping them. <p><u>Storage</u></p> <ul style="list-style-type: none"> - wiping after washing and keeping them in cabinets and on shelves - heavy equipment should be stored or kept on lower shelves etc. 	<p>Assist pupils to discuss functions of the different types of equipment and tools.</p> <p>Let pupils match the equipment and tools with their appropriate functions.</p> <p>Demonstrate how to handle some of the new/unfamiliar equipment.</p> <p>Let pupils try using the correct tools for the appropriate task.</p> <p>NOTE: Stress the correct use and handling of equipment and tools.</p> <p>Pupils to discuss factors to consider in selecting and purchasing catering tools and equipment.</p> <p>Through question and answer, guide pupils to discuss the care, maintenance and storage of catering equipment.</p> <p>Guide pupils to discuss the various cleaning agents available in the locality.</p> <p>Pupils in small groups, to clean similar equipment with different cleaning agents and compare the outcome.</p>	<p><u>Home Work</u> Pupils to prepare some of the cleaning agents to be used in class practicals</p> <p>Assess class practical work.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 TOOLS, EQUIPMENT AND MATERIALS FOR SEWING	<p>The pupil will be able to:</p> <p>1.2.1 identify the various sewing tools and equipment, and describe their functions.</p> <p>1.2.2 state factors which affect the choice and use of the different types of equipment.</p> <p>1.2.3 describe how to care for, maintain and store tools and equipment for sewing.</p> <p>1.2.4 draw and label the parts of a sewing machine, and describe their functions.</p> <p>1.2.5 thread and stitch with a sewing machine.</p>	<p>Types of Sewing Equipment: Large – Work table Full length mirror Small – Needles, Bodkin, Stiletto etc.</p> <p>Factors affecting the choice of tools and equipment. -money available, user skills -space for storage -the intended purpose -availability of spare parts -how easy it is to clean and maintain -how well constructed -life span of equipment -availability of electricity</p> <p>Care, maintenance and storage of equipment/tools.</p> <p>Sewing Machine: types, parts and functions.</p> <p>Threading and stitching with a sewing machine.</p>	<p>Pupils to mention the names of types of sewing equipment and describe their uses.</p> <p>Pupils to classify the equipment into large and small equipment</p> <p>Assist pupils to identify and discuss the factors which influence the choice of tools and equipment for sewing.</p> <p>Demonstrate how the different sewing equipment/tools should be cared for and stored.</p> <p>Pupils to describe the care, maintenance and storage of specified sewing tools and equipment.</p> <p>Assist pupils to discuss the advantages and disadvantages of different types of sewing machines.</p> <p>Pupils to draw a hand sewing machine, Using templates, and label the parts.</p> <p>Demonstrate how to thread the sewing machine and let pupils thread individually until they have grasped the process.</p> <p>Pupils to practise stitching with the sewing machine with correct turning of curves during stitching.</p>	<p>Pupils to stitch on plain sheet, four straight lines of 8 – 20cm length; also to stitch in circles and in squares.</p> <p>Assess the assignment on the straightness of the stitch lengths and how they turn the curves.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 (CONT'D) TOOLS AND EQUIPMENT FOR SEWING	<p>The pupil will be able to:</p> <p>1.2.6 state the uses of different types of materials for sewing.</p> <p>1.2.7 outline the points to consider in choosing sewing materials.</p>	<p>Types of materials for sewing: Threads for sewing & embroidery. Tapes and trimmings for closing openings, neatening and decorations.</p> <p>Interfacing - gives body to collars. Cuffs and belts.</p> <p>Peter sham – for interfacing Skirt bands and belts – for stiffening.</p> <p>Shoulder pad – suitable for coats, jackets. Gives emphasis to the shoulder.</p> <p><u>Choice of Sewing Materials</u> Materials should be: -suitable for the garment required, -suitable for the wearer, -easy to launder -easy to work with (not slippery etc)</p>	<p>Display the different types of sewing materials and assist pupils to describe their uses.</p> <p>Note: Stress on the following: Suitability of fabric Texture – fine, medium, coarse Weight – lightness and thickness Application of the material</p> <p>Pupils to discuss the points to consider in choosing different types of sewing materials.</p>	<p>Class Exercise on types and uses of the different materials.</p> <p>Assign pupils to make illustrations of garments on which materials such as tapes and trimmings have been used.</p>

JUNIOR HIGH SCHOOL 1

SECTION 2: HEALTH AND HYGIENE

General Objectives: The pupil will

1. be aware of the health implications of Catering and Sewing.
2. appreciate the need to keep one's self and environment clean.
3. appreciate the need for safety in the workshop and kitchen.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 MAINTAINING GOOD HEALTH Food Spoilage	<p>The pupil will be able to:</p> <p>2.1.1 explain the need to stay healthy as a caterer.</p> <p>2.1.2 explain the terms Food Spoilage and Food Preservation.</p> <p>2.1.3 outline the reasons for keeping food commodities from spoilage.</p>	<p>Good Health and Clean Environment: Promote self respect Promote catering business Prevent contamination of food etc.</p> <p>Maintaining good health and clean environment: Wearing clean clothes. Covering of hair. Washing hands before handling food. Keeping surroundings, utensils clean etc.</p> <p>Food Spoilage is a state in which food has gone bad and is usually dangerous to eat.</p> <p>Food Preservation is the treatments given to foods to enable them stay fresh for sometime.</p> <p>Reasons To Prevent Spoilage.</p> <ul style="list-style-type: none"> • saves money • maintains nutritive value • ensures food is available for use even during lean season etc. 	<p>Pupils to discuss why it is important for a caterer to stay clean and healthy.</p> <p>Pupils to identify and discuss various ways by which a caterer can maintain good health and clean environment.</p> <p>NOTE: Emphasize factors that promote good grooming</p> <p>Display different perishable food commodities and let pupils express their opinion on what will happen to the foods within a few days time.</p> <p>Assist pupils to deduce the meaning of Food spoilage from the discussion.</p> <p>Pupils to explain the meaning of preservation and discuss the need for keeping food from spoiling.</p>	<p><u>Class Exercise:</u> Pupils to</p> <ul style="list-style-type: none"> - explain Food Spoilage and Preservation. - give three reasons for preventing food spoilage. - give four advantages of preservation

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (Cont'd) MAINTAINING GOOD HEALTH	<p>The pupil will be able to:</p> <p>2.1.4 identify causes of food spoilage</p> <p>2.1.5 describe the effects of spoilage on different food commodities</p> <p>2.1.6 choose suitable methods to preserve specific food commodities</p>	<p>Causes of Food Spoilage</p> <ul style="list-style-type: none"> • Micro-organisms • Enzyme action • Yeast activities. • Oxidation • Worms, bugs, weevils etc. <p>Effects of spoilage on food commodities:</p> <ul style="list-style-type: none"> • Protein foods • Fruits and Vegetables • Fats and Oils <p>Methods of Preserving Specific Food Commodities.</p> <ul style="list-style-type: none"> • Drying – e.g. pepper, cassava • Smoking – e.g. Fish • Freezing – e.g. meat , vegetables • Applying high heat – fruits (jam, marmalade) • Addition of (safe) chemicals e.g. fish, vegetables etc. 	<p>Pupils to identify the different causes of food spoilage.</p> <p>Assist pupils to discuss each of the causes using the appropriate terminology.</p> <p>Assist pupils to discuss the effects of spoilage on different food commodities.</p> <p>Use the future's wheel to trace the consequences of eating such foods.</p> <p>Assist pupils to discuss methods for preserving foods.</p> <p>Discuss various methods of preserving foods.</p> <p>Demonstrate the preservation of one or two foods using some of the methods discussed e.g. jam/marmalade.</p> <p>Organize pupils in groups to preserve different food items using appropriate methods.</p> <p>Guide pupils to critique and assess each group's work.</p> <p>Teacher to draw pupils attention to the following moral values: Cooking and serving wholesome food to show love, empathy, fellow feeling etc.</p>	<p>Display the different preserves for a mini-fair.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 SAFETY IN THE KITCHEN AND WORKSHOP Accidents in the kitchen and workshop	<p>The pupil will be able to:</p> <p>2.2.1 explain the causes of Kitchen and workshop accidents.</p> <p>2.2.2 identify and describe effects of Kitchen and workshop accidents.</p> <p>2.2.3 suggest ways for preventing kitchen and workshop accidents.</p>	<p><u>Causes</u></p> <ul style="list-style-type: none"> - Excessive haste - Distractions - Failure to apply safety rules - Using faulty equipment - Tiredness, Carelessness - Slippery floors - Fire explosion etc. <p>Types of Kitchen and workshop accidents: <u>Types</u>:- burns, scalds, falls, cuts, shocks, fainting, choking, suffocating, needle pricks, swallowing of pins, etc.</p> <p>Preventive Measures: Caterer and dressmaker should</p> <ul style="list-style-type: none"> - not be in excessive haste - be attentive - apply all safety rules - keep kitchen floor clean and dry etc. - wear thimbles - do not leave pins and needle, about - wear oven gloves. <p>NOTE: The following should be stressed: The use of Tel. No. 999 in case of accidents. Ask for Police – 191; Fire Service – 192, Ambulance – 193.</p>	<p>Pupils in groups, identify and describe the causes of kitchen and workshop accidents.</p> <p>Pupils to discuss the various effects of kitchen and workshop accidents.</p> <p>Pupils roleplay to depict the types and causes of kitchen and workshop accidents.</p> <p>Class discusses roleplay to bring out more of the types and causes of accidents in the kitchen/workshop.</p> <p>Put pupils in groups to do the following:</p> <ul style="list-style-type: none"> • suggest ways by which each type of kitchen/workshop accident described can be prevented. • give reasons to support the necessity for First Aid box in the kitchen/workshop. • describe the type of items that should be in the First Aid box and the type of training a caterer and dressmaker should have to be able to give First Aid correctly • state the need for giving First Aid treatment to accident patients when possible, before sending them to the nearest hospital <p>Invite a resource person to give a demonstration lesson to class. The resource person could be a</p> <ol style="list-style-type: none"> 1) First Aid person or 2) Fireman 	<p>Oral exercises on preventive measures.</p>

JUNIOR HIGH SCHOOL 1

SECTION 3: NUTRITION

General Objectives: The pupil will

1. appreciate foods and their nutritive value.
2. develop skills in planning and serving balanced meals for different groups of people.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 THE THREE FOOD GROUPS	<p>The pupil will be able to:</p> <p>3.1.1 explain the term “food” and describe its functions.</p> <p>3.1.2 identify and classify food into its functional groups.</p>	<p>Food – is anything solid or liquid which when taken into the body provides heat and energy, promotes growth, protects and regulates body processes.</p> <p>Classification of Food:</p> <ol style="list-style-type: none"> 4. Body building: Animal food e.g., meat, eggs, pulse (beans, agushi) 5. Energy giving: Cereals and grains, fats and oils. 6. Protective foods:- Fruits and vegetables. 	<p>Pupils to describe the type of food they eat or drink and give reasons why they eat or drink them.</p> <p>From the above, pupils to explain what food is.</p> <p>Using real food items or models, assist pupils to classify food items into functional groups. (You may also use a list of food items suggested by pupils for the classification)</p> <p>Assist pupils to discuss the functions of each food group.</p> <p>Pupils to give reasons why it is important to eat from each group daily.</p>	<p>Class Exercise: Pupils to</p> <ol style="list-style-type: none"> 1. classify food according to function 2. list nutrients and their sources. 3. draw the Three Food Groups, circle and colour using the appropriate food colours <p>NOTE: Apply knowledge in principles and elements of design and drawing.</p>

JUNIOR HIGH SCHOOL 1

SECTION 4: FABRICS FOR SEWING

General Objectives: The pupil will

1. recognize the potentials of sewing towards his/her personal enhancement and in promoting employment
2. appreciate and choose fabrics to meet societal needs.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION		
UNIT 1 TEXTILE FIBRES (Natural sources)	The pupil will be able to:					
	4.1.1 outline the sources of various textile fibres	Fibres: - Fibres are the soft tiny hair-like strands used to make fabrics. -Types and sources of textile fibres -Natural and man-made fibres <u>Natural fibres</u> Animal fibres, plant fibres <u>Man-made</u> Regenerated fibres, synthetic fibres	Pupils brainstorm and come up with the meaning and sources of fibres. Discuss pupils responses			
	4.1.2 identify and describe textile fibres obtained from plants and animal sources.	<table><tr><td><u>Plants</u> -cotton -linen -Jute -kenaf -sisal etc.</td><td><u>Animals</u> wool silk mohair Angora etc.</td></tr></table>	<u>Plants</u> -cotton -linen -Jute -kenaf -sisal etc.	<u>Animals</u> wool silk mohair Angora etc.	Pupils brainstorm and come up with fibres from plants and animals. Discuss pupils responses NOTE: Show real fibres or pictures of fibres	
	<u>Plants</u> -cotton -linen -Jute -kenaf -sisal etc.	<u>Animals</u> wool silk mohair Angora etc.				
4.1.3 outline the characteristics of the textile fibres obtained from plant and animals.	<u>Characteristics</u> Animal-absorbent, warm, durable, smolders when burnt, smells like a burning hair etc. Plant-absorbent, strong, burns easily smells like a burning paper when burnt with light feathery ash etc.	Guide pupils to discuss the characteristics of the various textile fibres Pupils to use the burning and absorbency tests to identify and group fabrics into plant and animal origin. NOTE: Pupils to make a chart of the different fibres and indicate how the fibres behave under different tests.				

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (CONT'D) TEXTILE FIBRES Natural Sources	<p>The pupil will be able to:</p> <p>4.1.4 identify fabrics of the different fibres</p> <p>4.1.5 describe how to care for different fabrics (natural)</p>	<p><u>Fabrics from the different fibres</u> Cotton-Calico, grey baft, gingham, corduroy etc. Linen – Damask, toweling, sheeting etc.</p> <p><u>Care of fabrics</u></p> <ul style="list-style-type: none"> - Wash white articles separately - Wash dark coloured articles separately - Read and obey all instructions on the care label. - Wash in moderately hot water etc. 	<p>Discuss the different fabrics using specific examples Let pupils feel the different fabrics for their textures</p> <p>Guide pupils to discuss the care of fabrics, bearing in mind the characteristics of the fibres.</p>	<p><u>ASSIGNMENT:</u> 1. Pupils to collect different fibres from plants and animal sources paste them in an album and label them.</p> <p>2. Pupils to make a chart indicating the type of fabric and how to care for it.</p> <p>Pupils to complete their textile albums.</p>
UNIT 2 FABRICS FOR SEWING (man-made)	<p>4.2.1 Identify and classify man-made fibres.</p> <p>4.2.2 identify the characteristics of man-made fibres.</p> <p>4.2.3 explain how to care for man-made fabrics.</p>	<p><u>Classification of man-made fibres</u> Synthetic – Nylon Polyester Acrylics Regenerated – Rayon.</p> <p><u>Characteristics</u> Rayon – absorbent and comfortable</p> <ul style="list-style-type: none"> - takes dyes and finishes easily - wrinkles and shrinks <p>Polyester – Wrinkle resistant</p> <ul style="list-style-type: none"> - holds oil stains - quick drying - low absorption <p>Nylon – Strong</p> <ul style="list-style-type: none"> - quick drying - wrinkles resistant - heat sensitive <p>Care for man-made fabrics</p>	<p>Pupils to brainstorm and come up with the various man-made fibres.</p> <p>Show sample/pictures of the fibres.</p> <p>Teacher to bring samples of the fabrics to class.</p> <p>Let pupils feel the different fabrics and discuss the characteristics of each fabric.</p> <p>Pupils brainstorm and discuss how to care for man-made fabrics.</p>	

JUNIOR HIGH SCHOOL 2

SECTION 1: NUTRITION

General Objectives: The pupil will

1. appreciate foods and their nutritive value.
2. develop skills in planning and serving balanced meals for different groups of people.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 FOOD NUTRIENTS AND THEIR SOURCES Food Nutrients	<p>The pupil will be able to:</p> <p>1.1.1 identify nutrients and their food sources.</p> <p>1.1.2 state the functions of each nutrient.</p>	<p>Nutrients are substances found in food. The Body needs nutrients for growth, energy, health etc. Nutrients are classified as proteins, carbohydrates, fats, vitamins and minerals.</p> <p>Proteins are found in meat, eggs, milk, liver, beans etc. Carbohydrates are found in corn, Rice, yam, sugar, bread etc. Fats – palm oil, margarine, shea butter etc.</p> <p>Vitamins – whole grain, green leafy vegetables, citrus fruits etc. Minerals – liver, green leafy vegetables, sea food, milk, small whole fish etc.</p> <p>Functions of Nutrients: Protein – For body building and repair of worn-out tissues. Carbohydrate & Fats: Provide heat and energy Vitamins & Minerals: For regulating body processes and protection.</p>	<p>Assist pupils to explain the meaning of nutrients and identify the food sources of nutrients.</p> <p>Pupils to draw a chart showing the relationship between food nutrients and the three food groups.</p> <p>Pupils to list the five nutrients and explain the functions of each to the body.</p>	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1(CONT'D) FOOD NUTRIENTS AND THEIR SOURCES Balanced Diet Portion control	<p>The pupil will be able to:</p> <p>1.1.3 describe the deficiency signs and symptoms of the various nutrients</p> <p>1.1.4 plan a balanced diet.</p> <p>1.1.5 use correct portions of food to prepare meals.</p>	<p>Deficiency signs and symptoms in children:</p> <p>Lack of protein – Kwashiorkor in children (protruding belly, swollen feet etc.)</p> <p>Lack of carbohydrates-marasmus in severe cases.</p> <p>Lack of Vitamin C: Scurvy (bleeding gum, soreness of skin)</p> <p>Lack of Vitamin D and calcium leads to poor formation of bones and teeth.</p> <p>Lack of iodine: Goiter (Swelling in the neck)</p> <p>Lack of iron: Anaemia (paleness, dizziness,</p> <p>Lack of calcium – rickets</p> <p>Balanced Diet: Is a diet which includes enough of each of the nutrients.</p> <p>Portion Control means controlling the size or quantity of food to be served to an individual.</p> <p>-Importance of portion control: to provide just what the body needs to avoid waste to cut down cost to make profit</p> <p>Examples of portion control of food items:</p> <ul style="list-style-type: none"> - 4 fingers of plantain per portion - 4 oz rice per portion - 8 oz yam per portion <p><u>Some portion control equipment:</u></p> <ul style="list-style-type: none"> - Ladle - Spoons - Weighing scales - Measuring cups - Empty tins etc. 	<p>Display pictures of people with deficiency diseases and let pupils comment on the pictures and link them to some persons they have seen in their locality. Assist pupils to discuss the deficiencies, signs and symptoms, and their causes.</p> <p>Pupils in groups to discuss and present what will happen to a person whose food is deficient in proteins or vitamins and mineral.</p> <p>Pupils to discuss the meaning of a “balanced diet” and show how to combine different food items to get a balance diet.</p> <p>Pupils individually, to plan a balanced diet and read for class discussion.</p> <p>Assist pupils to discuss the meaning and importance of “portion control”</p> <p>Discuss the various portion control equipment/tools.</p> <p>Guide pupils to weigh/measure some food items.</p> <p>Moral values: Honesty, sincerity etc.</p> <p>NOTE: Stress the importance of correct portions of food to the individual, during both the preparation and service stage.</p>	<p><u>Field trip:</u> Pupils to visit a child welfare clinic where possible and observe children with deficiency diseases and report in class.</p> <p>Report should include:</p> <ol style="list-style-type: none"> 2. description of the child’s physical state or appearance 3. what was the deficiency disease? <p><u>Home work:</u> Pupils to write out improved dishes to control symptoms of deficiencies. (1.1.3)</p> <p>Class Exercise: Pupils to plan a diet for a child suffering from kwashiorkor. (1.1.3)</p> <p>Class Exercise: Pupils to estimate serving size of food items for a person’s lunch e.g. Palaver sauce Boiled yam Fruit salad (1.1.5)</p>

JUNIOR HIGH SCHOOL 2

SECTION 2: FOOD PREPARATION

General Objectives: The pupil will

1. recognize the reasons and different ways of cooking foods.
2. become aware of the different ways of heat transfer.
3. acquire skills in choosing the appropriate moist methods of cooking.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 COOKING FOODS Ways of Heat Transfer Basic Methods of Cooking	<p>The pupil will be able to:</p> <p>2.1.1 give reasons for cooking food.</p> <p>2.1.2 explain the different ways of heat transfer in cooking.</p> <p>2.1.3 identify and describe the Basic moist methods of cooking.</p>	<p>Reasons for cooking food:</p> <ul style="list-style-type: none"> - to kill germs - to make raw food edible - to make food attractive etc. <p>Ways of Heat transfer in cooking:</p> <p>Conduction: - the movement of heat through solid (metal) by contact e.g. cooking in a saucepan as in boiling and steaming.</p> <p>Convection: movement of heated gases and liquids in a circular motion e.g. as in baking, or movement of boiling water in a covered pan.</p> <p>Radiation: heat travels by direct rays to the food e.g. grilling.</p> <p>Basic Methods of cooking:</p> <p>Boiling, Stewing, Frying, Steaming</p> <p>Poaching, Pressure cooking,</p>	<p>Through question and answer, pupils to give reasons for cooking food.</p> <p>Through question and answer, assist pupils to discuss the three main ways of heat transfer.</p> <p>Guide pupils to perform basic experiments to illustrate three types of heat transfer.</p> <p>Let pupils describe how they cook specific food items e.g. yams/cocoyam, potatoes, cassava chip, fresh fish, kakro, akla, egg, abolo, yakayake.</p> <p>From the above, guide pupils to identify and discuss the basic moist methods of cooking and the techniques associated with each of them.</p>	<p>Pupils explain the terms – conduction, convection and radiation and give examples of food cooked using each type.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (Cont'd) COOKING FOODS Basic Moist Methods of Cooking	<p>The pupil will be able to:</p> <p>2.1.4 give examples of food that can be prepared with each method.</p> <p>2.1.5 use the basic moist methods of cooking effectively in meal preparation</p>	<p>Boiling – yam, rice, porridge, soup etc. Stewing – Fruits, vegetables, meat, fish Frying – Doughnut, pancake etc. Steaming – tubani, kpokpoi, yakayaka Poaching – egg, fish Pressure cooking, - tough cuts of meat, and beans</p> <p>Using the basic methods of cooking to prepare food:</p> <ul style="list-style-type: none"> - boiling - steaming - stewing - frying - poaching - pressure cooking 	<p>NOTE: Discussion must include reasons for using the particular method, advantages and disadvantages etc. Ensure the techniques for the different methods listed are adequately covered in the lesson.</p> <p>Pupils to discuss and give examples of food that can be prepared with each method.</p> <p>Practicals – working in small groups, let pupils prepare dishes to illustrate the following method as in content.</p>	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 BASIC DESIGN Elements and Principles of Design	<p>2.2.1 apply elements and principles of design in meal preparation and service</p> <p>2.2.2 apply elements and principles of design in the selection, making and use of clothes and accessories.</p>	<p>Application of the elements and principles of design in meal preparation and presentation:</p> <ul style="list-style-type: none"> Garnishing savoury foods. Decoration of sweets. Variety in the selection of dishes for a meal. <p>Application of elements and principles of design in the selection, making and use of clothes and accessories.</p>	<p>Discuss how elements and principles of design can be used in meal preparation and service.</p> <p>Guide pupils to describe elements of design as found in meals and meal service.</p> <p>Demonstrate and guide pupils to plan and make appetizing dishes/meals based on the elements and principles of design.</p> <p>Pupils to plan and prepare fruit salad and organize attractive meal setting for appraisal.</p> <p>NOTE: The practical work could be done in groups.</p> <p>Discuss how elements and principles of design can be used in the selection, making and use of clothes and accessories.</p> <p>Display fabrics, pictures and fashion books in which the elements and principles have been applied for discussion.</p> <p>Pupils use elements and principles of design to create designs for embroidery and garments.</p>	<p>Pupils to make a bulletin board with the title, "Your Artistic Touch" and display pictures of dishes/meals which are attractive and appetizing.</p>

JUNIOR HIGH SCHOOL 2

SECTION 3: PROCESSES IN SEWING

General Objectives: The pupil will:

1. become aware of the different types of stitches
2. acquire skills in making stitches
3. understand basic seams and acquire skills in making seams.
4. develop skills in pattern making and free hand cutting

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 PROCESSES IN SEWING Basic Stitches	<p>The pupil will be able to:</p> <p>3.1.1 identify and classify different stitches.</p> <p>3.1.2 explain the functions of the various stitches.</p> <p>3.1.3 make specimens of the stitches.</p>	<p>Classification of stitches: Temporary e.g. tacking, basting. Permanent e.g. backstitches, oversewing.</p> <p>Functions: Temporary stitches for holding pieces of fabric together for a short period. Permanent for holding two or more pieces together for a longer period.</p> <p>Working of stitches: Tacking: even, long and short, basting, tailor's tacks Running Backstitches Blanket stitches Satin etc.</p>	<p>Pupils to name the stitches they are familiar with and state the classes the stitches belong to i.e. temporary or permanent stitches.</p> <p>Guide pupils to discuss the functions of temporary and permanent stitches.</p> <p>Based on functions, assist pupils to group stitches into: joining e.g. running, back stitch neatening e.g. loop or blanket stitch, hemming, machining. decorative e.g. satin, chain, French knot, laizy daizy.</p> <p>Demonstrate the working of the stitches listed in content to pupils in small groups.</p> <p>Guide pupils to make specimens of the stitches.</p> <p>Values: Check for aesthetic (beauty) quality of stitches made by pupils</p>	<p>Project: Pupils to make a stitch sampler mount on a card and label for assessment.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 CROCHETING	<p>The pupil will be able to:</p> <p>3.2.1 describe tools and materials used in crocheting.</p>	<p>Tools and Materials: Tools: hook (metal, plastic, bone and wood) Thread (nylon, twine, cotton, wool)</p>	<p>Display the basic tools and materials and assist pupils to discuss how they are used in crocheting.</p> <p>Demonstrate the correct ways of holding the hook and thread.</p> <p>Pupils to practise, holding hook and thread correctly.</p>	<p><u>Assignment:</u> Pupils to make a list of articles with some crochet work for presentation.</p> <p>Assess pupils' practical work.</p>
	<p>3.2.2 explain terms and abbreviations in crocheting.</p>	<p>Terms and Abbreviations: ch – chain dc – double crochet tr – treble etc.</p>	<p>Discuss commonly used terms and abbreviations.</p>	
	<p>3.2.3 make basic crochet stitches.</p>	<p>Basic crochet stitches: - chain - slip stitch - double crochet - treble etc.</p>	<p>Pupils to explore the environment for ideas to make their articles</p> <p>Pupils to pre-image and design their articles</p> <p>Teacher to demonstrate the working of the basic stitches.</p> <p>Pupils to practise the basic stitches and make simple articles e.g. table mats, and display their work for appraisal.</p>	
UNIT 3 BASIC SEAMS	<p>3.3.1 explain the meaning of a seam.</p>	<p>A Seam is made when two or more fabrics are joined together with a permanent stitch.</p>	<p>Pupils to describe a seam and explain what a seam is.</p>	<p><u>Project:</u> Pupils to make a simple blouse or shirt for her/himself</p>
	<p>3.3.2 state and describe commonly used seams.</p>	<p>Types of seams: Flat seam – open/plain, run and fell Machine – stitched seam Double stitched seam French seam</p>	<p>Teacher to display and describe the type of seam used in different garments and articles.</p> <p>Let pupils examine their uniforms to identify the seams used.</p>	
	<p>3.3.3 make specimen of basic seams</p>	<p><u>Making of French and plain seam</u> French seam Plain seam</p>	<p>Demonstrate the working of plain and French seams and assist pupils to make stage specimen of each seam.</p>	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4 TAKING BODY MEASUREMENT	<p>The pupil will be able to:</p> <p>3.4.1 explain the importance of measurements in sewing.</p> <p>3.4.2 take each others' body measurement for garment construction.</p>	<p>Importance of body measurement:</p> <ul style="list-style-type: none"> - helps to sew accurately - saves time and energy - prevents waste of fabric <p>Taking body measurement:</p> <p>Bust Waist Hips Width of back Width of chest Around arm etc.</p>	<p>Discuss the importance of taking body measurement in sewing.</p> <p>Teacher to give a demonstration lesson on taking body measurement using one pupil for the demonstration.</p> <p>Note: Take measurement over well-fitting foundation garment. Use a firm tape measure for accurate measurement.</p> <p>Record the measurements taken.</p> <p>Pupils to take turns in taking each others' measurement and record them.</p>	<p>Class Exercise: Pupils to draw a human figure indicating the different body measurements to be taken as discussed in content.</p>

JUNIOR HIGH SCHOOL 2

SECTION 4: FOOD COMMODITIES

General Objectives: The pupil will

1. acquire knowledge and skills in the selection of food commodities.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 FOOD COMMODITIES -MEAT	<p>The pupil will be able to:</p> <p>4.1.1 explain the term food commodities and give examples.</p> <p>4.1.2 describe the qualities to look for when buying food commodities.</p>	<p><u>Food commodities :</u> They are major ingredients or food stuffs used for cooking food.</p> <p>Examples: Meat, Eggs Fish Poultry Milk and milk products Fruits Vegetables Cereals and grains fats, and oils</p> <p><u>Qualities of 'Good/Fresh' Meat</u></p> <ul style="list-style-type: none"> • Meat should be firm and elastic to the touch • The colour should be bright and not dull. • The flesh should be moist and not wet. • The fat should be pale yellow in colour and of firm texture. • It should have no unpleasant smell 	<p>Students to brainstorm on the meaning of Food commodities and give examples.</p> <p><u>NOTE:</u> For the JHS level, teacher should concentrate only on meat, eggs, fish, fruits and vegetables.</p> <p>Teacher to bring real foodstuff to class for pupils to examine.</p> <p>Pupils in groups to discuss and present in class the qualities of the following commodities they would like to look for when buying them:</p> <ul style="list-style-type: none"> - meat - fish - fruits and vegetable - eggs <p>Discuss pupils' responses to include the qualities not mentioned.</p>	<p><u>Home work</u> Students to explore the market and report on the state of food commodities they saw. What qualities did they see.</p>

JUNIOR HIGH SCHOOL 2

SECTION 5: GARMENT CONSTRUCTION

General Objectives: The pupil will

acquire basic skills in garment construction

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 FREE-HAND CUTTING	<p>The pupil will be able to:</p> <p>5.1.1 demonstrate basic skills in cutting out designs without patterns.</p> <p>5.1.2 apply skills in free-hand cutting to make a shirt/blouse.</p>	<p>Free-hand Cutting: Cutting out design on fabric using one's body measurements</p> <p><u>Advantages:</u></p> <ul style="list-style-type: none"> -Needs no drafting or purchasing of patterns. -Saves time etc. <p><u>Disadvantages:</u></p> <ul style="list-style-type: none"> -It wastes fabric -Not easy for beginners etc. <p>Making a shirt/blouse using free-hand cutting.</p>	<p>Pupils to explain the meaning of free-hand cutting and discuss the advantages and disadvantages.</p> <p>-Guide pupils to Pre-image a shirt/blouse for themselves.</p> <p>-Pupils to sketch the blouse/shirt.</p> <p>-Discuss the quantity of fabric required for their specific styles (designs).</p> <p>-Demonstrate how free-hand cutting is done.</p> <p>Using free-hand cutting, pupils to cut out and sew their shirt/blouse using their own body measurement.</p> <p>Teacher to supervise and give corrective advice at each stage of the sewing process.</p> <p>NOTE:</p> <p>Invite a Seamstress or Tailor to demonstrate the free-hand cutting-out process.</p> <p>Encourage pupils to ask questions for clarification.</p>	<p>Teacher to assess practical work.</p> <p>Look out for creativity and originality.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 FEATURES IN GARMENT CONSTRUCTION	<p>The pupil will be able to:</p> <p>5.2.1 identify and describe the different types of collars, sleeves and pockets.</p> <p>5.2.2. make specimens on simple collars, sleeves and pockets.</p>	<p><u>Collars:</u> Flat collars – Peter pan Turnover collars – Shirt Standing collars – Mandarin (Chinese)</p> <p><u>Sleeves:</u> shirt puff raglan etc.</p> <p><u>Pockets:</u> Patch Welt Bound Pocket in a seam</p> <p>Practical work on:</p> <ul style="list-style-type: none"> - attaching Peter Pan collar - setting in set-in shirt sleeves - fixing a patch pocket 	<p>Assist pupils to identify and describe the different types of collars, sleeves and pocket.</p> <p>NOTE: Teacher should bring to class samples of sleeves, collars and pockets.</p> <p>Pupils to pre-image and sketch the type of collar, sleeve and pocket they would like to have on their shirt or blouse.</p> <p>Pupils to use paper or old cloth to make specimens of collars, sleeves and pockets</p> <p>Guide pupils to cut their sleeve pocket and collar using free-hand cutting.</p> <p>Teacher to demonstrate how to attach a Peter Pan collar, set-in shirt sleeve and fix a patch pocket.</p>	<p>Oral exercise on the different types of collars sleeves and pockets.</p> <p>Pupils to prepare and fix collar, sleeve and pocket on their sewn blouses/shirts.</p> <p>Teacher to assess pupils' work.</p> <p>Look out for:</p> <ul style="list-style-type: none"> - even stitching - smooth curves - correct fixing

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 OPENINGS AND FASTENINGS	<p>The pupil will be able to:</p> <p>5.3.1 state the uses of openings and fastenings.</p> <p>5.3.2 describe types of openings and fastenings.</p> <p>5.3.3 outline the factors to consider when choosing openings and fastenings.</p> <p>5.3.4 make an overlap opening and fix a button.</p>	<p>Uses of Openings and Fastenings:</p> <ul style="list-style-type: none"> - allow garments to be put on and off quickly and easily. - allow garments to be made in a close-fitting style etc. <p>Types of Openings and Fastenings:</p> <p>Openings:</p> <ul style="list-style-type: none"> - continuous wrap - faced opening - bound opening etc. <p>Fastenings:</p> <ul style="list-style-type: none"> - buttons and button holes - hook and eye/bar - press studs - zippers etc. <p>Factors to consider when choosing openings and fastenings:</p> <ul style="list-style-type: none"> - style and position of the opening - type of fabric - effect of finish required - type of garment - age of wearer <p>Overlaps (shirt opening)</p> <p>Fastening</p> <ul style="list-style-type: none"> - fixing of button 	<p>Pupils to give reasons why openings and fastenings are used on garments.</p> <p>Display and discuss different openings and fastenings and where they are found in garments.</p> <p>Pupils to discuss what to look for when choosing openings and fastenings.</p> <p>Demonstrate how to make an overlap opening and fix a button.</p> <p>Pupils to make specimen of the opening and fix buttons.</p>	<p>Project work: Pupils to make openings and fix fastening on their shirts/blouses</p>

JUNIOR HIGH SCHOOL 3

SECTION 1: FOOD PREPARATION

General Objectives: The pupil will:

1. be aware of the dry methods of cooking.
2. acquire skills in choosing appropriate dry methods of cooking food

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 METHODS OF COOKING Dry methods	<p>The pupil will be able to:</p> <p>1.1.1 identify and describe the basic dry methods of cooking.</p> <p>1.1.2 give examples of food that can be prepared with each of the methods.</p>	<p>Basic Dry methods of Cooking</p> <ul style="list-style-type: none"> - Baking - Grilling - Microwave cooking - Roasting <p>Baking – cake, abolo, rockbuns, Grilling – plantain, chicken, Microwave cooking Roasting – chicken, yam, groundnuts, etc.</p>	<p>Let pupils describe how they cook specific food items e.g. yams/cocoyam, potatoes, cassava chip, fresh fish, kakro, akia, egg, abolo, “yakayake”.</p> <p>From the above, guide pupils to identify and discuss the basic methods of cooking and the techniques associated with each method of cooking.</p> <p>NOTE: Discussion must include reasons for using the particular method, advantages and disadvantages etc. Ensure the techniques for the different methods listed are adequately covered in the lesson.</p> <p>Pupils to discuss and give examples of food that can be prepared with each method.</p> <p>NOTE: Show foods and pictures of various foods cooked by the dry methods.</p>	<p>Practicals Pupils to prepare food using dry methods of cooking.</p> <p>Put pupils in groups to prepare dishes to illustrate the various methods.</p>

JUNIOR HIGH SCHOOL 3

SECTION 2: MEAL AND MENU PLANNING

General Objective: The pupil will:

acquire skills in meals/menu planning and table setting

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 MEAL PLANNING	<p>The pupil will be able to:</p> <p>2.1.1 identify the different types of meals served in a day</p> <p>2.1.2 outline the factors to consider when planning meals.</p> <p>2.1.3 plan and prepare meals for the different times of the day.</p>	<p><u>Types of meals</u></p> <ul style="list-style-type: none"> • Breakfast • Lunch • Snack • Eleveses • Brunch • Supper/Dinner • High tea • Bed time snack etc. <p><u>Factors to consider when planning meals:</u></p> <ul style="list-style-type: none"> • Nutrient needs of the various family members • The food available • The family budget • Time and energy available for shopping and preparation • Time of serving the food • Service of the food • Cooking facilities etc. <p>Planning and preparing meals for the day</p> <ul style="list-style-type: none"> • Breakfast • Lunch • Supper etc. 	<p>Discuss with examples the different types of meals served in a day.</p> <p>Students in groups, to discuss factors to consider when planning meals and report in class</p> <p>Lead a discussion on students' responses.</p> <p>Pupils to pre-image the meal they will prepare for a particular time of the day.</p> <p>Pupils to indicate how they are going to present the meal bearing in mind the principles and elements of design.</p> <p>Guide students to plan and prepare meals for the day.</p>	<p><u>Assignment</u></p> <p>Students to find out from various sources including the internet and report in class other meals served in a day.</p> <p><u>Assignment</u></p> <p>Students to plan and prepare a meal for a particular time of the day</p> <ul style="list-style-type: none"> - look out for suitability - balance of meal

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 MENU PLANNING	<p>The pupil will be able to:</p> <p>2.2.1 explain the term 'Menu' and describe its functions.</p> <p>2.2.2 distinguish between a meal and a dish</p> <p>2.2.3 distinguish between different types of menu.</p>	<p>Menu is a list of dishes with their costs or prices.</p> <ul style="list-style-type: none"> - it is a means of informing the customer of what the caterer has to offer. - it also informs the catering staff of what is to be prepared. <p>A dish is a prepared item of food. A meal is a collection of prepared dishes that are eaten at a sitting.</p> <p><u>Table d'hote</u> – a set menu forming a complete meal at a set price. <u>A la carte</u> – a menu with all the dishes individually priced. <u>Special party menu</u> – menu for specific functions such as weddings, Christmas party etc. <u>Ethnic-menu</u> – menu specially prepared to meet the taste of specific ethnic, national or religious groups e.g. TZ, Kpokpoi etc. <u>Hospital menu</u> – menu designed to meet the health needs of patients. <u>Menu for People at work</u> – designed to meet the different nutritional needs of workers. <u>Menu for School Children</u> – menu designed to meet the needs of growing children in school.</p>	<p>Teacher to bring a menu card from a restaurant (or develop a menu card) for this lesson.</p> <p>Assist pupils to explain the meaning of “menu” and describe its functions to the customer and to the caterer.</p> <p>Guide pupils to distinguish between a meal and a dish.</p> <p>Guide pupils to distinguish between the different types of menu.</p>	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 CONT'D) MENU PLANNING	<p>The pupil will be able to:</p> <p>2.2.4 outline the factors to consider when planning menu</p> <p>2.2.5 plan suitable menus for the different meal times.</p>	<p><u>Factors to Consider in Menu Planning.</u> Consider the following:</p> <ul style="list-style-type: none"> - Types of customer - Time of day - Number of courses - Sensible nutritional balance - No repetition of flavours, colours, food commodities, texture of course <p><u>Planning a menu</u></p> <p>1st Course- Appetizer/Starter/Hors d'oeuvre</p> <p>2nd Course – Main dish – Protein dish Accompaniment – Carbohydrate dish Side Dish – Vegetable(s)</p> <p>3rd Course - Dessert (Sweet)</p>	<p>Pupils to discuss the factors for menu planning.</p> <p>Pupils to plan in groups, menus for the different meal times (breakfast, lunch, supper).</p> <p>This should include the correct sequence of menu writing i.e. for a two-course meal the sequence will be protein dish first (e.g. okro stew with meat/fish), accompaniment second (e.g. banku and dessert last (e.g. fruit salad).</p> <p>NOTE: In planning, pupils should apply knowledge of balanced diet and the elements and principles of design.</p>	<p>Assess pupils' practical work. Look out for appropriateness of meals and right sequencing of dishes.</p>
UNIT 3 MEAL SERVICE Table laying	<p>2.3.1 set a table correctly using the appropriate equipment</p>	<p><u>Table setting:</u> Part of meal management is setting an orderly and attractive table in a clean environment.</p> <ul style="list-style-type: none"> - Table setting makes eating more pleasant. - A well laid table stimulates the appetite 	<p>- Through question and answer, pupils to describe how a table is laid at home for meals.</p> <p>- Teacher to follow up with a discussion of the contemporary ways of setting a table.</p> <p>- Pupils to pre-image various table settings.</p> <p>- Pupils to sketch the pre-imaged ideas for their table setting</p>	<p>Assign individual pupils to set a 'cover'. Assess the setting. Look out for:</p> <ul style="list-style-type: none"> - availability of all equipment - correct placement of equipment

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JUNIOR HIGH SCHOOL 3

SECTION 3: CLOTHING MAINTENANCE

General Objectives: The pupil will:

develop skills in renovation and remodeling

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 RENOVATION AND REMODELLING ARTICLES	<p>The pupil will be able to:</p> <p>3.1.1 explain the terms Renovation and Remodelling.</p> <p>3.1.2 state reasons for renovating and remodelling articles.</p> <p>3.1.3 describe the different methods used in renovation and remodeling of articles</p>	<p>Renovation is the process of repairing or mending faults such as breaks, tears etc. in clothes and household articles. Remodelling is the process of making another article out of an existing one.</p> <p>Renovation and Remodelling makes articles:</p> <ul style="list-style-type: none"> • useful ones again • last longer • retain some of their original beauty • saves money • helps one make good use of leisure • makes one more creative and resourceful etc. <p>Methods of Renovation and Remodeling</p> <p>Renovation involves patching and darning. Patching is the attachment of a strong piece of fabric to replace a worn-out portion of an article. (Could be done by hand or machine).</p>	<p>Pupils to describe the differences between renovation and remodeling.</p> <p>Discuss the various types of mending usually done on Household articles.</p> <p>Pupils to give reasons why renovation and remodelling of articles are necessary.</p> <p>Teacher/pupils to bring articles on which different methods of renovation and remodeling have been used.</p> <p>Assist pupils discuss the different methods of renovation and remodeling.</p>	

BASIC DESIGN AND TECHNOLOGY

PRE-TECHNICAL SKILLS

JUNIOR HIGH SCHOOL 1

SECTION 1

MATERIALS

General Objectives: The pupil will:

5. be aware of the characteristics and uses of metals.
6. be aware of the characteristics and uses of timber.
7. recognise the differences and characteristics of building materials.
8. recognize the differences, grades and correct usage of abrasives.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 METALS FERROUS AND NON-FERROUS (low carbon steel)	The pupil will be able to:			
	1.1.1 classify metals into ferrous and non-ferrous.	Classification of metals: low carbon steel (mild steel). Non-ferrous metals: aluminium, lead, and copper.	Show the various types of metals for pupils to examine differences between ferrous and non-ferrous metals Assist pupils to classify materials into ferrous and non-ferrous by using a bar of magnet.	Pupils to select mild steel from the non-ferrous metals.
	1.1.2 state the characteristics of the different types of metals (colour, hardness and softness).	Physical characteristics (colour, hardness and softness) of metals	Assist pupils to discuss the common physical characteristics of different metals. Pupils make dents with centre punch on given pieces of metals to identify their hardness and softness. Discuss how to identify types of metal using their colour.	Pupils to give the physical properties of metals.
	1.1.3 state the common uses of different types of metal.	Uses of the different types of metal.	Discuss the uses of various metals for specific jobs.	Write one use each of the different types of metal.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 TIMBER	The pupil will be able to:			
	1.2.1 identify different types of timber	Identification of different types of timber. - odum - wawa - mahogany	Show different types of timber for pupils to examine.	Identify the specified types of timber.
	1.2.2 describe the characteristics of timber	Characteristics of timber. - colour - grain - texture - weight	Discuss properties of different types of timber. NOTE: Wherever possible, arrange visits to sawmills to enable pupils observe the physical properties of timber species.	State the characteristics of each type of timber.
UNIT 3 BUILDING MATERIALS	1.2.3 state uses for the different types of timber for specific jobs.	Uses of timber species.	Assist pupils to discuss the uses of different types of timber.	Pupils to state one use each of the different types of timber for specific jobs.
	1.3.1 state the characteristics of building materials	Characteristics of building materials - clay - laterite - lime. - cement	Show pupils samples of cement, clay, laterite and lime and discuss their characteristics.	Pupils to discuss characteristics of the selected building materials in groups.
	1.3.2 state the uses of cement, clay, laterite and lime.	Uses of the building materials.	Discuss the uses of each material.	State one use of each material.
UNIT 4 ABRASIVES	1.3.3 select appropriate type of building material for a given work.	Selection of appropriate building materials.	Discuss reasons for selecting each type of building material for specific jobs.	Provide different products for pupils to state the suitable material for their construction
	1.4.1 distinguish between glass paper and emery cloth.	Types of abrasive: - glass paper - emery cloth.	Pupils to examine abrasives, describe their features and state the jobs for which they are used.	Pupils to state the difference between glass paper and emery cloth.
	1.4.2 select the appropriate abrasive for a specific job.	Selection of appropriate abrasives: - rough - smooth	Discuss with pupils reasons for selecting each type of abrasive for specific jobs.	State grades of abrasives and their uses.
	1.4.3 demonstrate the correct use of each abrasive.	Correct method for using the abrasive.	Demonstrate correct method of using each abrasive for pupils to practise.	Pupils to use abrasives correctly.

JUNIOR HIGH SCHOOL 1

SECTION 2

TOOLS AND PROCESSES

General Objectives: The pupil will:

1. acquire the right attitudes and knowledge for safe use of tools.
2. recognize the characteristics and uses of different types of tools.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 SAFETY PRECAUTIONS	The pupil will be able to:			
	2.1.1 outline the safety measures at the workshop.	Safety Precautions against: <ul style="list-style-type: none"> - injury to self - injury to others - damage to tools and equipment 	Discuss the safety measures to be taken at the workshop covering: <ul style="list-style-type: none"> - protective clothing to be worn - accidents that could occur and how to avoid them. - the safe use of tools and equipment. 	Pupils to list one safety measure each to be taken at the workshop in relation to: <ul style="list-style-type: none"> - injury to self. - injury to others - damage to tools and equipment.
UNIT 2 MEASURING TOOLS	2.1.2 follow safety measures in the workshop	Wearing protective clothing: <ul style="list-style-type: none"> - goggles - aprons/overalls - masks - boots - helmets - gloves 	Demonstrate the precautions to be observed at the workshop. Show a photograph/chart of a worker wearing protective clothing. NOTE: Observe care and maintenance for all tools and equipment	
	2.2.1 identify basic measuring tools.	Identification of basic measuring tools: <ul style="list-style-type: none"> - rule, tape measure 	Discuss types of rule and measuring tapes used in woodwork, metalwork and brickwork.	Pupils to describe the rule and tape measure.
	2.2.2 read the rule and tape measure accurately.	Accurate reading of rule and tape measure.	Show pupils how to read the rule and tape measure.	Pupils demonstrate the correct reading of rule and tape measure.
	2.2.3 use the rule and tape measure to take measurements.	Taking measurement with the rule and tape measure.	Assist pupils to use of rule and tape measure to measure the lengths, widths and thicknesses of objects.	Measure and record the length, width and thickness of an object using the rule and tape measure.
	2.2.4 explain how to care for and maintain the rule and tape measure	Care and maintenance of the tools.	Discuss the care and maintenance of the rule and tape measure. -Pupils to follow caring and maintenance processes for rule and tape measure	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 SETTING-OUT AND MARKING-OUT TOOLS.	The pupil will be able to:			
	2.3.1 identify setting-out and marking out tools.	Setting-out and marking-out tools: Try square, a pair of dividers, scribe, centre punch, dot punch, pencil and chalk.	Show and discuss the uses of the various setting-out and marking-out tools	Pupils to write names of setting-out and marking-out tools.
	2.3.2 use the setting-out and marking out tools correctly.	Using the setting-out and marking-out tools.	Demonstrate how to use the setting-out and marking-out tools. Pupils to practise.	Pupils to use the setting-out and marking-out tools for a given exercise.
UNIT 4 CUTTING TOOLS	2.3.3 care for and maintain setting-out and marking-out tools.	Care and Maintenance of tools: - clean tools - oil tools - pack the tools well	Demonstrate how to maintain and care for the tools for pupils to practice.	Pupils to show how to maintain and care for the tools.
	2.4.1 identify different cutting tools.	Types of cutting tools: Saws - cross cut saw - hacksaw Chisels - firmer chisel - flat chisel Plane - jack plane - smoothing plane Files - flat file - hand file	Show and describe the features of each cutting tool. Demonstrate the right techniques for using each saw.	
	2.4.2 use the right techniques for using the different cutting tools on wood, metal and brick.		Demonstrate the right techniques for chiseling wood, metal and brick. Demonstrate the right techniques for planing surfaces and edges of pieces of timber.	Pupils to practice the right technique for using cutting tools.
	2.4.3 care for and maintain the cutting tools.		Demonstrate the right techniques for filing. Demonstrate the safe use of cutting tools. Demonstrate care and maintenance of tools for pupils to practice.	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 5 HOLDING TOOLS	The pupil will be able to:			
	2.5.1 identify the different types of holding tools.	Types of holding tools. - engineer's vice - woodworker's vice - G-clamp - folding bar	Show various holding tools and help pupils to name them.	Pupils to identify and name the holding tools.
	2.5.2 explain the uses of the different types of holding tools.	Uses of different types of holding tools.	Discuss the uses of each tool	Pupils to state the uses of the holding tools.
	2.5.3 sketch each tool.	Sketching and labeling parts of tools	Guide pupils to sketch and label parts of each tool.	Pupils to sketch and label parts of tools.
	2.5.4 follow the correct and safe use of holding tools.	Using the tools correctly and safely	Demonstrate correct and safe handling and use of each tool for pupils to practice.	
UNIT 6 REMOVING AND DRIVING TOOLS	2.5.5 care for and maintain holding tools.	Care and maintenance of holding tools. - do not drop the tools - clean tools - oil tools	Demonstrate how to care for and maintain the holding tools. -Pupils to clean and oil tools in groups	
	2.6.1 identify the different types of removing and driving tools.	Identification of removing and driving tools: screwdriver, pincers, crowbar.	Arrange all the tools on a bench and assist pupils to name them.	
	2.6.2 demonstrate the use of each tool correctly.	Using the tools correctly.	Demonstrate the correct use of each tool and help pupils to practise.	
	2.6.3 sketch each tool.	Sketching and labeling the tools.	Assist pupils to sketch each tool and label the parts.	Pupils to sketch and label the parts of each tool.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 7 STRIKING TOOLS	<p>The pupil will be able to:</p> <p>2.7.1 identify different types of striking tools.</p>	<p>Identification of striking tools:</p> <p>Mallets</p> <ul style="list-style-type: none"> - wooden mallet - raw hide mallet - plastic mallet <p>Hammers</p> <ul style="list-style-type: none"> - claw hammer - ball pein hammer - brick hammer 	<p>Show the different types of striking tools and assist pupils to identify them</p>	<p>Pupils to identify and name each of the striking tools.</p>
	<p>2.7.2 use striking tools correctly and safely</p>	<p>Using striking tools correctly.</p> <p>NOTE</p> <p>Provide a list of striking tools</p>	<p>Demonstrate the correct and safe uses of each tool for pupils to practice.</p> <p>-Pupils to select and use the right tool for different jobs.</p>	<p>Select and use the right tool for a specific job.</p>
UNIT 8 DIGGING TOOLS	<p>2.8.1 identify different types of digging tools.</p>	<p>Identification of digging tools:</p> <ul style="list-style-type: none"> - pick axe - shovel - spade 	<p>Show types of digging tools and assist pupils to name them.</p>	
	<p>2.8.2 use digging tools correctly and safely.</p>	<p>Correct and safe use of the digging tools.</p>	<p>Demonstrate how to use the digging tools for specific jobs for pupils to practice</p>	<p>Pupils practice use of digging tools.</p>

JUNIOR HIGH SCHOOL 2

SECTION 1

TECHNICAL DRAWING

General Objectives: The pupil will:

1. acquire the skills for drawing objects in three dimension
2. apply the principles of orthographic projection for drawing views of objects
3. apply the principles of development of surfaces to develop prisms and pyramids

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 ISOMETRIC DRAWING	The pupil will be able to:			
	1.1.1 explain isometric drawing.	Isometric drawing.	Discuss the principles of isometric drawing using the isometric axes.	Pupils to explain isometric drawing.
	1.1.2 draw given objects using the isometric axes.	Drawing in isometric projection.	Demonstrate how to draw a given object using the isometric axes NOTE: All drawings should be done by using drawing instruments/computer.	Pupils to draw given objects in isometric.
UNIT 2 OBLIQUE DRAWING	1.2.1 explain oblique drawing.	Explanation of principles of oblique drawing.	Guide pupils to explain the principles of oblique drawing.	Pupils to discuss oblique draw.
	1.2.2 draw objects using the oblique axes.	Drawing objects in oblique projection.	Demonstrate how to draw objects in oblique using drawing instruments/computer for pupils to practice.	Pupils to draw objects in oblique.
UNIT 3 PERSPECTIVE DRAWING	1.3.1 explain perspective drawing.	Explanation of perspective drawing.	Help pupils to explain perspective drawing. Show them photographs of objects in perspective.	Pupils to explain perspective drawing
	1.3.2 draw objects in perspective.	Drawing objects in perspective using: - single-point perspective - two-point perspective NOTE: use vanishing point(s) and horizon (eye level)	-Discuss the single-point and two-point perspective drawings. -Demonstrate how to draw given objects using both the single and two-point perspective drawings for pupils to practice. NOTE: All drawings should be done by using drawing instruments/computer .	Pupils to draw objects in both single-and two-point perspectives.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4 PRINCIPLES OF ORTHOGRAPHIC PROJECTION	The pupil will be able to:			
	1.4.1 explain the principles of orthographic projection.	Explanation of principles of orthographic projection: - first Angle - third Angle	Discuss with pupils the principles of orthographic projection emphasizing on first and third angles.	Pupils to explain the principles of orthographic projection.
	1.4.2 identify the principal planes.	Identification of the principal planes: - horizontal plane (HP) - vertical plane (VP)	Guide pupils to describe the horizontal plane (H.P) and the vertical plane (V.P). Use a model or chart to explain the principal planes.	Pupils to differentiate between H.P. and V.P.
UNIT 5 DRAWING OF ORTHOGRAPHIC VIEWS	1.5.1 draw orthographic views of object.	Drawing orthographic projection in: - first Angle - third Angle	Demonstrate how to draw the orthographic views of objects. NOTE: The three views are: - front view - plan - end view Emphasise that the views should be drawn in both First and Third Angle Projections using drawing instruments/computer.	Pupils to practice drawing the three views in both First and Third Angle Projections using drawing instruments/computer

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 6 DEVELOPMENT OF PRISMS	<p>The pupil will be able to:</p> <p>1.6.1 explain the principles of surface development of prisms.</p> <p>1.6.2 draw the surface development of prisms.</p>	<p>Explanation of principles of surface development of prisms.</p> <p>Drawing the development of surfaces of prisms</p> <ul style="list-style-type: none"> - cylinder. - square. - triangle - hexagon 	<p>Explain to pupils what a prism is and show models or charts of the various types of prism.</p> <p>Discuss principles of surface development of prisms.</p> <p>Demonstrate how to draw given prisms.</p>	<p>Pupils to draw surface development of a given prisms.</p>
UNIT 7 DEVELOPMENT OF PYRAMIDS	<p>1.7.1 explain the principles of surface development of pyramids</p> <p>1.7.2 draw the surface development of pyramids</p>	<p>Explanation of principles of surface development of pyramids.</p> <p>Drawing the development of surfaces of pyramids</p> <ul style="list-style-type: none"> - cone. - square. - triangle - hexagon 	<p>Explain what a pyramid is, and show models or charts of various pyramids.</p> <p>Demonstrate how to draw given pyramids for pupils to practice</p> <p>NOTE: All drawings should be done by using drawing instruments/computer.</p>	<p>Pupils to draw given pyramids using drawing instruments/computer.</p>

JUNIOR HIGH SCHOOL 2

SECTION 2

MATERIALS

General Objective: The pupil will

be aware of the properties and uses of specified materials.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 METALS (Medium carbon steel) (Non-ferrous alloys)	The pupil will be able to:			
	2.1.1 describe the physical properties of medium carbon steel.	Properties of medium carbon steel:- toughness, strength, brittleness, hardness.	Discuss the properties of medium carbon steel.	Pupils to state the properties of medium carbon steel.
	2.1.2 state the range of carbon content of medium carbon steel.	Carbon content of medium carbon steel.	Discuss the range of carbon content in medium carbon steel.	
	2.1.3 state the uses of medium carbon steel.	Uses of medium carbon steel.	Discuss the uses of medium carbon steel.	<u>Exercise:</u> Properties and uses of medium carbon steel.
	2.1.4 identify non-ferrous alloys.	Identification of non ferrous alloys: brass, bronze and soft solder.	Show samples of non-ferrous alloys and help pupils to identify them.	Pupils to collect objects made of alloys.
	2.1.5 state the basic composition of non-ferrous alloys.	Composition of non-ferrous alloys - brass (copper + zinc) - bronze (copper + tin) - soft solder (lead + tin)	Discuss the composition of brass, bronze, and soft solder.	Pupils to state the composition of non-ferrous alloys.
	2.1.6 state the uses of non-ferrous alloys.	Uses of alloys: - brass – musical instrument - bronze – church bells - soft solder – soft soldering of electrical parts.	Pupils to give examples of uses of brass, bronze and soft solder.	State one use each of brass, bronze and soft solder.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 AGGREGATES (Fine and coarse)	The pupil will be able to:			
	2.2.1 differentiate between fine and coarse aggregate.	Types of aggregate: - sand (fine) - stone (coarse)	Discuss the differences between fine and coarse aggregates.	Pupils to discuss the differences between fine and coarse aggregate.
	2.2.2 state the uses of fine and coarse aggregates.	Uses of fine and coarse aggregates.	Discuss the uses of fine and coarse aggregates for specific jobs.	Exercise on uses of types of aggregates for specific jobs
UNIT 3 ADHESIVES	2.3.1 list types of adhesive.	Types of adhesive: - PVA (white glue) - contact glue.	Show the two types of adhesive to pupils and discuss their characteristics.	Pupils to mention two types of adhesive
	2.3.2 state the uses of adhesives.	Uses of adhesives: PVA – for woodwork jointing contact glue – for laminating veneers, formica etc	Discuss uses of types of adhesives for pupils to practice	Pupils to state the uses of the adhesives.
UNIT 4 FINISHES	2.4.1 identify types of finishes.	Types of finishes: Polish: (lacquer) Paint: (emulsion, oil)	Show pupils samples of polish, paint and thinner.	Pupils to identify types of finish.
	2.4.2 use finishes correctly.	Uses of finishes.	Demonstrate how to mix the following: - emulsion paint with water - oil paint with turpentine - lacquer with thinner Demonstrate how to use types of finish correctly for pupils to practice	Pupils to undertake some finishing exercises.

JUNIOR HIGH SCHOOL 2

SECTION 3

TOOLS AND PROCESSES

General Objectives: The pupil will

1. recognize basic tools and processes.
2. acquire skills in using the various tools.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 SETTING-OUT AND MARKING-OUT TOOLS	The pupil will be able to: 3.1.1 identify the setting-out and marking-out tools. 3.1.2 use setting-out and marking-out tools correctly	Identification of setting-out and marking-out tools: - Builder's square - Line and pins Using the tools	Show the setting-out and marking-out tools and assist pupils to identify them. Demonstrate how to use the setting-out and marking-out tools for pupils to practice	Pupils to identify the setting-out and marking-out tools. Pupils to use the tools to undertake activities.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 CUTTING TOOLS	The pupil will be able to:			
	3.2.1 identify the different types of cutting tools.	Identification of cutting tools: - tenon saw. - round file. - square file. - brace and auger bits. - hand drill and twist drills. - bolster.	Display the cutting tools and assist pupils to identify them.	Pupils to identify the cutting tools.
	3.2.2 sketch the cutting tools.	Sketching and labeling the cutting tools	Assist pupils to sketch and label the cutting tools.	Pupils to sketch and label the various parts of the cutting tools.
	3.2.3 use cutting tools correctly	Using the cutting tools.	Demonstrate the right techniques for using the cutting tools for pupils to practice	Pupils to practice how to use cutting tools.
UNIT 3 MOULDING BRICKS	3.2.4 explain how to care for and maintain the cutting tools.	Care and maintenance of the tools: - clean the tools - oil the tools - pack them safely	Discuss methods for the care and maintenance of cutting tools.	Pupils to care for and maintain tools.
	3.3.1 identify the correct tools and equipment for moulding bricks.	Tools and equipment for moulding bricks: - mould box - head pan/gauge box - shovel/spade - tamping rod	Show the tools and equipment and assist pupils to identify them.	Pupils to identify moulding tools and equipment.
	3.3.2 mould bricks to standard size.	Moulding bricks to the standard size (215mm x 102.5mm x 65mm).	Demonstrate the following processes: - identifying good quality laterite. - mixing the laterite with water - filling the mould box with the laterite - tamping and leveling. - dismantling the mould box. - removing and packing of bricks - curing the bricks.	Pupils to mould bricks in groups using laterite.

JUNIOR HIGH SCHOOL 3

SECTION 1

MATERIALS

General Objectives: The pupil will:

1. understand the properties and uses of metals and plastics
2. apply the basic skills for making artefacts using plastics

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 METALS (Cast iron)	The pupil will be able to: 1.1.1 identify cast iron 1.1.2 state the properties and uses of cast iron.	Identification of cast iron. Properties and uses of cast iron. Properties: - brittleness - strength Uses: - engine block - body of manual sewing machine - box iron	Display items made of cast iron and assist pupils to identify them. Discuss with pupils the properties and uses of cast iron.	Pupils to list items made of cast iron. <

JUNIOR HIGH SCHOOL 3

SECTION 2

TOOLS AND PROCESSES

General Objectives: The pupil will:

1. acquire basic skills in the use of tools and processes
2. apply basic skills in the use of tools and processes in making artefact
3. acquire the skills of making items in sheet metalwork

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 CUTTING TOOLS	The pupil will be able to: 2.1.1 describe the bolster. 2.1.2 use the bolster correctly.	Description of the bolster Using the bolster for cutting bricks.	Show bolster and help pupils to describe it. Demonstrate how to cut bricks with the bolster for pupils to practice	Pupils to cut bricks using the bolster.
UNIT 2 LAYING TOOLS	2.2.1 identify the laying tools. 2.2.2 use the laying tools correctly .	Laying tools: - trowel - float - gauge rod - straight edge - spirit level. - mortar board Using the laying tools	Show laying tools and assist pupils to identify them. Demonstrate how to use the laying tools and help pupils to practise	Pupils to identify laying tools Pupils to practice the use of the tools

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 SETTING-OUT A STRAIGHT WALL	The pupil will be able to:			
	2.3.1 prepare an area for setting-out a straight wall.	Preparing an area for setting-out a straight wall.	Demonstrate how to: - prepare the area - arrange materials and tools correctly. - set-out the position of the wall.	Pupils to prepare an area for setting-out. Pupils to set out the position of the wall.
UNIT 4 WALLING	2.3.2 set out correctly the position of a wall.	Setting-out a wall	Demonstrate how to set-out the wall using the appropriate tools and materials.	
	2.4.1 prepare clay mortar	Preparation of clay mortar	Demonstrate how to prepare the clay mortar by mixing the clay with water	Pupils to lay a two- course wall
UNIT 5 FASTENINGS	2.4.2 lay bricks correctly.	Laying the bricks.	Demonstrate how to: - pick and spread mortar in position - lay the end bricks - plumb, level, gauge and lay bricks - check alignment - use the correct bonding to complete the first course - check alignment finally - fill in joints - use the correct bonding to complete the second coarse.	Project work: Pupils in groups to design and construct a sign post for their school.
	2.5.1 identify fastening tools, devices and materials	Fastening tools, devices and materials: - soldering bit - soldering stove - bolts and nuts - screws - soft solder - nails - rivets - flux	Show fastening tools for pupils to identify Display fastening devices and materials for pupils to identify.	List the fastening tools Name the fastening devices and materials.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 5 (Cont'd) FASTENINGS	<p>The pupil will be able to:</p> <p>2.5.2 state the uses of the fastening tools, devices and materials</p> <p>2.5.3 list temporary and permanent joints.</p> <p>2.5.4 assemble pieces of work together</p>	<p>Uses of fastening tools, devices and materials;</p> <ul style="list-style-type: none"> - soldering bit/stove for providing heat - flux for cleaning work pieces - soft solder used for joining metal <p>Temporary joints :</p> <ul style="list-style-type: none"> - bolts and nuts - screws <p>Permanent joints:</p> <ul style="list-style-type: none"> - glueing - soft soldering etc. <p>Fastening materials together :</p> <ul style="list-style-type: none"> - metal to metal - metal to wood - wood to wood - plastic to plastic - wood to plastic etc. 	<p>Discuss uses of fastening tools, devices and materials with pupils.</p> <p>Display objects and discuss the methods of jointing.</p> <p>Demonstrate the various methods of joining pieces of work together. Pupils to practise.</p> <p>Organize visits for pupils to visit electrical/electronic, woodworking, metalwork and plastic workshops.</p> <p>-Pupils to write group reports after visits.</p>	<p>Pupils to state the uses of fastening devices, tools and materials</p> <p>Pupils to list temporary and permanent joints.</p> <p><u>Project work:</u> Pupils in groups to design and construct an artifact using appropriate fastening devices.</p> <p>Pupils to display their finished products.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 6 SHEET METALWORK	The pupil will be able to:			
	2.6.1 identify tools for soft soldering	Tools for soft soldering: <ul style="list-style-type: none"> - soldering iron - folding bar - funnel stake - a pair of snips/shear 	Assist pupils to identify tools for soft soldering.	Pupils to list sheet metal work tools.
	2.6.2 select appropriate materials for soft soldering	Materials for soft soldering: <ul style="list-style-type: none"> - sheet metal - soft solder - flux. 	Assist pupils to select soft soldering materials. -Demonstrate how to use the materials.	Pupils to identify materials for soft soldering.
	2.6.3 select appropriate joints.	Joints: <ul style="list-style-type: none"> - lap joint - butt joint - grooved joint 	Help pupils to select appropriate joints.	
	2.6.4 make the selected joints		Demonstrate how to make the selected joint for pupils to practice	Pupils to practise how to make the joints.
	2.6.5 construct an artefact.	Construction of an artefact.	Assist pupils to design and construct artefact in sheet metalwork.	<u>Project work:</u> Pupils in groups to design and construct an artefact in sheet metalwork using the joints.

JUNIOR HIGH SCHOOL 3

SECTION 3

BASIC ELECTRICAL AND ELECTRONICS

General Objectives: The pupil will:

1. acquire the skills of using electrical and electronic components
2. apply the skills of using electrical and electronic components

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 BASIC ELECTRICAL CIRCUITS	The pupil will be able to:			
	3.1.1 list the components of a simple electrical circuit.	Components of electrical circuit : - dry cell/battery - switch - bulb/lamp - connecting wire	Assist pupils to identify electrical components listed in the content.	Identify electrical components
	3.1.2 identify electrical conductors and insulators	Electrical conductors and insulators. Conductors: - copper wire, aluminium Insulators: - PVC, asbestos	Discuss some examples of electrical conductors and insulators.	<u>Project work:</u> Design and construct a simple electrical circuit involving a battery, a switch, and a motor. Use the motor to power your artefact.
UNIT 2 BASIC ELECTRONIC CIRCUITS	3.1.3 construct simple circuit from circuit diagrams	Constructing simple circuits from circuit diagrams	Help pupils to construct a simple electrical circuit from circuit diagrams involving bulbs based on the number of cells and bulbs.	<u>NOTE:</u> Prepare a design folio to go with your project.
	3.2.1 construct electronic circuit in series and in parallel	Construction of electronic circuits using: - capacitor - inductor - diode - LED etc.	Assist pupils to construct a circuit comprising a switch, an inductor, capacitor, a diode and an LED. Let pupils connect the inductor and capacitor in parallel and the LED in series. Assist pupils to connect a battery and switch on. <u>NOTE:</u> pupils to record their observations on the effects of the LED.	<u>Project work:</u> Pupils to design and construct circuit using combinations of inductor and capacitor to produce a detector for detecting metallic objects.

RECOMMENDED TOOLS

METALWORK	WOODWORK	BLOCKWORK/BRICKWORK
<ol style="list-style-type: none"> 1. Inside callipers 2. Outside callipers 3. Try square 4. Scriber 5. Centre punch 6. Dot punch 7. Hack saw 8. Rasp file 9. Flat file 10. Triangular file 11. Hand file 12. Round file 13. Square file 14. Snips/shears 15. Straight pein hammer 16. Ball pein hammer 17. Cross pein hammer 18. Rule/tape measure 19. Dividers 20. Rawhide mallet 21. Screwdrivers 22. Folding bar 	<ol style="list-style-type: none"> 1. Folding rule/tape measure 2. Marking gauge 3. Dividers 4. Crosscut saw 5. Tenon saw 6. Firmer chisels 7. Jack plane 8. Smoothing plane 9. Brace and bits (Auger) 10 Hand Drills and Twist Drills 11. Woodworker's vice 12. G-clamps 13. Screw drivers 14. Pincers 15. Try square 16. Warrington hammer 17. Claw hammer 18. Mallet 	<ol style="list-style-type: none"> 1. Folding rule 2. Measuring Tape 3. Line and Pins 4. Builder's Square 5. Bolster 6. Head pan 7. Trowel 8. Shovel 10. Spade 11. Pick Axe 12. Spirit level 13. Gauge Rod 14. Float (steel/Wood) 15. Club hammer 16 Mortar Board

RECOMMENDED MATERIALS

METALWORK	WOODWORK	BRICKWORK	PLASTICS	BASIC ELECTRICALS/ELECTRONICS
1. Mild steel	1. Wawa	1. Cement	1. P.V.C.	1. Copper Wire
2. Aluminium	2. Odum	2. Stone	2. Nylon	2. Aluminium
3. Copper	3. Mahogany	3. Clay	3. Perspex	3. P.V.C
4. Lead	4. Contact glue	4. Sand	4. Formica	4. Asbestos
5. Tin	5. P.V.A. glue	5. Lime	5. Polyester Resin	5. Dry cell/Battery
6. Brass	6. Lacquer	6. Laterite	6. Bakelite	6. Switch
7. Bronze	7. Thinner	7. Emulsion Paint		7. Bulb
8. Soft Solder	8. Brushes 36mm & 100mm	8. Oil Paint		8. Connecting Wire
9. Cast iron	9. Glass paper	9. Enamel paint		9. Capacitor
10. Emery cloth	10. Nails	10. Turpentine		10. Inductor
11. Medium Carbon Steel				11. LED
12. Flux				12. Diode
13. Soldering Sheet				

RECOMMENDED DRAWING INSTRUMENTS AND MATERIALS

- | | |
|-------------------------------|---------------------------|
| 1. Drawing Board | 8. Pencils H, HB, BB |
| 2. T'Square | 9. Eraser |
| 3. A pair of compasses | 10. Drawing sheets A3/A4 |
| 4. A pair of dividers | 11. Drawing clips |
| 5. Set square 45 ⁰ | 12. Rule 300mm |
| 6. Set square 60 ⁰ | 13. Square grid sheets |
| 7. Protractor | 14. Isometric grid sheets |

NOTES TO THE TEACHER

TECHNICAL DRAWING

Introduction to free hand sketching:

- a.
 - i. Introduce pupils to the isometric grid paper
 - ii. Introduce pupils to various solid geometrical figures; the square prism, the rectangular prisms, cylinders. Use the isometric grid paper to help pupils draw the above objects in the isometric.
- b. Introduction to the isometric Principle.
 - i. draw the isometric axes
 - ii. explain the isometric axes
 - iii. relate the isometric axis to a sample. e.g.
 - a cube
 - a match box
 - or
 - a rectangular block of wood
- c. Introduction to Orthographic Projection
 - i. the principal planes
 - ii. the principal planes are: the horizontal plane,
the vertical plane and
the side vertical plane
- d. Draw the three views of a cylinder.

Development of Surfaces

- 1. Introduction to surface development

the cone
the square
the cylinder

- a) use the orthographic principle to draw the front elevation and plan of the following objects:

- a) a cone
- b) a square prism
- c) a cylinder

Cutting Tools

The plane: The plane is for removing excess wood from timber
The jackplane: for removing thick excesses,
The smoothing plane: for smoothing wood surfaces

Files: Hand files are for removing excess metal from work pieces.

Types: there are various types. Typically, the flat and the hand files.

Files may be rough cut, second cut or smooth cut.

Files should never be used without a handle.

Holding Tools: These are equipment/tools for holding work pieces while work like drilling, filing, planning or chiseling is done on it.

There are various types. The most common are:

- a. Engineer's bench vice: used mostly by engineers
- b. Woodworker's bench vice: used mostly by woodworkers
- c. G. clamp – used by wood workers
- d. Folding bar – used by sheet metal workers.

Removing and Driving Tools: These tools are for removing or driving out nails.
The basic types are: screw driver, pincers and crow bar.

Striking tools: These are mainly for striking other tools and equipment.
Examples are: wooden mallet; raw hide mallet and plastic mallet.

- ii. Hammers e.g. Claw hammer, ball pein hammer and brick hammer.

Wooden mallets: For giving light strikes on work that should not be dented

Raw hide mallet: For light strikes on finished metal work exercise

Plastic mallet: same use as raw hide mallet.

Hammers: Claw hammer – hits and pulls not nails

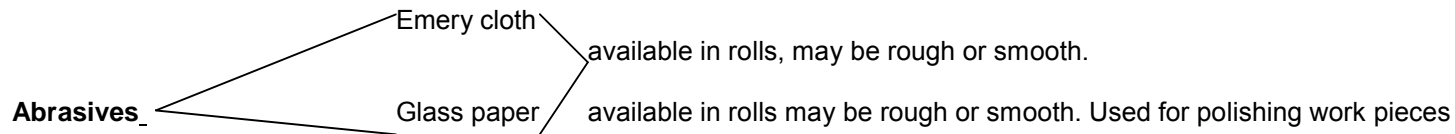
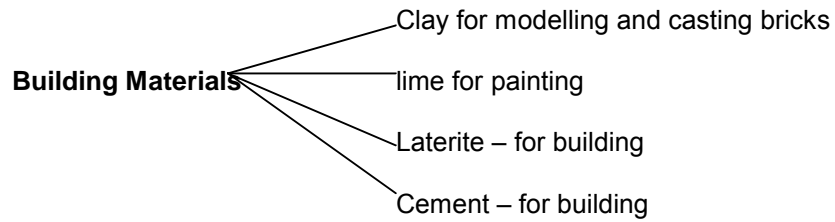
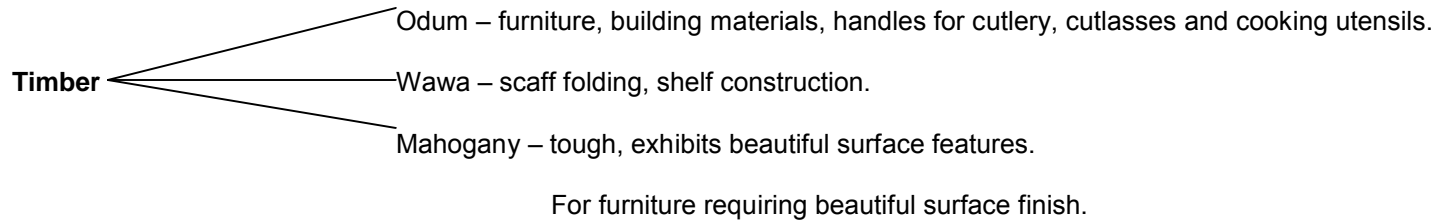
Ball pein hammer:- pein for riveting work and face for hilding purposes.

Brick hammer- for cutting bricks.

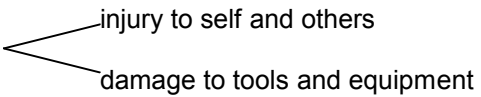
Metals: Ferrous – low carbon steel and Non-ferrous metals e.g., aluminium and copper

Obtain scrap metal pieces and prepare them for use as metal corners.

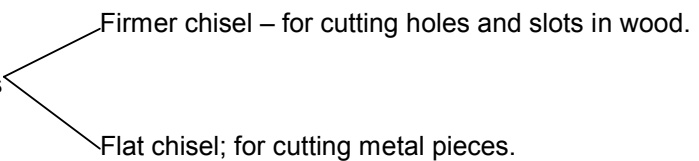
Use scrap metal for toys, toy vehicle parts and coal pots.



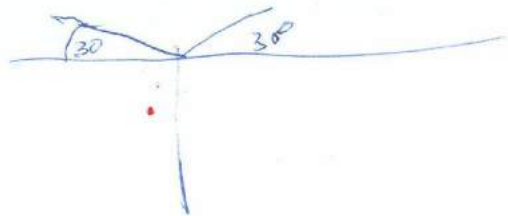
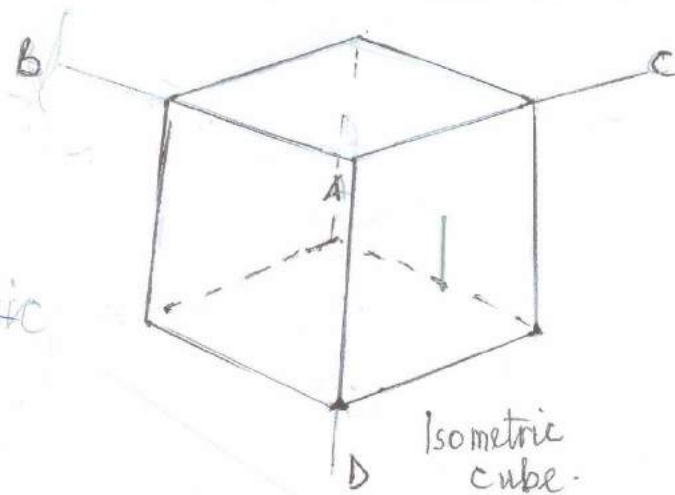
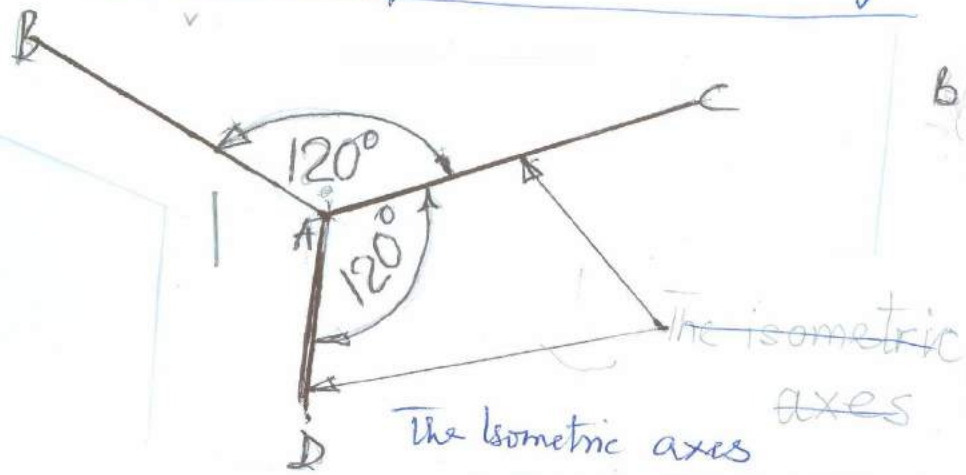
Tools and Processes

- a. **Safety** 
- injury to self and others
 - damage to tools and equipment

observe the following while you work:

- i. handle tools with care
 - ii. do not spill oil on the workshop floor
 - iii. protect your self,
 - iv. clean tools, oil them and pack them away after each days use.
 - v. handle all tools with care.
- b. **Safety to self:** - wear goggles, aprons/over coats,
- wear boots, helmets and gloves,
- Cutting Tools:** a. Hacksaw – for cutting metals
Parts; it has the frame and the blade. There is a smaller one called the Junior Hacksaw.
- c. **Crosscut saw:** commonly used by woodworkers for cutting wood.
- d. **Chisels** 
- Firmer chisel – for cutting holes and slots in wood.
 - Flat chisel; for cutting metal pieces.

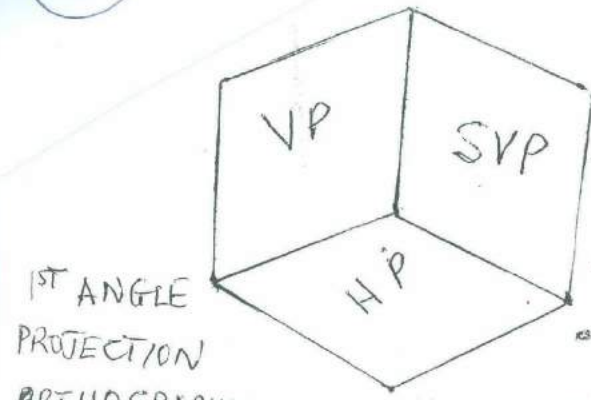
Introduction to free hand sketching.



(b)

Page 1

(b)



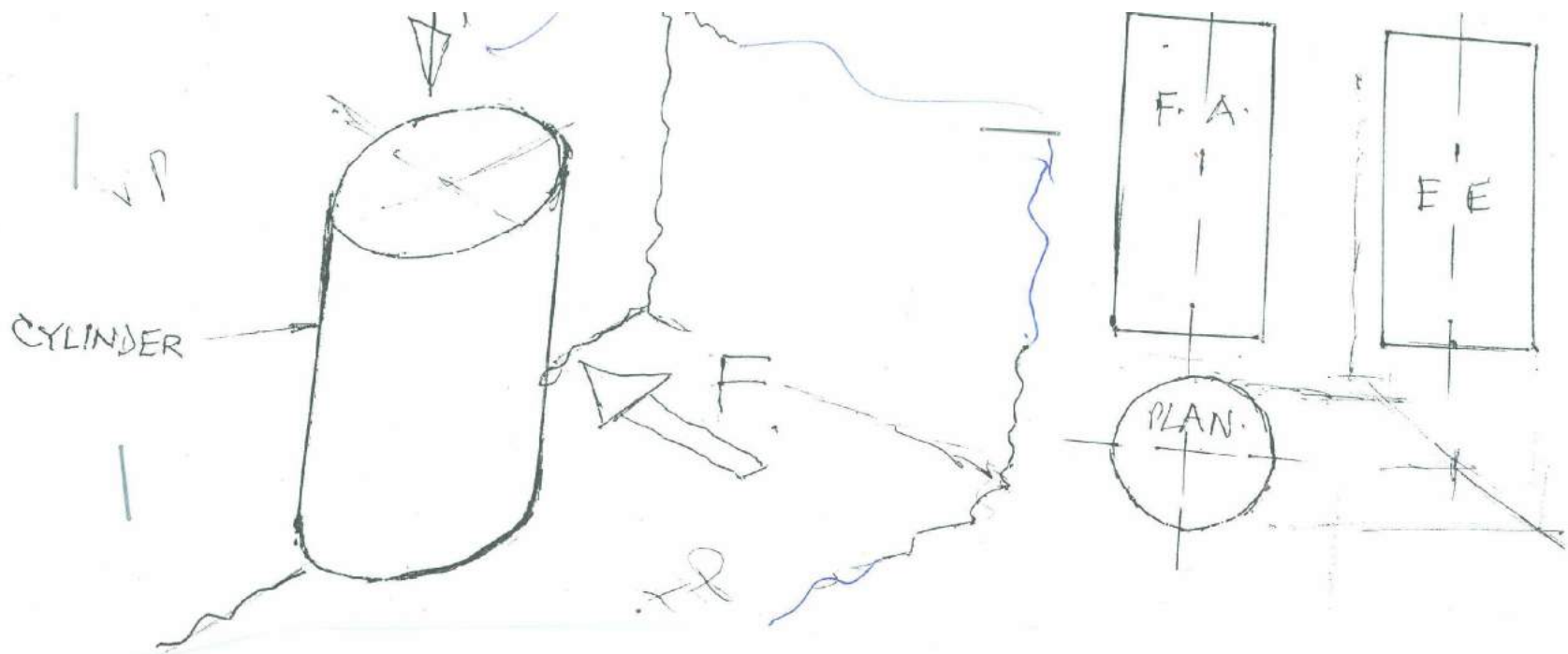
1ST ANGLE
PROJECTION
ORTHOGRAPHIC

The principal planes are

- the vertical plane - V.P.
- the horizontal plane - H.P.
- the side vertical plane - S.V.P.

page 1

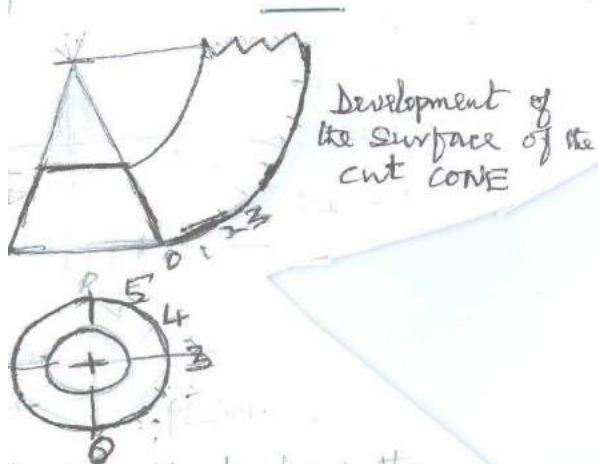
Introduction to Orthographic Projection.
The principal planes.



* The three views of a cylinder.

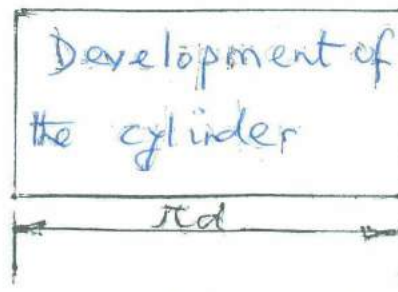
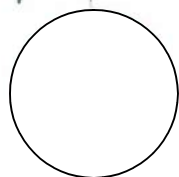
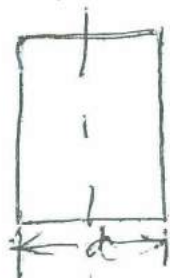
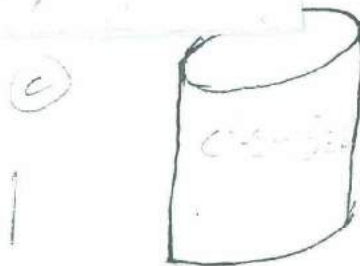
page ①

Introduction to surface development



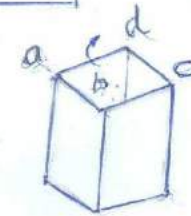
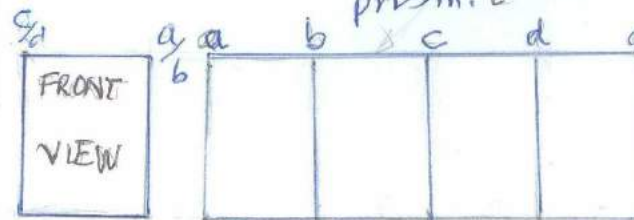
Development of the surface of the cut cone

Guide pupils to draw the development of the surface using the two views.



Draw the three views

Surface development of a square prism.



4

pag 2

BASIC DESIGN AND TECHNOLOGY

VISUAL ARTS

BASIC DESIGN AND TECHNOLOGY – VISUAL ART OPTION

SECTION 1: VISUAL COMMUNICATION

General Objective: It is expected that by the end of the year the pupil will:

1. analyze and appreciate the social, cultural and economic importance of visual communication to the society.
2. apply understanding and skills in Basic Design and Technology (BDT) to perform tasks in visual communication.
3. acquire basic skills in pre-imaging, designing and making items to solve individuals problems through visual communication.
4. demonstrate responsible and moral behaviour, safe and sustainable use of tools, material and equipment.
5. respond and contribute to discussion, appreciation and evaluation of end products.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Importance of Visual Communication	The pupil will be able to: 1.1.1 explain the social cultural and economic importance of visual communication	Socio-Cultural Importance of Visual Communication Items/Products: <ul style="list-style-type: none"> - show identity and direction - protect goods, inform, educate, entertain, persuade - express, record ideas, sceneries, events, activities, flora and fauna, portraits, murals (wall painting e.g. in Sirigu) from memory, imagination and observation. - serve as therapy - promote, transmit and preserve our culture: item/products such as: posters, paintings, drawings, illustrations, cartoons, mosaic, collage, animations, billboards, stickers, emblems, trade marks, coat-of-arms, stamps, currency, trademarks, packages, labels, gift/good wrappers, computer art - careers/Job opportunities: illustrators, designers, advertisers, animators, painters, typographers, sign writers, print makers, cartoonists, calligraphers, computer graphicartists, stage designs etc. 	Lead pupils to brainstorm and discuss the concept; “visual communication” and the socio-cultural and economic importance of visual communication showing examples and samples where possible. Pupils to look for additional information from practitioners, library, internet for further group and class discussion and compilation of notes.	Is the pupil able to: <ul style="list-style-type: none"> - explain the socio-cultural and economic importance of visual communication? - look for additional information to prepare notes and contribute to class discussion?

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 Tools/Equipment Materials and Techniques	1.2.1 explain and determine the safe, responsible uses and characteristics of tools, materials and techniques	<p>Characteristics: water/oil based, hard, soft, hand/electrically powered, metal, wood, animal, plant source, toxic, poisonous, kept and used dry, wet/fluid etc.</p> <p><u>Tool/Equipment</u>: brushes, pen, pencils, knife, palette, scissors, ruler, ribs, eraser drawing instruments, computer and accessories, cutters/trimmers, French curves etc.</p> <p><u>Materials</u>: paper, card, colour, ink, fabric, board, oil paint, crayon, pastel, materials from plants, animals, mineral sources e.g. shells, bark of trees, sawdust, seeds, leaves, scrap pottery and ceramic materials etc.</p> <p><u>Uses</u>: for drawing, painting, lettering designing, cutting pasting, mixing, shading etc.</p>	<p>Assist pupils to identify, examine and discuss the safe, responsible and sustainable uses, of required tools, equipment and materials.</p> <p>Pupils to explore, handle, test and determine the characteristics of the tools, equipment and materials in performing relevant tasks and activities.</p> <p>NOTE: Organise field/educational trip when or if necessary.</p> <p>Observe and commend pupils who show responsible, safe and sustainable ways of using tools, materials and equipment.</p> <p>Skills: identifying, examining, analyzing, describing, handling, determining etc.</p> <p>Values: sharing, responsible use of tools materials etc.</p>	<p>Is the pupil able to:</p> <ul style="list-style-type: none"> - identify and state the use of tools, material and equipment? - handle the tools, materials in a safe and responsible way? - determine the characteristics of tools, materials and equipment?
UNIT 3 Making Items by Composing	1.3.1 compose and make a picture to communicate ideas and messages for a purpose	<p>Composition of pictures by applying knowledge and principles of design to communicate ideas and messages. Problem areas: messages to solve individual needs/problems of: self-expression, recording ideas, events, communication, education, food, health, clothing, shelter, disease, decoration, showing concern, love, etc.</p> <p><u>Techniques/Skills</u>: Drawing and illustration/cartooning in outline, shading, collage, mosaic and photo montage; drawing, mixing and painting in tint, shades, tones of plants, animals, sceneries from memory, imagination, observation etc.</p> <p><u>Tools/Materials/Equipment</u>: for composing, designing, drawing, painting, cutting, pasting etc.</p>	<p>Lead pupils to identify, brainstorm and discuss a problem/need.</p> <p>Pupils to pre-image a problem and decide on the solution by applying the Design and Technology skills and process.</p> <p>Demonstrate the various techniques in Designing, composing, and making an item in visual communication e.g. using appropriate techniques tools and materials.</p> <p>Pupils to identify, investigate and reach a solution to satisfy the need by determining what Design and Technology skills to use.</p> <p>Pupils to design and make an item to satisfy the purpose.</p> <p>Pupils to display items for appreciation and evaluation.</p>	<p>Assess the ability of the pupil to apply knowledge and skills in:</p> <ul style="list-style-type: none"> - composing a picture using elements and principles of design - composing a picture to satisfy a need using appropriate techniques and materials.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 (CONT'D) Making Items by Composing Layout designing, lettering and spacing	1.3.2 make an item by using knowledge and techniques in layout designing, spacing and freehand lettering	<p>Making items using layout designing, spacing and freehand lettering.</p> <p>Formats: Landscape and portrait</p> <p>Layout: e.g. Asymmetrical, symmetrical (informal and formal) using elements and principles of composing and designing.</p> <p>Type faces: Serif and San Serif e.g. Roman, gothic/block letters, Italics, decorative and others,</p> <p>Characteristics of letters formed by: e.g. Straight, curved, circle horizontal, vertical, oblique lines: bold, condensed, upper case, lower case etc.</p> <p>Spacing: e.g. mechanical, optical spacing.</p> <p>Practical application of knowledge and skills in layout designing, spacing of letters and words, characteristics of letters, typefaces to do freehand lettering by:</p> <ul style="list-style-type: none"> - labeling individual items and places in the environment - spreading information to individuals using slogans, wise sayings. 	<p>Lead pupils to discuss the significance of formats, layout, typography/typefaces or letters and spacing in visual communication using relevant samples.</p> <p>Pupils to group and present report on the importance and characteristics of typefaces and layout in visual communication.</p> <p>Demonstrate, with the help of illustration, relevant tools, equipment and materials, various layout, lettering and spacing techniques.</p> <p>Pupils to identify a problem use DTS to design and make items to solve it.</p> <p>NOTE: Pupils to explore and use ICT/computer (where available) to perform required tasks in: typefaces/fonts identification and characteristics.</p> <ul style="list-style-type: none"> - layout designing - spacing of letters words. <p>Pupils to display their works for appreciation evaluation and improvement.</p> <p><u>Skills:</u> creativity, designing, spacing, lettering, visual communication, appreciation, evaluation, etc.</p> <p><u>Values:</u> sharing of ideas, self-discipline, independence concentration. honesty, etc.</p>	<p>Is the pupil able to participate actively in group work and presentation?</p> <p>Is the pupil able to:</p> <ul style="list-style-type: none"> - apply knowledge and skills in Basic Design and Technology (BDT) layout, designing, lettering and spacing to make an item that communicates to individuals? - make an item that highly satisfies criteria of originality craftsmanship and design? - respond to end products through appreciation self-evaluation? - tolerate others, give and take during evaluation of works?

JUNIOR HIGH SCHOOL 1

BASIC DESIGN AND TECHNOLOGY – VISUAL ART OPTION SECTION 2 WEAVING AND STITCHING

General objectives: It is expected that by the end of the year the pupils will:

1. develop their basic design and technology capabilities through the:
 - performance of tasks, assignments/projects in which they apply core skills in designing and making items by weaving and stitching .
 - use of tools, materials and equipment in a safe, responsible and sustainable way.
2. recognise the cultural, social and economic importance of weaving and stitching.

Information To The Teacher

The art of weaving and stitching has been used by from time immemorial by human beings in every society to satisfy their needs. Simple hand tools and available materials were used to design and make items of aesthetic and functional value, for example, clothing, baskets, mats, hats, nets, shoes, bags, thatched roofs and fences. In Ghana, several items are being produced by weaving, stitching and other techniques such as plaiting, knotting, coiling and stitching using the hand or equipment in the form of loom or machine.

Available materials in almost every community for weaving or stitching include canes, straw, bamboo, skin or leather, fabric, yarns, bulrush branches and leaves from palm trees (oil, fan, date and raffia palms) screw pine or pandanus. The weaving of kente fabric, straw baskets, bulrush bags as well as the stitching of fabric and leather items have preserved and promoted our culture and provided job and income to many people.

There is now the need to design and make quality products to satisfy our needs and also compete with other cultures in the world.

The art of weaving and stitching can be practiced by anybody; the young, old, men, women, boys, girls, physically challenged in a school, rural or urban area. This section, has been designed to provide the learner with broad basic skills in designing and making items with or without the loom or machine. In practice, the pupil should apply the core knowledge and skills in Basic Design and Technology.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Importance of Weaving And Stitching	The pupil will be able to: 2.1.1 explain the scope, social economic and cultural importance of weaving and sewing in Design, Technology and Society.	Scope Social, Cultural and Economic importance of weaving and sewing, design, technology and society. 1. Woven and Sewn Items - (a) Clothing and accessories: kente, smock, shirt, school uniform, shoes, hats, etc. (b) Furnishing – curtains, carpets, doormats, cushion covers, etc. (c) Household – baskets, sieves, bags, purses, furniture, serving rays, fan, etc. (d) Medical – lint, gauge, bandage, etc.	Lead pupils to brainstorm and discuss the concepts of weaving and stitching. Pupils to write down their understanding of the concept with examples of items. Lead pupils to brainstorm and discuss the scope, cultural, social and economic importance of weaving, stitching of products. Pupils to search for additional information from the community, library or internet (if available).	Pupils to: find out and report in class for discussion, types and uses of woven and sewn items at home. find out the views of practitioners about stitching/weaving in the social, cultural economic life of him/herself and society in general.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (Cont'd) Importance of Weaving And Stitching		<p>2. Cultural: identity from indigenous symbols, patterns, colours, shapes; uses by chiefs, queens, for rites, ceremonies, funerals, outdooing, marriages.</p> <p>3. Social: Dressing for occasions, identity, status as souvenirs, gifts.</p> <p>4. Economic: jobs/vocation, income, poverty alleviation, tourist, domestic and export trade, industries.</p> <p>5. Importance to Design and Technology: critical thinking, problem-solving and creative skills in designing and making items using available materials for socio-economic development.</p> <ul style="list-style-type: none"> developing talent for further vocational education training. <p>Some basketry weaving and leather sewing places: - Bolgatanga, Enyiresi, Kumasi, Accra, Keta.</p>	<p>Pupils to search for additional information from the community, library or internet (if available).</p> <p>NOTE: Educational trips can be organized to practitioners or centres engaged in basketry, cane furniture and leather work production for observation and gathering of relevant information.</p> <p>Sills; listening, verbal and written communities, analyzing explaining.</p> <p>Values: sharing, tolerance, etc.</p>	<p>Search and write a report on social and economic importance of stitching and weaving.</p> <p>Draw a map and locate areas where stitching and weaving of items are practiced in Ghana.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 Characteristics of Tools and Materials	The pupil will be able to: 2.2.1 identify and determine the characteristics of suitable tools and materials for making items by weaving and stitching	Identifying and Determining the characteristics of suitable tools and materials for making items by weaving and stitching. 1. Possible characteristics: soft, tough, rigid, flexible, pliable, brittle, smooth, rough, thin, thick, dry fresh etc. 2. Determining characteristics by exploring, testing, experimenting through – bending, sun-drying, splitting, rolling, twisting, reeling, soaking, cutting, stretching, singeing, (burning), heating etc. <u>Materials:</u> cane, straw, bulrush, raffia, date, fan palm rachis, leaves, screw pine cords, paper, card, etc, <u>Tools:</u> knife, bodkin, needle pliers, shears, cutlass scraper, hacksaw etc.	Pupils to identify and bring different materials to class prior to this lesson. Display the materials and lead pupils to identify and discuss the uses characteristics of tools and materials suitable for making items by various techniques e.g. weaving, sewing/stitching, plaiting, coiling and stitching, knotting etc. and experiment to determine their characteristics and record them.	Pupils in groups: <ul style="list-style-type: none"> prepare a chart showing materials, their names, uses, characteristics and sources. identify and prepare available materials in the locality for storage and use.
	2.2.2 prepare materials and store for use.	Preparation of materials from sources such as plants e.g. sisal, cane, bulrush, cotton, Animals – skin, leather Minerals – nylon Others – plastics, wire. Methods for preparation e.g. sun-drying, peeling, splitting, scraping, beating, soaking, retting, tanning, rolling, twisting, smoothing, liming, carding, spinning.	Lead pupils to identify and discuss the uses of various materials for weaving and stitching/sewing. Demonstrate how to prepare and store them for use e.g. leather, palm leaves, straw, bulrush, cane, bamboo. NOTE: Some materials can be procured from suppliers which are already prepared for use e.g. cords, yarns, thread, cord. Skills: identifying, determining, preparing, experimenting, analyzing, observing, verbal and written communication. <u>Values:</u> sharing, tolerance, respect and responsible behaviour, etc.	Is the pupil able to prepare and store materials using appropriate knowledge and skills?

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 Designing and Making of Items	<p>The pupil will be able to:</p> <p>design and make an item to satisfy a need by using appropriate tools, equipment and materials.</p>	<p>Designing and making an item to satisfy a need.</p> <p><u>Needs/Problems</u> e.g. individual in terms of dressing. containers for storing and carrying of food, room decoration, shopping, marketing, body decoration, cooking etc.</p> <p>Suggested techniques/skills in making items: - off-loom/hand weaving by pairing, randing, upsetting, plaiting, coiling, stitching and knotting</p> <p><u>Tools</u>:- knife, cutlass, bodkin etc.</p> <p><u>Materials</u>: – paper, cord, cane, raffia, date, fan, straw, palm leaves etc.</p>	<p>Lead pupils to identify and discuss a need or problem.</p> <p>Lead pupils to discuss various stages of Design and Technology.</p> <p>Demonstrate various techniques in making an item e.g. weaving, plaiting, knotting, coiling and stitching for pupils to observe.</p> <p>Pupils to apply knowledge and skills in Design and Technology to solve an identified problem i.e. identifying, defining/explaining the problem, suggesting solution, pre-imaging, designing, selecting and using tools materials techniques to make an item and evaluate.</p> <p>Pupils to display finished items for appreciation appraisal.</p> <p><u>Values</u>: Self-control/discipline, tolerance, perseverance, etc.</p>	<p>Is the pupil able to:</p> <ul style="list-style-type: none"> - apply knowledge and skills in design and technology to satisfy with an item by <ol style="list-style-type: none"> a. weaving? b. Plating? c. coiling and stitching? d. knotting?

JUNIOR HIGH SCHOOL 1

BASIC DESIGN AND TECHNOLOGY – VISUAL ART OPTION SECTION 3 MODELLING, CASTING AND CARVING

General objectives: it is expected that by the end of the year the pupil will:

1. recognize and appreciate the socio-cultural and economic importance of modelling casting and carving.
2. recognize the characteristics (limitations and strengths) of tools, equipment and materials for modelling, carving and casting.
3. develop skills in the safe, responsible and sustainable use of tools, equipment and materials.
4. develop basic skills in design, technology casting modelling and carving to solve problems of individuals
5. demonstrate observable human and moral values.

Information for the Teacher about this SECTION.

The section has been designed for pupils to develop competencies in Modelling, Casting and Carving. Pupils should be guided to understand that Modelling enables one to create items with materials that are soft enough to be added on in bits, while shaping is done by gently pressing and turning parts to get a desired form. Similarly, in casting, items are made by either pressing out a form from a mould, or pouring the material in its liquid form (slip) into the mould and allowing it to take the shape of the mould by forming in the mould. On the other hand in carving, one uses special tools to create items by gradually cutting away some parts of a material, such as wood, to form a desired shape.

Today's technology makes use of Modelling, Casting and Carving to solve life's problems; e.g. car parts, electrical fitting and commemorative items have been made by modelling, casting and carving. Pupils should therefore be guided to reason out freely and use their imagination with skills acquired to design and produce items by modelling, casting and carving to solve their own problems, as well as other people's and problems of the nation. Pupils' awareness must be drawn to the rich resources available in the Ghanaian environment and be made to use them. They should be assisted to create their own tools, incorporate cultural elements and computer generated designs in the items they produce. Emphasis in this section should be laid on designs, planning, making and evaluating processes and end products in modelling, casting and carving.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT1 Importance of Carving Modelling and Casting	The pupil will be able to: 3.1.1 analyse and explain the social, cultural and economic significance of modeling, casting and carving	Social, cultural and economic importance of carving, casting and modeling <ul style="list-style-type: none"> - indigenous and contemporary modelled, carved and cast items have cultural, functional aesthetic and economic values. - they promote and preserve Ghanaian culture - functional and decorative forms/items include: masks, stools, swords, figurines, statues and statuettes, gold weights (lost wax), chiefs regalia linguists staff, umbrella top, pottery and ceramic bowls, pots, coolers, musical instruments, clay and glass beads, tiles vases, souvenirs etc. 	Assist pupils to brainstorm and discuss the meaning of concepts "carving" "modeling", and "casting". Guide pupils to discuss the social, cultural and economic importance of modelling, carving and casting, shocking illustration, pictures, real samples if possible NOTE: organise educational trips for observation and collection of relevant date.	Is the pupil able to: <ul style="list-style-type: none"> - demonstrate understanding of the concepts, through verbal explanation and writing?

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 Making Decorative and Sculptural Items In Relief or in the Round	<p>The pupil will be able to:</p> <p>3.3.1 design and make a decorative and sculptural item for a purpose</p>	<p>Designing and making decorative, functional and sculptural item for individual, social, cultural purpose using appropriate techniques</p> <p><u>Techniques/Skills:</u></p> <ul style="list-style-type: none"> - modeling, pinching, coiling, slabbing, drying, firing etc. - casting using existing objects as mould and making simple hump (drape over) and hollow (press in) mould etc. <p>Carving – in relief or in-the-round</p> <p>Designing/composing and making realistic and abstract forms e.g. human, animal, fruits masks, wall hangings.</p> <p>Problem area: individual and others' need for decoration, clothing, catering, recreation, presentation as gift/prize/award/greeting on occasions, anniversaries, birthday, wedding, success, sympathy, etc.</p> <p><u>Tools /Equipment and materials:</u> for modeling, carving and casting etc.</p> <p><u>Items:</u> beads, calabash, gourd carvings, jewel boxes modeled containers, cups, vases, masks, figurines, statuettes, wall hangings, etc.</p>	<p>Guide pupils to identify and discuss individual need or problem</p> <p>Pupils to pre-image a problem for an individual and decide on the solution by applying Basic Design and Tech (BDT) skills.</p> <p>Demonstrate the various techniques in forming/making an item using appropriate tools, materials and equipment.</p> <p>Pupils to design and use BDT procedure and other appropriate techniques to make an item that satisfies the need.</p> <p>Observe and assess pupils as they perform various tasks in terms of:</p> <ul style="list-style-type: none"> - right conduct and attitude in relation with others - safe use of tools and materials - ability to solve problems with little or no assistance. - Pupils to organize and exhibit their works for appealing and evaluation and appreciation. <p>Values; diligence, perseverance self-control/discipline, tolerance, contentment etc.</p>	<p>Is the pupil able to:</p> <ul style="list-style-type: none"> - identify and apply BDT to design and make an item that solves the problem? - pre-image and develop ideas for the design and making? - use the design/model to make the item? <p><u>Project:</u></p> <p>Pupil to design and make an item as a prize for the best behaved pupil in the class.</p>

JUNIOR HIGH SCHOOL I

BASIC DESIGN AND TECHNOLOGY – VISUAL ART OPTION CONSTRUCTION AND ASSEMBLAGE SECTION 4

General objectives: it is expected that by the end of the year, the pupil will:

1. recognize the socio-cultural and economic importance of construction and assemblage as a means of creating artifacts and useful items to satisfy needs.
2. develop skills in putting together and constructing a variety of forms using appropriate tools/equipment, materials and processes.
3. develop basic knowledge and skills in appreciating and evaluating processes and end-products for correction and improvements.
4. recognise the limitation and strengths of tools, materials and equipment and use them appropriately, safely and sustainably.

Information for the Teacher about this SECTION

Construction and assemblage are activities in which materials of different shapes and forms are joined together to create new forms by tying, welding, soldering, gluing, nailing etc. using appropriate tools/equipment and materials. Construction and assemblage consist of building or composing forms using plant material, such as seed, wood, fibre, sawdust, straw etc; animal material, such as hair, feather bone shell, leather, tooth, and assorted materials such as polythene, wire, clay, and plastics. This section also includes Paper Making, Book Binding and basic concepts in recycling. In all activities, pupils should be made to understand that they can think, design, select appropriate tools and materials and make items by assemblage and construction to solve problems or satisfy needs.

The bulk of the work in this section is practical. Therefore it is important to refer to Table 4.1 which details possible sources of problems, skills/processes and Techniques, Tools/Equipment and their possible uses.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Importance of Construction and Assemblage	The pupil will be able to: 4.1.1 explain the socio-cultural and economic importance of construction and assemblage	Social, cultural and economic importance of construction and assemblage and its significance to indigenous and contemporary practices in construction and assemblage. <ul style="list-style-type: none"> - For self-expression, self-reliant sustainable creative activity using available materials. - Recycling of scrap materials for making items of aesthetic, cultural and functional value. - Artifacts to satisfy individual, community and national needs; tourist and export trade. Practical applications: Real and abstract forms e.g. toy animals human forms that can be manipulated or moved by hand, electric/dry/cell power), puppets; musical instruments, marionettes, toy machines, gadgets; dolls, kites, stables, mobiles, packages, pen/pencil cases jewellery boxes books, (including pop-ups), artificial flowers, origami items, toy houses, equipment, instruments etc.	Guide pupils to brainstorm and discuss the meaning, socio-cultural and economic importance of construction and assemblage. Discuss the importance of construction and assemblage as a medium for creative thinking, designing, making and evaluation of items that solve a need/problem.	Can the pupil state the socio-cultural importance of construction and assemblage?

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 Tools, Materials and Equipment	<p>The pupil will be able to:</p> <p>4.2.1 State the uses and characteristics of tools, materials and equipment</p>	<p>Uses and characteristics of tools, materials and equipment. Materials: wood, metal, fibre, seeds, feather, leather, calabash, gourd, shell, stones, bone, plastics, nail, empty packages, Styrofoam, twine, cords, scrap (glasses, ceramic products) fabric, paper, card, corn shuck, coconut, etc.</p> <p>Tools: for cutting, scraping, joining, bending, filing, welding, holding, drilling, scraping, measuring, etc. For example, hacksaw, knife, pliers, hammer, bodkin, ruler, pincers, clamp etc.</p> <p>Techniques: drilling, tying, shaping, filing, smoothing welding, nailing, scraping.</p>	<p>Assist pupils to identify, discuss, explore, test, handle tools, materials and equipment to perform specific tasks to determine their uses and characteristics.</p> <p>Pupils to categorise tools, equipment, materials according to uses and characteristics</p>	<p>Can the pupil state and determine uses and characteristic of tools, materials and equipment?</p> <p>Assess pupils ability to handle tools and materials safely, responsibly, and properly.</p>
UNIT 3 Designing and Making Items	<p>4.3.1 design and make a decorative and functional item for individual purpose</p>	<p>Designing and making an item for individual purpose by using techniques and assorted materials.</p> <p>Problem areas: Queens, chief, aged, physically challenged, rich, poor, parent, sibling, opinion leaders, friends, class mates, teachers, birthdays, anniversaries, success, loss of dear ones etc.</p> <p><u>Techniques Skills:</u> cutting, folding, joining (as in origami) folding, filing, tying, drilling, binding.</p> <p><u>Materials:</u> paper, card, fabric, leather seeds, shells, calabash, gourd, empty tins/cans, packages wood/twig, leaves, scrap metal etc.</p> <p>Practical application: room decoration, dressing/clothing, gift, souvenirs, tourism, entertainment, trade, packaging, artificial flowers, containers, envelope, folders, etc.</p>	<p>Organise pupils to collect examples of assorted materials and some tools prior to the lesson.</p> <p>Guide pupils to identify and discuss problems related to individuals in the locality or community.</p> <p>Assist pupils to pre-image their solutions.</p> <p>Pupils to design their products.</p> <p>Guide pupils to apply knowledge and skills in Basic Design and Technology (BDT).</p> <p>Science and technical skills in performing various tasks.</p> <p>Pupils to design and make an item to satisfy the identified need.</p> <p>Pupils to construct their items and evaluate them for improvement, display and appreciation.</p> <p>Values: patience, determination, perseverance etc.</p> <p>NOTE: Refer to Pre-Technical skill for additional information and ideas on how to assemble/construct artifacts.</p>	<p>Is the pupil able to;</p> <ul style="list-style-type: none"> - design and use assorted materials and techniques effectively to create an item that satisfies a need?

JUNIOR HIGH SCHOOL I

SECTION 5 FABRIC AND LEATHER DECORATION

General Objectives: The pupil will

1. be aware of the socio-economic important of Fabric and Leather Decoration.
2. be introduced to concepts, ideas and principles in Fabric and Leather Decoration.
3. be aware of the safe, correct and effective use of resources for fabric and Leather Decoration.
4. be predisposed to basic manipulative techniques in Fabric and Leather decoration.

Information for the Teacher about Section 5.

The section consists of the application of colour to Fabric and Leather using the techniques of dyeing, printing, stitching and attaching trimmings, tassels, beads and sequins to make artifacts to satisfy specific needs.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Importance Of Fabric And Leather Decoration	<p>The pupil will be able to:</p> <p>5.1.1 explain the concept and importance of Fabric and Leather decoration.</p>	<p>Explanation of the concept and socio-economic importance of Fabric and Leather Decoration.</p> <ul style="list-style-type: none"> - the application of dyeing, printing and stitching techniques to add value to fabrics and leather. <p>Socio-economic importance:</p> <ul style="list-style-type: none"> - a medium for self expression. - provides opportunity for further education and future income. 	<p>Discuss with pupils the concept of Fabric and Leather decoration.</p> <p>Lead pupils to brainstorm and decide on the social and economic importance of Fabric and Leather Decoration.</p> <p>Guide pupils to identify and document people in their district who are engaged in Leather/Fabric Decoration for a living.</p> <p>Pupils brainstorm and list possible end products/artifacts of the vocation:</p> <ul style="list-style-type: none"> • neck scarf • table cloth • purse for keeping coins • dyeing of old/faded clothes • printed/dyed fabrics for dress, shirt etc. • book markers • drip mats • table mats • napkins • wall hanging • book cover 	<p>Pupil to pre-image and list five items that can be made by applying dyeing, printing and stitching skills on fabric and Leather.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 Characteristics Of Leather, Cotton And Linen	<p>The pupil will be able to:</p> <p>5.2.1 describe the characteristics of Leather, Cotton and Linen.</p>	<p><u>Characteristics of Leather Cotton/Linen</u></p> <ul style="list-style-type: none"> - hides, skins and kips when tanned become soft and flexible so that they can be moulded, dyed, printed, twisted, stitched etc. into various shapes. <p><u>Sources of Leather</u></p> <p>Hides from – cow, buffalo etc Skins from – sheep, goats, snakes etc. Kips – skins of young or undersized animals</p> <p>Cotton and Linen Fabrics:</p> <ul style="list-style-type: none"> - are comfortable to wear - are absorbent (take dye/water easily) - can be dyed in bright colours - burn readily in a flame - are destroyed by acids. <p><u>Tools and Materials</u></p> <p>Samples of leather, Cotton, Linen, Matches, (flame), Acid Solution</p>	<p>Show samples of Leather, Cotton and Linen fabrics. Discuss the sources of Leather.</p> <p>Assist pupils to conduct tests in groups to identify cotton and linen by observation, burning and using acid solutions.</p> <p>Guide pupils to describe the characteristics of Leather, Cotton and Linen as stated in the content column.</p> <p>Pupils to identify and list items made with Leather, Cotton or Linen either separately or in combination.</p> <p><u>Skills:</u> Observation, Identification etc.</p> <p><u>Values:</u> Tolerance, concentration, etc.</p>	<p>Pupil to write down 5 or more sentences to show the characteristics of Leather, Cotton and Linen.</p> <p>Homework: Pupil to search for more information about the nature and uses of Leather, Cotton and Linen.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION				
UNIT 3 Identification And Extraction Of Dyes	The pupil will be able to: 5.3.1 identify and extract dyes from various sources using appropriate methods.	<u>Dyeing and Sources of Dyes</u> Dyeing is the process of colouring fabrics leather and other materials with substances called dyes. Dyes may be natural or synthetic. <u>Natural dyes:</u> obtained from roots, tree barks, flowers, leaves etc. <table><tr><td>Natural dyes</td><td>Synthetic dyes</td></tr><tr><td><u>Bark of:</u> Mango, cashew <u>Leaves of:</u> Sorghum (wakye leaves) - teak (tender ones) guava <u>Seeds:</u> - bagaruwa, cola, avocado</td><td>Potassium permanganate. Iron filings. Rusted nails. Reactive dyes (Procion) Vat dyes (Indanthrene)</td></tr></table> <u>Extraction of dyes by:</u> - soaking - pounding/grinding - mixing (with water) - sieving <u>Tools:</u> for cutting, pounding, mixing bowls, spoons <u>Materials:</u> Plant and synthetic materials listed above.	Natural dyes	Synthetic dyes	<u>Bark of:</u> Mango, cashew <u>Leaves of:</u> Sorghum (wakye leaves) - teak (tender ones) guava <u>Seeds:</u> - bagaruwa, cola, avocado	Potassium permanganate. Iron filings. Rusted nails. Reactive dyes (Procion) Vat dyes (Indanthrene)	Organise a collection of materials over time as listed in content column. Guide pupils to brainstorm and identify dyes and their sources. <u>Note:</u> Discuss the efficient methods of collecting leaves, bark of trees, roots etc. to sustain the supply of the material before pupils do their collection. Demonstrate and guide pupils in groups to extract dyes using the methods outlined under the content column. Guide pupils to extract dyes from various sources, observe and test the colours. <u>Skills:</u> identifying, observation, grinding, sieving etc. <u>Values:</u> Tolerance, concentration, etc.	Homework: Pupil to interview adults in the community to find out about other sources of dyes, document and report in class. Use internet to find sources. <
Natural dyes	Synthetic dyes							
<u>Bark of:</u> Mango, cashew <u>Leaves of:</u> Sorghum (wakye leaves) - teak (tender ones) guava <u>Seeds:</u> - bagaruwa, cola, avocado	Potassium permanganate. Iron filings. Rusted nails. Reactive dyes (Procion) Vat dyes (Indanthrene)							

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 (Cont'd) Identification And Extraction Of Dyes Dyeing pieces of fabric And leather	<p>The pupil will be able to:</p> <p>5.2.2 dye pieces of fabric and leather.</p>	<p>Preparation before and dyeing process.</p> <ul style="list-style-type: none"> - washing fabric/cleaning leather surface to remove size (starch) and dirt. - preparing a dye bath using extracted dyes. <p>Solutions from iron filings/rusted nails by soaking in water etc.</p> <ul style="list-style-type: none"> - immersing fabric/leather in dye bath. - adding salt and keeping time. <p>Note: The longer the fabric/leather stays in the bath the darker the shade.</p> <p>The addition of salt may give a darker shade.</p> <p>washing after dyeing.</p> <p>Tools: Pieces of fabric, leather, scrap leather, dyes.</p> <p>Materials: Pieces of fabric, leather, scrap leather, dyes.</p>	<p>Demonstrate and guide pupils to prepare leather and fabric for dyeing.</p> <p>Demonstrate the preparation of different dye baths using: extracted plant material. Iron filings rusted nails, potassium permanganate etc.</p> <p>Prepare different dye baths and let pupils use them in groups.</p> <p>Guide each pupil to dye about ¼ yard of fabric and scrap leather.</p> <p>Guide pupils to experiment dyeing in the different dye bath.</p> <p>Guide pupils to test for fastness by washing and record findings.</p> <p>Guide each group to prepare a chart showing specimens of dyed pieces.</p> <p>Guide pupils to pre-image and combine dyed fabric and leather to make useful items e.g. drip mat, bottle holder, napkins, belt, book cover, book marker.</p> <p>Pupils display and appreciate their work.</p> <p>Skills: observation, problem solving, designing, etc.</p> <p>Values: patience, concentration, tolerance, resourcefulness, etc.</p>	<p>Pupils to conduct more experiments in dyeing and record findings.</p>

JUNIOR HIGH SCHOOL - 2

BASIC DESIGN AND TECHNOLOGY – VISUAL ART OPTION SECTION I VISUAL COMMUNICATION

General Objectives: It is expected that by the end of the year the pupils will:

1. develop basic graphic design and picture-making skills to communicate visually in the community.
2. develop their design and Technology and visual communication skills with increased understanding, interest and participation.
3. develop the ability to evaluate the design and end products to identify strengths and weaknesses.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Designing and Making items to Communicate	<p>The pupil will be able to:</p> <p>1.1.1 design and make an item to communicate an idea, message for a specific purpose in the community.</p>	<p>Designing and making an item to communicate ideas, information and messages for a specific purpose in the community.</p> <p><u>Problem areas:</u> in the community including sign post, notices, road safety, directions, entertainment, HIV AIDS, Sanitation, punctuality to school, functions, exams malpractices, domestic violence, child trafficking, indiscipline, events, sustainable use of resources, unemployment etc.</p> <p><u>Techniques/Skills:</u> applying skills in Basic Design and Technology, composition, layout designing, lettering by drawing/construction, painting, drawing, ICT, elements and principles of design, cutting and pasting, printmaking, computer graphics, typography, finishing and presentation.</p> <p><u>Suggested items:</u> Posters with either words or pictures or both; designing of signs, symbols, marks, icons with or without letters/pictures to show identity e.g. logo, trademark, emblem, badge, label.</p>	<p>Review previous activities on BDTS and techniques in Visual Communication with questions, quizzes and demonstration.</p> <p>Procedure for BDTS:</p> <p>Identification of a problem</p> <ul style="list-style-type: none"> - definition/explanation of the problem. - Investigating of the problem (research) - Pre-imaging/suggesting solution - Designing (making sketches/models) - Selection of tools, materials, equipment and appropriate techniques. - Making of item - Evaluation of process and item/product. <p>Lead pupils to identify and discuss problems of the community.</p> <p>Demonstrate techniques required (including computer graphics if available) finishing, present portfolio of works etc.</p> <p>NOTE: Refer and apply knowledge and skills in print making from section 5 when necessary.</p> <p>Pupils to identify a problem and apply BDTS to solve it, display, appreciate and evaluate own and others work.</p> <p>Assess their behaviour during and after the activity in terms of attitude, moral and human values.</p>	<p>Is the pupil able to:</p> <ul style="list-style-type: none"> - Identify a specific need and satisfy it with an item using appropriate knowledge and skills in BDT and Visual Communication? - respond to finished item through appreciation and evaluation. - Use tools and material safely and responsibly? - Show good moral behaviour, values and attitude in class?

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (Cont'd) Designing and Making items to Communicate Composing a picture for a purpose	1.1.2 compose and make a picture for a purpose or need in the community	<p><u>Application</u> of skills in designing posters, to make signpost, signboards, stickers, gift and good wrappers, greeting card etc. using hand and powered equipment e.g. computer.</p> <p><u>Tools/Equipment, material:</u> for drawing, designing, printmaking collage and mosaic, painting, e.g. paper, card, colour, drawing instruments, computer and accessories (if available) etc.</p> <p>Composing and making a picture for a purpose/need in the community. Application of knowledge and skills in: designing, composing, design and technology.</p> <p><u>Techniques/Skills:</u></p> <ul style="list-style-type: none"> - drawing, shading, using lines, dot, mass - using colours meaningfully - collage, mosaic, photomontage - drawing, painting, figures, animals, proportionally, plants, objects; perspective, sceneries, using imagination, observation, etc. <p>NOTE: Refer to section 5 for additional information and techniques in printmaking if desired.</p>	<p>Guide pupils to discuss, draw, mix and use colour meaningfully in a picture for a purpose.</p> <p>Pupils to identify a problem and use BDTS, compositing and visual communication skills to solve it.</p> <p><u>Values:</u> self-determination, respect, control, concern, compassion for others, etc.</p>	<p>Is the pupil able to:</p> <ul style="list-style-type: none"> - compose, draw and use colour meaningfully to make a picture for a purpose? <p><u>Project:</u> Pupils, in groups identify a place in the school/community to design and create a picture based on a theme/topic in:</p> <ul style="list-style-type: none"> - mosaic - mural (wall painting)

BASIC DESIGN AND TECHNOLOGY – VISUAL ART OPTION
SECTION 2
WEAVING AND STITCHING

General Objectives: It is expected that by the end of the year the pupil will:

1. apply basic skills in ICT, Design and Technology to solve problems when making items by weaving and stitching.
2. develop skills in decoration and finishing during and after making items to solve a problem
3. follow procedure in Design and Technology to design and make items independently or in groups
4. demonstrate human values through active and willing participation and performance of individual or group tasks.
5. recognize the need to appreciate and evaluate own and others work for improvement

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Loom and Off-Loom Weaving	<p>The pupil will be able to:</p> <p>2.1.1. design and create an item to satisfy a need in the community using appropriate skills, tools and materials</p>	<p>Creating an item to satisfy community needs</p> <p>Source of needs/problems in the community</p> <p>Containers and decorative items for:</p> <ul style="list-style-type: none"> - Clothing/dressing, decorations - use in the home, school, palace, (Library, museum etc. - carrying, storing, serving food and goods - fishing, selling and buying - entertainment and sports - souvenir, gifts and tourism - furniture – doormat, place mat etc. <p>Suggested Techniques/Skills for making, decorating and finishing:</p>	<p>Lead pupils to brainstorm and discuss how to identify needs in the community and satisfy them with woven and sewn items.</p> <p>Group pupils to identify a need, discuss and report on how to satisfy it through Design and Technology process.</p> <p>Demonstrate the various techniques in design and making items for pupils to apply in solving identified problems.</p> <p>Pupils to perform assigned tasks to practice the various techniques,</p> <p>Pupils to design and create an item to satisfy an identified need/problem in the community using appropriate tools – materials and techniques</p>	<p>Assess pupil's ability to</p> <ul style="list-style-type: none"> - identify a need and generate innovative ideas to solve them - design and make an item by following the design and Technology process correctly - design, make, decorate and finish an item to satisfy a need

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (Cont'd) Loom and Off-Loom Weaving		<p><u>Weaving</u>: with one two, three coloured/uncoloured strands, e.g. twill, check, waling, slewing, fitching, pairing/twining, etc.</p> <p><u>Plaiting</u>: with 4, 5, 6 and more strands (coloured and uncoloured)</p> <p><u>Coiling</u> – using e.g. lazy squaw, figure-of-eight, Peruvian stitches with coloured/uncoloured strands.</p> <p>Knotting – using e.g. clove hitch, reef/square knots with their variations with coloured/uncloured strands, etc.</p> <p>Tools: knife, bodkin, needle, measuring tape, computer etc.</p> <p><u>Materials</u>: canes, straw, bulrush cords, thread, fibre, palm leaves, branches, bamboo, etc.</p>	<p>Observe pupils while they work and assess their demonstration of:</p> <p>human values in behaviour</p> <p>responsible and sustainable use of tools and materials, skillfulness, originality and craftsmanship</p> <p>NOTE: Pupils must be tasked where possible to:</p> <ul style="list-style-type: none"> - look for information, ideas from nature, internet, practitioners consumers etc. - use ICT computer skills in designing illustration etc. <p>Pupils to display their end products for appreciation and evaluation</p> <p><u>Skills</u>: designing, creativity, weaving, plaiting, coiling, stitching, pre-imaging, problem-solving, critical thinking etc.</p> <p><u>Values</u>: patience, tolerance, concentration, self-discipline independence, co-operation etc.</p>	<ul style="list-style-type: none"> - show creativity craftsmanship and design skills in ideas and end-product - demonstrate human values in behaviour or character apply skills in ICT to perform various tasks e.g. search for information and designing.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (Cont'd) Loom and Off-Loom Weaving	<p>The pupil will be able to:</p> <p>2.1.3 design and weave a fabric item with a simple loom to satisfy a social cultural need in the community.</p>	<p>Designing and weaving an item with a simple loom to</p> <p>Weaving Process: Designing preparation and estimation of yarns, warping, heeding, reeding, beaming tying up, weaving, picking patterns and symbols finishing according to elements and principles of design.</p> <p>Tools: loom and accessories, bobbin, reed, heddle, beam shuttle etc.</p> <p>Material: yarns (dyed/undyed) strands etc.</p> <p>Design/patterning; plain, check weave, creating shapes, motifs, symbols during the weaving process.</p>	<p>Lead pupils to discuss the process of weaving as stated in the content.</p> <p>Guide pupils to identify a need or problem and apply the design and technology process to solve it.</p> <p>Pupils to use ideas from the environment and indigenous weavers and symbols as source of inspiration to create theirs and in investigate indigenous colour motifs and symbol as source of inspiration to create theirs.</p> <p>Pupils to design and weave a strip of fabric using a loom, elements and principle of art.</p> <p>NOTE: Pupils to apply knowledge and skills in ICT, computer graphics to perform tasks e.g. designing illustration.</p>	<p>Assess the ability of pupil to design and weave a strip of fabric for a purpose and according to specification, social and cultural need.</p>
Sewing/Stitching a leather item	<p>2.1.4 design and sew a leather item to satisfy a social and cultural need.</p>	<p>Designing and sewing a leather item e.g. items for clothing and beautifying the body, chief, keeping items, traveling, tourism, etc.</p> <p>Tools – for cutting and sewing e.g. knife needle</p> <p>Materials: leather, skin, wax etc.</p> <p>Techniques/Skills – drafting, marking, out cutting, glueing, sewing/stitching, thonging Stitches: buttonhole, herring bone etc.</p>	<p>Pupils to display and evaluate their works for improvement.</p> <p>Demonstrate, with illustration, how to make an item with leather with various techniques</p> <ul style="list-style-type: none"> Pupils to identify a need and use the design and technology to satisfy it. Pupils to display their end-products for appreciation and evaluation for improvement. <p>NOTE: Refer to section 5 for more information techniques, and ideas on leather decoration.</p> <p>Values: patience, respect, perseverance, self-control/discipline, shape, etc.</p>	<p>Look for the skills in: - designing and making a leather item using appropriate stitches and elements and principles of design.</p>

JUNIOR HIGH SCHOOL 2

BASIC DESIGN AND TECHNOLOGY – VISUAL ART OPTION SECTION 3 MODELLING, CASTING AND CARVING

General objectives: it is expected that by the end of the year, the pupil will:

1. develop increased understanding and use of knowledge and skills in BDT, modeling, carving and casting to solve problems related to the community.
2. recognize the significance to appreciate and evaluate own and others work for improvement.
3. show appreciable disciplined and moral behaviour when performing various tasks.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT1 Designing and Making items to Solve Community Problems	<p>The pupil will be able to:</p> <p>3.1.1 design and make a functional/decorative, sculptural and 3-dimensioal item to satisfy a need in the community</p>	<p>Designing and making sculptural and 3 dimensional on item to satisfy a community problem or need.</p> <p>Problem/need: Social, Cultural need of;</p> <ul style="list-style-type: none"> - food preparing, service, keeping/storing food, liquids, goods, farm produce etc - beautifying the environment homes, school compound, community, worship, durbar/funeral ground, hospital, work places, lorry parks etc. - promoting/transmitting our culture, good will with gifts which are symbolic, meaningful communicative etc. <p>Techniques/Skills Casting modelling, carving,</p> <ul style="list-style-type: none"> - Hand building with clay by slabbing, coiling, etc. - Modelling solid in clay and scooping throwing and turning with the potters wheel (if, available) <p>casting using solid/liquid materials (clay wax (candle) cement, P.O.P e.g. Containers, animal forms, tiles, brick</p>	<p>Assist pupils to apply knowledge and skills in BDT to discuss and decide on how to solve an identified community problem</p> <p>Demonstrate required techniques and processes in designing and realizing their design proposals by modelling./carving/casting Emphasise the need to do preliminary design/model for making items</p> <p>Values: contentment, sharing, patience, self-discipline, perseverance, etc.</p>	<p>Is the pupil able to identify a community problem, pre-image, investigate and develop ideas in the form of preliminary. design:</p> <p>Project Pupils to identify a problem, design, and make an item to:</p> <ol style="list-style-type: none"> i. decorate the public library or hospital ii. decorate the wall in the chief/queen mother's palace

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT1 (Cont'd) Designing and Making items to Solve Community Problems	<p>The pupil will be able to:</p> <p>3.1.2 fire and decorate an item by using appropriate tools, materials and techniques.</p>	<ul style="list-style-type: none"> - Firing, using open or simple enclosure (refer to building with bricks from Technical skills option) - Decoration and finishing: incising impression in-laying, scorching, burnishing, painting, graffiti, embossing, dyeing, glazing, sand papering, lacquering, spraying etc <p>Example of items e.g. Masks, containers vases, bowls, lamp stands, sculptural forms, shields, trophies, figurines, paper weights, decorative/functional, symbolic combs, walking sticks etc.</p>	<p>Pupils to design and apply relevant knowledge and skills, techniques to make an items of cultural functional and aesthetic value that satisfies a need in the Community.</p> <p>Pupils to display their works for appreciation and evaluation.</p> <p>Values: Self-discipline, tolerance, self-respect, perseverance, etc.</p>	

JUNIOR HIGH SCHOOL – YEAR 2

CONSTRUCTION AND ASSEMBLAGE SECTION 4:

General objectives: it is expected that by the end of the year, the pupil will:

1. recognize the importance of recycling of materials and paper making and book binding for solving socio-economic and educational problems.
2. acquire knowledge and skills in critical thinking, designing and making items to solve community problems through various construction and assemblage activities.
3. demonstrate human and moral behaviour and increased interest in various activities

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Papermaking	<p>The pupil will be able to:</p> <p>4.1.1. recycle/make paper with available local materials.</p>	<p>Paper-making (by hand) with available local materials.</p> <p>Problem area: Creative recycling and sustainable use of materials in the community for paper making.</p> <p>Using paper to spread information, educate, design and make envelopes, folders, greeting cards, binding books, drawing and painting, etc.</p> <p>Tools: For cutting, soaking, boiling, pounding, sieving e.g. knife, scissors, bowls, mesh/screen, deckle</p> <p>Materials: office waste, office-cuts (press) paper from (press) plant materials from e.g. pineapple, leaves, grass/sugar cane stem, screw pine, sisal, jute, corn shuck and other plants.</p> <p>Techniques/Skills procedure, cutting, soaking/boiling pounding, screening with a mesh/screen, lifting, drying.</p>	<p>Discuss socio-economic importance of paper-making and paper engineering, paper craft, origami.</p> <ul style="list-style-type: none"> - Explain paper-making as a problem-solving activity in society and the world. E.g. recycling of waste paper, sustainable use of plants providing the pulp: - Discuss the characteristics of materials, tools to be used. - Demonstrate and guide pupils through paper-making processes. - Encourage pupils to apply knowledge in science. - Pupils to make paper for book binding. - Assess the processes and end product. <p>Value: determinations/perseverance, self-control, hope, etc.</p>	<p>Can the pupil: explain the socio-economic importance of paper-making?</p> <ul style="list-style-type: none"> - make paper without supervision? - explain the process of paper-making?

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 Binding Repair-Binding	4.2.1 design and make an item to solve a need by binding and repair-binding of a book.	<p>Making an item to solve a problem by binding/repair binding.</p> <p>Problem area: The need to handle books with care to last long. Improper care/handling of books leading to soiling, tearing apart at the spine, cover, head, edge, sections and other parts.</p> <p>Repair/binding of own exercise books, textbooks documents, reports; creative books with unusual shapes e.g. animals, insects, etc.</p> <p>Binding Techniques/Styles: e.g. single-section, side-stitched binding, single sheet binding, pop-up binding, multi-section binding.</p> <p>Tools/materials: For cutting, folding, gluing, stitching, trimming e.g. knife, needle, glue, thread, binders cloth etc.</p>	<p>Assist pupils to identify, examine the parts and state uses of a book.</p> <p>Guide pupils to identify and discuss problems that relate to the need and handling of a book to last long.</p> <p>Pupils to study nature and use them as source of inspiration to design their books.</p> <p>Demonstrate various techniques in binding, repair-binding and decorating books.</p> <p>Pupils to design and apply BDT process to bind or repair bind a book to satisfy a need.</p> <p><u>NOTE:</u> Encourage pupils to explore, investigate and make simple pop-up book.</p> <p>Values: concentration, diligence, patience, contentment etc.</p>	<p>Pupils to study nature and use them as source of inspiration to design their books.</p> <p>Can the pupil identify and state the uses of various parts of a book?</p> <p>Is the pupil able to:</p> <ul style="list-style-type: none"> - design, bind and decorate a book of unusual shape to satisfy a need? - design and make a simple pop-up book?

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 Construction and Assemblage of a System	<p>The pupil will be able to:</p> <p>4.3.1 design and make a system to satisfy a need in the community by construction and assemblage.</p>	<p>Designing and making a functional/decorative system by construction and assemblage.</p> <p>For example, an item lighted/powered by wind or dry cell/electricity to solve a problem in the community e.g. item showing tourist, location/centre or objects in a community.</p> <p>Practical Application: e.g. 3-dimensional map, model, miniature decorative: gadgets, machine, aquariums, house, cage, equipment, appliance use at home, recreational centre, play ground, school compound, library, stadium, tourist shop, restaurant, rest house/hotel etc.</p> <p>Techniques Skills: Construction, assemblage, cutting, drilling, joining, riveting, modelling casting, joining, fixing of wires devices for powering, lighting it and applying (knowledge and skills in science and BDT)</p> <p>Materials: wood, metal, plastics, empty containers, packages etc.</p> <p>Tools: for cutting, drilling, sewing, joining, lightening, nailing, welding, filing etc.</p>	<p>Guide pupils to identify and discuss a need in the community or classroom or school.</p> <p>Assist pupils to pre-image a constructed and assembled powered item for use in teaching and learning by applying science, technical, ICT, BDT electronic skills etc.</p> <p>Group pupils to design, apply/use appropriate skills, techniques, materials BDT process to make an item pupil to display, evaluate and appreciate their items.</p> <p>NOTE: check for originality, craftsmanship design, show of human values in behaviour</p> <p>Values: tolerance, patience, perseverance, etc.</p>	<p>Are pupils able to:</p> <ul style="list-style-type: none"> - demonstrate qualities of team work, skills in science, BDT, construction and assemblage to make an item that satisfies a need in the community?

JUNIOR HIGH SCHOOL 2

SECTION 5 FABRIC AND LEATHER DECORATION

General Objectives: The pupil will:

1. acquire further skills in developing ideas and attitudes in designing and decorating through the fabric and leather medium.
2. recognise the importance of using I.C.T. as a tool for modifying existing symbols and generating new designs.
3. develop the attitude of evaluating their own work and those of others for self-improvement.

Information for the Teacher about Section 5.

Teacher should organise pupils to collect a variety of materials from relevant sources. This should be an on-going process. The awareness should be created for pupils to see the natural and man-made environment as a source of inspiration for creative activities. Pupils should ask questions, research and investigate issues about tools, materials, techniques and artifacts in the cultural and contemporary settings.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Resist Dyeing	<p>The pupil will be able to:</p> <p>5.1.1 design and dye fabric and leather using the tying and marbling technique as resist.</p>	<p><u>Resist Dyeing:</u> In resist dyeing, parts of the fabric are excluded from taking the dye by tying or waxing to create a pattern.</p> <p><u>Note:</u> resist dyed fabrics are tie dye and batik.</p> <p><u>Tools:</u> bowls, spoons, raffia, rubber gloves</p> <p><u>Materials:</u> dyes, fabric, leather, chemical solutions prepared from rusted nails, dye solutions from plant sources, etc.</p>	<p>Explain the concept of resist dying.</p> <p>Demonstrate the technique of folding, tying knotting and marbling, using paper or fabric.</p> <p>Demonstrate marbling on leather using rusted nail dye.</p> <p>Guide pupils to: Identify a problem in relation to resist dyeing.</p> <p>Pupils to:</p> <ul style="list-style-type: none"> - explain the problem - pre-image to visualize possible solutions - draw/design solutions - select tools materials and appropriate techniques. <p>Guide pupils to make the item by interpreting the design, using selected tools, materials and techniques.</p> <p>Evaluate process and end-product using criteria.</p>	<p>Is the pupil able to demonstrate an understanding of the resist dyeing concept?</p> <p>Pupil to find out other methods of tying fabric/leather for dyeing and report in class.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (Cont'd) Resist Dyeing	The pupil will be able to: 5.1.2 design and dye fabric using the wax resist technique (batik).	Resist agents: - wax - kokonte - starch Designing by applying the elements and principles of design. Application of resist by - sprinkling wax - painting wax - dropping wax from candle etc. - using foam, stamps etc. (refer to block printing). Tools: containers, spoons, gloves, candles/foam Materials: fabric, leather, dyes, chemicals.	Explain the concept of resist dyeing using wax, starch or "kokonte". Demonstrate process skills in: - designing - applying resist agent - applying/dyeing - removing the resist agent by boiling washing and ironing Allow students to pre-image and design an item using resist agent, dyeing and removing the resist agent by boiling and washing. Guide pupils to select tools and materials and make an item using resist dying techniques. SKILLS: decision – making, concentration, ability to follow instructions etc. VALUES: patience, tolerance etc.	Assess practical work.
UNIT 2 Block Printing Motif design and arrangement	5.2.1 design and print fabric and leather using the block printing technique.	Generation of ideas for printing Printing: The process of making marks or impressions on a surface using colour, paste, ink etc. Example: Adinkra print Make use of hand and computer-aid ed Techniques to designs and arrange. Motifs Arrangement - all over pattern - side by side - full drop - half drop - counter change - ogee	Let pupils pre-image, <u>draw</u> a motif and transfer onto a block. Guide pupils to cut out or remove all the negative areas. Demonstrate and guide pupils to print using printing, paste or ink in various arrangement: - all over - side by side - full or half drop - counter change etc.	Pupils to try various methods of incorporating texture in his/her block making process. Pupils to try combining two or more arrangements.

JUNIOR HIGH SCHOOL - 3

BASIC DESIGN AND TECHNOLOGY – VISUAL ART OPTION

SECTION 1

VISUAL COMMUNICATION

General Objectives: It is expected that by the end of the year the pupils will:

1. develop their BDT and Visual Communication Skills through tasks, projects to satisfy a national need.
2. use problem-solving and evaluation processes when designing and making items to satisfy a need
3. perform tasks as required in thinking, acting and feeling.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT I Designing and Making items to Solve a National Problem	<p>The pupil will be able to:</p> <p>1.1.1 design and make an item/picture to satisfy a national need.</p>	<p>Designing and making items/pictures to satisfy a national need:</p> <p>Problem/need area: national (including individual and community) problems of immorality, indiscipline, bribery and corruption, dependence on foreign goods, unemployment, robbery, poor reading/literacy and numeracy skills etc.</p> <p><u>Techniques/Skills:</u> Application of basic design and technology skills, drawing, illustration stenciling colour work, elements and principles of design, composition, perspective, layout designing; collage, mosaic, figure drawing typography, lettering, animation (if possible)etc.</p> <p>Using simple hand tools and ICT/computer software\graphics, (if available) for drawing animated images, figures, plants, animals, objects, sceneries, from memory, observation, imagination.</p>	<p>Group pupils to identify a need, brainstorm discuss and present reports for class discussion. Emphasise the need to use visual communication as a tool for solving the problems.</p> <p>Pupils to apply knowledge procedure and skills in BDT, solving individual, community problems to design and make an item that satisfies a national need</p> <p>NOTE: Refer and apply basic knowledge and skills in printmaking from section 5 e.g. stenciling and block printing. Animation of images can be attempted if possible.</p> <p>Pupils correctly finish and present works in portfolios and mount them for a school exhibition later.</p> <p>Values:</p>	<p>Is the pupil able to:</p> <ul style="list-style-type: none"> - design and make an item that satisfies a national need using variety of tools materials and techniques. - participate actively in class exhibition and report on the outcome? - Show interest in visual communication activities?

JUNIOR HIGH SCHOOL - 3

WEAVING AND STITCHING SECTION 2:

General Objective: It is expected that pupils will be able to:

1. use a range of hand (off-loom) weaving and stitching tools safely, irresponsibly, sustainably and with increasing precision
2. evaluate their work during the making process or in the end-product for the intended purpose and improvement.
3. apply knowledge and skills in ICT design and Technology to design, weave and stitch items with increased understanding and proficiency

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Combination of Techniques and Materials to Make Items	The pupil will be able to: 2.1.1 design and make an item with a combination of techniques, tools and materials	<p>Designing and making items with a combination of techniques tools, materials to satisfy a need</p> <p>Techniques/Skills in weaving, coiling, stitching, plaiting, knotting, decoration and finishing.</p> <p>Designing and making suggestions: real, geometric, unusual shapes with handle, lid, and attachment e.g. beads, shells, leather, fabric, calabash, gourd, seeds, cords, etc.</p> <p>Needs/Problems of national dimension in clothing, agriculture, leisure and recreation, health, travelling, cultural ceremonies, packaging, marketing etc.</p>	<p>Guide pupils to revise previous lessons and activities in designing, making decorating and finishing items by applying, design and technology skills: Lead pupils to do self evaluation of their capacities, portfolio of works and discuss how to improve their skills</p> <p>Pupils to identify and discuss various national problems and needs and suggest their solutions through design and technology</p> <p>Pupils to design and make items to satisfy a need by using a combination of materials and techniques, tools and equipment including ICT.</p> <ul style="list-style-type: none"> - Observe and assess pupils during the process of making items and the end product in terms of: <ul style="list-style-type: none"> - responsible, safe and sustainable use of tools, materials - demonstration of moral and human values in behaviour - originality, craftsmanship design decoration and finishing of end-products. <p><u>Skills</u> – designing, observation, problem-solving, creativity, critical thinking, decorating, finishing, weaving, plaiting, stitching, knotting, evaluation etc.</p> <p><u>Values:</u> patience, tolerance, patriotism, self-discipline/control respect/obedience, etc.</p>	<p>Assess pupil's ability to:</p> <ul style="list-style-type: none"> - design and make an item to satisfy a need with a combination of materials and techniques - make an item with little or no supervision show - originality or innovation in ideas, design and products - follow procedure in Design and Technology correctly to solve a problem.

JUNIOR HIGH SCHOOL

BASIC DESIGN AND TECHNOLOGY – VISUAL ART OPTION SECTION 3 MODELLING, CASTING AND CARVING

General objectives: it is expected that by the end of the year, the pupil will:

1. develop clear ideas and use them to solve a national problem through carving, casting and modeling
2. apply relevant knowledge in BDT, ICT and other skills to design and make items which solve national needs with increased understanding.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Design and Making of Items	The pupil will be able to: 3.1.1 design and make an item to satisfy a national need using variety of techniques and materials	<p>Designing and making items to satisfy a national need</p> <p>Problem/need area: Items//artifact of cultural, aesthetic and functional value to promote, preserve and transmit Ghanaian culture</p> <ul style="list-style-type: none"> - sculptural/ceramic items for domestic, tourist and external markets. - Creative items of symbolic, communicative and hospitality as gift, souvenir, awards, prizes etc. - beautification and sanitation of environment, national and tourist spots, parks, hotels, airport-harbour, guest house, etc <p>Items: realistic/abstract forms in relief or in-the-round e.g. Statues, figurines, musical instruments, various containers, tiles and decoration, sculpted, ceramic/ pottery products, etc.</p> <p><u>Techniques Skills:</u> modeling/hand building, molding and casting, carving, decorating, firing, etc</p> <p>Tools /equipment/materials for modeling carving, casting, carving, casting, decorating and finishing.</p>	<p>Group pupils to identify, discuss and present reports on national problems for class discussion.</p> <p>Pupils to visualize and develop ideas and BDT solutions to identified problems using appropriate techniques, tools and equipment</p> <p>Pupils to choose a problem, design and apply BDT and relevant techniques to make items to satisfy the national need.</p> <p>Values: submissiveness to rules/regulations, self-discipline, self-control, co-operation, teamwork tolerance, perseverance, temperance, contentment, patriotism, ect.</p>	<p>Assess pupils ability to:</p> <ul style="list-style-type: none"> - design and make an item for national purpose - make an item that strongly satisfies criteria of originality craftsmanship design neat finishing - demonstrate positive attitude and responsible, moral behaviour.

JUNIOR HIGH SCHOOL – YEAR 3

CONSTRUCTION AND ASSEMBLAGE SECTION 4:

General objectives: it is expected that by the end of the year, the pupil will:

1. design and work with a range of materials of different characteristics to solve problems through construction and assemblage.
2. apply knowledge and skills from other subjects such Science and ICT to make items of cultural, functional and aesthetic value

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Making Items with a Variety of Materials	<p>The pupil will be able to:</p> <p>4.1.1 design and make an item with or without an attachment to satisfy a national need.</p>	<p>Designing and making an item with or without attachment to satisfy a national need.</p> <p>Problem area: Societal/national needs/problems.</p> <ul style="list-style-type: none"> - Functional/decorative item for entertainment, education, games, recreation, protection, recycling and sustainable use of resources for development, employment. - Environmental aesthetics/beautification with recycled items - Promoting and preserving the culture with meaningful symbolic items. - Items to communicate values e.g. peace, unity, tolerance <p>Practical application: Items with or without attachment of knotted and beaded strings, shells (cowries) musical instruments: miniature houses, machines, monuments, photo album.</p> <p>Tools and materials: for construction and assemblage.</p>	<p>Discuss with pupils the need to add value to objects as a means of solving a problem.</p> <p>Pupils to brainstorm and discuss how objects can be attached to others for decoration or adding value.</p> <p>Organise the exploration, identification and collection of relevant and suitable materials to serve as attachments.</p> <p>Pupils to select other objects such as gourds, calabash, coconut shells, bottles, containers etc.</p> <p>Pupils to identify a need, pre-image, design and make an item with attachment to satisfy it.</p> <p>Pupils to display their works for evaluation and appreciation.</p> <p>Skills: creativity, designing, composing, critical thinking, problem-solving, synthesis evaluation, construction, assemblage, pre-imaging etc.</p> <p>Values: self-discipline, patriotism, contentment, loyalty, sharing, etc.</p>	<p>Is the pupil able to make an item with attachment to satisfy a national need?</p>

JUNIOR HIGH SCHOOL 3

SECTION 5 FABRIC AND LEATHER DECORATION

General Objectives: The pupils will:

1. develop the interest, attitudes and creative potentials through fabric and leather Decoration
2. recognize the importance of combining knowledge, skills and resources to arrive at a creative whole

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 Decorative Techniques	<p>The pupils will be able to :</p> <p>5.1.1 design and decorate fabric and leather using the appliqué, and decorative stitches.</p>	<p>Explanation of appliqué and decorative stitches as a way of adding value to dyed and printed fabric and leather.</p> <p>Appliqué: Is a fabric or leather pasted or stitched on to another (fabric or leather) to decorate it. The piece of fabric/leather may be a motif.</p> <p>Decorative stitches</p> <ul style="list-style-type: none"> - blanket - satin - herringbone - chain - overcast <p>Cutting thongs: by drawing a spiral line on a round or rectangular piece of leather and cutting along the line:</p> <p>Thonging: passing thong through slit or round holes.</p> <p>Tools: needle, shears</p> <p>Materials: Fabric, leather, thread</p>	<p>Explain the concept “decorating fabric” and leather with appliqué and decorative stitches.,</p> <p>Demonstrate appliqué by drawing a motif, cutting and stitching.</p> <p>Demonstrate how to: cut and do simple thonging work simple decorative stitches,</p> <p>Guide pupils to make appliqué, cut and do simple thonging and work simple decorative stitches.</p> <p>Let pupils identify a problem in relation to the specific objective e.g.</p> <ul style="list-style-type: none"> - centre table cover - pencil/pen holder (desk organizer) - wall hanging <p>Pupils to define, investigate and research the problem.</p> <p>Pupils pre-image design and sketch their ideas or make models Guide pupils to make artifacts by selecting tools, materials and appropriate techniques Organize evaluation of process and product</p> <p>Skills: cutting straight, stitching, pre-imaging, creativity, designing, thonging, observation, etc.</p> <p>Values: patience, tolerance, concentration, submissiveness to rules and regulations, self-discipline, etc.</p>	<p>Is the pupil able to show an understanding of skills taught?</p> <p>Is the pupil able to visualize, sketch and present a paper design.</p>

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 Combining Decorative Techniques	<p>The pupils will to able to :</p> <p>5.2. 2 design and decorate leather/fabric by combining dyeing, printing and stitching techniques in one artefact .</p>	<p>A combination of all the techniques in fabric and leather decoration</p> <ul style="list-style-type: none"> - dyeing - printing - stitching (appliqué.) <p>decorative stitches, thonging</p> <ul style="list-style-type: none"> - fixing attachments <p>Tools: pen, tape measure, shears, awl, needle, spoons, blows, rubber gloves.</p> <p>Materials: Fabric, leather, thread, beads, buttons, shells, recoiless, tassels, thongs, sequins, eyelets/grommets</p>	<p>Review all the techniques learnt.</p> <p>Let pupils brainstorm how all the techniques can be brought together to produce an artifact. Pupils to identify a problem, investigate, write a brief of their ideas and sketch/mode them.</p> <p>Pupils pre-image and make sketches.</p> <p>Guide pupils to select tools, materials and demonstrate skills in the techniques and produce an artifact.</p> <p>Pupils display works and appreciate them.</p> <p>Skills: problem-solving, critical and creative thinking, ideating etc.</p> <p>Values: patience, diligence, concentration, independence etc.</p>	<p>Is the pupil able to show critical and creative thinking in process and product?</p>