

## Design, Creativity & Technology

### Stage One

Students encounter activities and experiences. Participation is fully prompted. They may be passive or resistant. They may show simple reflex responses. Students show emerging awareness of activities and experiences. They may have periods when they appear alert and ready to focus their attention. They may give intermittent reactions.

Students:

- experience and begin to respond to a variety of materials, textures and moving objects

### Stage Two

Students begin to respond consistently to familiar people, events and objects. They react to new activities and experiences. They begin to show interest in people events and object. They accept and engage in coactive exploration. Students begin to be proactive in their interactions. They communicate consistent preferences and affective responses. They recognize familiar people, events and objects. They perform actions, often by trial and improvement, and they remember learned responses over short periods of time.

Students:

- tolerate hand over hand assistance to explore range of materials
- tolerate hand over hand assistance to push/pull toys to experience response
- tolerate hand over hand manipulation of a wide variety of tools
- explore/manipulate materials given to them in a structured setting eg by giving visual/ tactile/auditory/kinaesthetic attention to wood, plastic, paper etc
- explore/ manipulate movement in a structured setting e.g. by giving visual/ auditory/kinaesthetic/tactile attention to moving lights, toys, flags, turn tables
- explore/manipulate a wide variety of tools
- work coactively with basic tools, equipment and components to make simple products with a range of materials e.g. mix a cake

### Stage Three

Students begin to communicate intentionally. They seek attention through eye contact, gesture or action. They participate in shared activities with less support. They sustain concentration for short periods. They explore materials in increasingly complex ways. They remember learned responses over more extended periods. Students greet known people and may initiate interactions. They can remember learned responses over increasing periods of time and may anticipate known events. They may respond to options and choices with actions and gestures. They actively explore objects and events for more extended periods.

Students:

- sustain involvement in activities involving materials, tools and /or equipment
- explore materials in an increasingly complex manner through manual manipulation and through application of tools
- intentionally use equipment with different access methods
- intentionally initiate push /pull action: observe response and repeat action

- work coactively with basic tools, equipment and components to make simple products in a range of materials with decreasing levels of support e.g. making balsa wood construction

#### **Stage Four**

With help students begin to assemble components provided for an activity. They contribute to activities by grasping and moving simple tools, with minimal support. They explore options within a limited range of materials.

Students:

- experience combining more than one material
- use simple tools to make changes to materials
- show awareness of the safe use of tools
- attempt to construct 3D structures
- sustain interest for a length of time on a pre-decided construction
- manipulate materials to achieve planned effect

#### **Stage Five**

Students use a basic tool. They demonstrate preferences for products, materials and ingredients.

Students:

- begin to identify the properties of materials, communicating likes and dislikes
- select an appropriate material or tool for a specific task given limited choices
- participate, with support, in processes e.g. measuring or cutting
- develop some skills in the safe use of basic equipment
- attempt to verbalise their intention

#### **Stage Six**

Students recognise familiar products and explore the different parts that they are made from. They watch and copy others using a growing range of tools. They demonstrate personal preferences in construction and design.

Students:

- produce a simple design or plan for a stated project e.g. draw a car before constructing
- confidently select the appropriate tool and or material for a task
- make products using a wider range of materials including food, malleable materials, stiff and flexible sheet materials and textiles
- consider the success of their project e.g. 'did the boat float?'

#### **Stage Seven**

Students operate familiar equipment and explore how they work. They use basic tools or equipment in simple processes. They communicate preferences in their designing and making.

Students:

- identify a task
- draw, or make plans from selected pictographs, of what they intend to do
- identify the appropriate tool, equipment or material for a task e.g. blender for milk shake
- make simple predictions and test them

- identify what they could have done differently or how they could improve their work in the future

### Stage Eight

Students begin to make their own contributions to planning, evaluation and to recording their findings in different ways. They demonstrate an awareness of the characteristics and functions of common materials. They demonstrate some awareness of strategies required for planning and organising.

Students:

- know that some instructions need to be in the correct sequence e.g. when making a sandwich
- follow simple instructions to produce e.g. to make a blended drink in cooking
- use some familiar technology appropriately and safely e.g. toaster, photocopier
- make things using a variety of tools and techniques e.g. hammer, screwdriver, glue, stapler
- demonstrate awareness that familiar objects are designed to suit a purpose
- identify familiar technological items and describe their use in daily life e.g. cassette player, telephone,
- make a specific plan, describe the steps and carry out the plan with the support of directed questions

### Stage Nine

Students demonstrate understanding of the characteristics of different structures and of the ways in which they are made. They recognise and use some systems in the home or school. They use tools appropriately when joining and shaping various materials.

Students:

- design and make different structures/ products using concrete materials and explain its function
- select appropriate natural or manufactured materials to make structures/products e.g. cut paper, mix sand and water
- select appropriate tools when joining and shaping
- explain the function of a structure /product that they have made and describe how they made it
- examine different kinds of fasteners e.g. tape, staples and indicate where they are used
- identify materials that can be used to join or fasten other materials e.g. icing
- recognize that a product is manufactured to meet a need e.g. scissors for cutting paper, saws for wood
- explain the function of different structures e.g. umbrella, wheelbarrow
- classify structures in the environment according to specific features e.g. size, material, function

### Stage Ten

Students design and make simple mechanism and investigate their characteristics. They design and assemble products, identifying and describing the materials and tools used.

Students:

- design a usable product that is aesthetically pleasing e.g. library bag, cake and construct it by combining and modifying materials that they have selected themselves
- identify properties of materials that are important to the purpose and function of the objects that are made from them
- describe, using their observations ways in which materials can be changed to alter their appearance, smell, and texture e.g. cooking casserole, painting rough wood
- demonstrate ways in which various materials can be manipulated to produce sounds

- ask questions about and identify needs and problems related to objects and materials, and explore possible answers and solutions e.g. test which materials will hold water