

**DAWOOD PUBLIC SCHOOL**  
**Course Outline for the year 2011-2012**  
**Science**  
**Class-V**

**Book:**

Lets Learn Science Standard 5 (Text Book and Workbook)

**August 2011:**

**Topics: 1.**

**Adolescence (pg 1 – 12)**

Contents	Learning Outcome	Activities
a. Growing up ..... and up. b. Adolescence between childhood and adulthood. c. From a girl to a woman d. Form a boy to a man	Students will be able to: <ul style="list-style-type: none"> <li>• Place themselves on a continuum between babyhood and adulthood, in terms of physical changes.</li> <li>• Identify changes which indicate that they are moving towards adolescence.</li> <li>• Discuss obvious physical changes which occur during adolescence.</li> <li>• State that change happens at different rates for different people.</li> </ul>	1. Construct a timeline to show the various stages of growth. 2, Knowing more about yourself. 3. To investigate if the pulse rate changes between different age groups.

**Teaching Aids:-**

A drinking straw (about 10 cm long), a small piece of plasticine, a thumb tack, a stop watch, a piece of Bristol board, colour pencils or other colouring materials, pictures of yourself at various stages of growth.

**Topics: 2.**

**Cells (Pg 20 – 33)**

Contents	Learning Outcomes	Activities
a. What are living Organisms made of? b. Organs and what are organs made of? c. Using a microscope to look at cells. d. The structure of cells. e. Special kinds of cells. f. Cells, Tissues and organs. g. Where do new cells come from?	<ul style="list-style-type: none"> <li>• Plants and animals are made of organs, that organs are made up of tissues and that tissues are made up of cells.</li> <li>• Use of microscope, prepare slides for viewing with a microscope, and to make clear drawings of what is seen through microscope.</li> <li>• Robert Hooke and other scientists helped to increase our knowledge about cells.</li> <li>• Important similarities and differences between plant and animal cells.</li> <li>• Functions of different parts of a cell.</li> <li>• Structure of some specialized cells such as sperm cell, white blood cell, root hair cell and plisade cells.</li> <li>• Cell division</li> </ul>	1. To prepare a slide of an animal cell and identify different parts of an animal cell. 2. To make a physical model of an animal cell. 3. To prepare a slide of plant cells and identify different parts of a plant cell.

**DAWOOD PUBLIC SCHOOL**  
**Course Outline for the year 2011-2012**  
**Science**  
**Class-V**

**Teaching Aids:**

Microscope, clean toothpick, dropper, filter paper or tissue paper, dilute iodine solution, pair of forceps, fresh onion, small plastic bag, table tennis ball, a thick liquid (eg polycell or glycerol), small jelly beans.

**September 2011:**

**Topic:**

**Measuring the mass and volume of solids (pg 39 – 51)**

Contents	Learning Outcomes	Activities
a. Measuring the mass of solids. b. Measuring the volume of regular and irregular solids. c. Measuring the volume of irregular objects that float.	<ul style="list-style-type: none"> <li>• Determine the mass of solids.</li> <li>• Determine the volume of regular and irregular solids that (a) sink in water and (b) float on water.</li> </ul>	1. To measure the mass of different objects. 2. To find the volume of a tissue box. 3. To find the volume of a piece of cork. 4. To find the volume of a bunch of keys.

**Teaching aids:-**

An electronic balance, a brick, a 1 – litre carton of milk, an inflated basketball, a torch light, a tissue box, a ruler, a displacement can, a wooden stand, a bunch of keys, a measuring cylinder, a sinker, a piece of cork, a piece of string.

**October 2011:**

**Topic:**

**The Animal Kingdom (pg 152 – 157 )**

Contents	Learning Outcomes	Activities
a. Classification of living things b. The Animal Kingdom c. Vertebrates d. Invertebrates	<ul style="list-style-type: none"> <li>• To explain what is meant by classification and the need of classify living things.</li> <li>• How animals can be classified into groups and sub groups based on a number of observable characteristics.</li> <li>• To classify the animals into Vertebrates and Invertebrates which are grouped further into different sub groups.</li> <li>• How to decide which of the sub groups an animal belong to?</li> </ul>	1. To make and display the models of different groups of vertebrates and invertebrates. 2. To collect information and pictures of different groups of animals and make an assignment.

**Teaching Aids:**

Different animals (either alive or toys), charts, animals videos and pictures, the internet, reference books, other sources of information.

**DAWOOD PUBLIC SCHOOL**  
**Course Outline for the year 2011-2012**  
**Science**  
**Class-V**

**November 2011:**

**Topic: Electricity (pg 93 – 119 )**

Contents	Learning Outcomes	Activities
a. Electricity b. Electric Circuit c. The dry cell and the bulb d. The switch e. Circuit diagram f. Brightness of a light bulb g. Making an Electromagnet h. Conserving Electricity. i. Alternatives to fossil fuels	<ul style="list-style-type: none"> <li>• Make a simple electric circuit.</li> <li>• Use the simple electric circuit to make an electromagnet.</li> <li>• Explore different types of electric circuits.</li> <li>• Explain how power stations work</li> <li>• List ways of conserving electricity.</li> <li>• Discuss the environmental impact of the use of fossil fuels.</li> </ul>	<ol style="list-style-type: none"> <li>1. To identify the basic circuit components needed to light up a bulb.</li> <li>2. To investigate the relationship between the brightness of a light bulb and the number and arrangement of electric cells and bulbs used in an electric circuit.</li> <li>3. To conduct a survey and generate ideas how electricity is used in school and can be conserved.</li> <li>4. To make assignment on any renewable energy source.</li> </ol>

**Teaching Aids:-**

Light bulbs, piece of wires (with crocodile clips on each end), dry cells, switches, the internet and other sources of information.

**January 2012:**

**Topic:**

**Response to environment and food preservation. (pg 13 – 25)**

Contents	Learning Outcomes	Activities
a. How mould feeds b. Growth of mould c. Preventing the growth of mould d. Summary of food shortage methods	<ul style="list-style-type: none"> <li>• Describe how mould feeds.</li> <li>• Identify experimental conditions which should be kept constant during an experiment.</li> <li>• Monitor the growth of mould on bread at different temperatures.</li> <li>• Identify the temperature at which mould grows best.</li> <li>• State safety procedures for growing microorganisms.</li> <li>• Explain that poisons may be produced as mould grows.</li> <li>• Describe methods of reducing/preventing growth of mould on various foods.</li> </ul>	<ol style="list-style-type: none"> <li>1. To identify the factors those affect the growth of mould.</li> <li>2. To find out different ways of keeping food free from mould.</li> </ol>

**DAWOOD PUBLIC SCHOOL**  
**Course Outline for the year 2011-2012**  
**Science**  
**Class-V**

**Teaching Aids:-**

Slices of fresh baked bread, hand lens, clear plastic bags, bowl of water, thermometer, disposable gloves and masks, covered shoe box, paper plates, a pen, a notebook.

**February 2012:**

**Topics: - 1.**

**The Human Heart ( pg 19 – 22)**

**Topics: - 2.**

**2. Circulatory System (pg 7 – 9)**

Contents	Learning Outcomes	Activities
a. A muscular organ b. Structure of the heart c. Function of the heart d. Circulatory System	<ul style="list-style-type: none"> <li>• To recognize the heart as a muscular organ whose function is to pump blood through the body.</li> <li>• Identify the parts and explain the structure of the heart.</li> <li>• Explain the process of the circulation of blood in the heart.</li> <li>• Identify and label the parts of the heart in a given diagram.</li> <li>• Understand and explain the functions of the main parts of the circulatory System.</li> </ul>	1. Prepare a poster of Human Heart. 2. Find out from the Internet about diseases of Heart and their remedies. 3. Make a chart to show the blood circulation in the body.

**Teaching Aids:**

Chart Paper, colours, the Internet and other sources of information, model of Human Heart.

**March 2012:**

**Topics:- 1.**

**Types of Motion (pg 52 – 67)**

Contents	Learning Outcomes	Activities
a. Types of motion b. Different devices and how they work c. More devices and how they work d. Screw	<ul style="list-style-type: none"> <li>• Identify the types of motion (rotation, linear and oscillation) in devices.</li> <li>• Explain how motion is relation to the functions in devices.</li> </ul>	1. To classify motions into different types. 2. To investigate how gears work.

**Teaching Aids:-**

Paper fasteners, corrugated board, 3 mm thick Bristol board.

**DAWOOD PUBLIC SCHOOL**  
**Course Outline for the year 2011-2012**  
**Science**  
**Class-V**

**2. Magnets and Magnetism (pg 68 – 92)**

Contents	Learning Outcomes	Activities
a. What are magnets? b. Magnetic and non magnetic Materials. c. Poles of a magnet d. How a compass works? e. The "Field" around a magnet f. Attraction and repulsion g. More about a compass h. Is this a magnet or magnetic material? i. Making magnets. j. Temporary and permanent magnets. k. Uses of magnets	<ul style="list-style-type: none"> <li>• Identify magnetic and non magnetic materials.</li> <li>• Identify the north seeking and south seeking poles of a magnet.</li> <li>• Detect the presence of a magnetic field.</li> <li>• State that like poles repel, unlike poles attract.</li> <li>• Distinguish between a magnet and magnetic material.</li> <li>• Demonstrate methods of making a temporary magnet.</li> <li>• Discuss the difference between temporary and permanent magnets.</li> <li>• Discuss the uses of magnets.</li> </ul>	1. To find out which materials can be attracted by magnets.  2. To show and study the magnetic fields of magnets.  3. To find out about the attraction and repulsion between 2 magnets.  4. To make a magnet by using the "Stroke" method and "Induction" method.

**Teaching Aids:-**

A long iron nail, a bar magnet, some iron paper clips, two bar magnets with the north seeking and south seeking poles labelled, a piece of card board, U shaped magnet, horse shoe magnet, 1 or 2 rupee coin, pencil, an eraser, a pair of spectacles, a piece of chalk, a ruler, an empty drink can, a piece of copper wire, a plastic spoon, etc.

**April 2012:-**

**Topic:**

**Solutions (pg110 – 119)**

Contents	Learning Outcomes	Activities
a. What is a solution? b. Separating Solutes and Solvents. c. What affects solubility?	<ul style="list-style-type: none"> <li>• To distinguish among solutes, solvents and solutions.</li> <li>• To describe different techniques used to separate mixtures like filtration, evaporation and distillation.</li> <li>• To describe and investigate factors those affect the solubility and rate of dissolving of substances.</li> </ul>	1. To separate a mixture using filtration.  2. To separate a mixture by evaporation.  3. To separate a mixture using distillation.

**Teaching Aids: -**

Filter funnel, 2 beakers, filter paper, sand, glass rod, retort stand, evaporating dish, heating apparatus, tongs, salt, distilling flask, rubber band with glass delivery tube, conical flask, porcelain chips and thermometer.