

# DAWOOD PUBLIC SCHOOL

Course out line 2011-2012

Subject G-Science

Class – VI

## Book:

Ho Peck Leng 2009 International lower secondary science book 1,

## Syllabus Aims and Assessment:

### Aims

The aims are to:

1. Provide through well-designed studies of experimental and practical science a worthwhile Educational experience for all students. In particular, students' studies should enable them to acquire understanding and knowledge of the concepts, principles and applications of biology, Chemistry and Physics.
- 1.1 Become confident citizens in a technological world, able to take or develop an informed Interest in matters of scientific import;
- 1.2 Recognize the usefulness, and limitations, of scientific method and to appreciate its applicability in other disciplines and in everyday life;
2. Develop abilities and skills that are relevant to the study and practice of science; useful in everyday life; encourage efficient and safe practice; encourage effective communication.
3. Develop attitudes relevant to science such as accuracy and precision; objectivity; integrity; enquiry; initiative; inventiveness.
4. Stimulate interest in and care for the environment.
5. Introduce students to the methods used by scientists and to the ways in which scientific discoveries are made.

### Assessment Objectives

Students should be able to demonstrate knowledge and understanding in relation to

1. Scientific phenomena, facts, laws, definitions, concepts and theories,
2. Scientific vocabulary, terminology and conventions (including symbols, quantities and units),
3. Use information to identify patterns, report trends and draw inferences,
4. Present reasoned explanations for phenomena, patterns and relationships
5. Use techniques, apparatus and materials
6. Plan investigations and/or evaluate methods and suggest possible improvements

### Assessment

Assessment will be done on the base of MCQ's, short Answers, descriptive answers ,labeling , sketching, matching, assignments, mini projects, work sheets, analytical questions, presentations and practical

### Monthly Syllabus

• August	<ul style="list-style-type: none"> <li>• Introduction to Science</li> <li>• Physical Quantities and Measurements(length and area)</li> </ul>
• September	<ul style="list-style-type: none"> <li>• Habitat and Food chains</li> <li>• More About Dissolving</li> </ul>
• October	<ul style="list-style-type: none"> <li>• How We See Things</li> <li>• Micro-organisms(virus and bacteria)</li> </ul>
• November	<ul style="list-style-type: none"> <li>• Revision for Mid Term Exams</li> </ul>
• December	<ul style="list-style-type: none"> <li>• MID TERM EXAMS</li> </ul>
• January	<ul style="list-style-type: none"> <li>• Physical Quantities and</li> </ul>

	Measurements(volume and speed)
• February	<ul style="list-style-type: none"> <li>Plant growth</li> <li>Micro-organisms(fungus)</li> </ul>
• March	<ul style="list-style-type: none"> <li>Reversible and irreversible changes</li> <li>Forces</li> </ul>
• April/ may	<ul style="list-style-type: none"> <li>Revision For Final Exams</li> <li>FINAL EXAMS</li> </ul>

## Syllabus Content

1.August;

Introduction to Science

Chap No.1, Pg No.(1-23)

Contents	Learning out comes	Activity
1.1 What is science?  1.2 Important Attitude in the study and practices of science  1.3 Skills and Processes  1.4 Safety Rules in the Laboratory	<ul style="list-style-type: none"> <li>The meaning of Science</li> <li>the attitude, skills and processes involved in the study of Science</li> <li>safety rules observed in labs</li> <li>hazard symbols</li> <li>the types of laboratory apparatus and their uses</li> <li>the benefits, abuses and limitations of Science and technology</li> <li>Appreciate that science inquiry requires attitudes such as curiosity, creativity, integrity, open-mindedness and perseverance</li> <li>Learn individual effort and working in a team as part of sciences inquiry               <ul style="list-style-type: none"> <li>State that science is not confined to the laboratory but can be observed everywhere</li> <li>Pay special attention to safety while working in the laboratory.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Interclass debate on the motion-Science Has Improved Our Lives.</li> </ul> Or <ul style="list-style-type: none"> <li>Lab visit to study the Bunsen burner and to observe the difference between luminous and non luminous flame.</li> </ul>

## Physical Quantities and Measurements

Chap No.2, Pg No.(24-37)

Contents	Learning out comes	Activity
2.1 Measurement  2.2 Physical Quantities and SI Units  2.3 Measuring length  2.4 Measuring Area	<ul style="list-style-type: none"> <li>the appropriate units for length and area</li> <li>to interpret and use the appropriate prefixes</li> <li>to use the metre rule, measuring tape and vernier calipers</li> <li>to calculate the areas of regular and irregular figures</li> <li>Make estimations and/or measurement of length</li> <li>Use the S.I. unit and other appropriate units for lengths</li> <li>Measure a variety of lengths with appropriate accuracy by means of tapes, rulers and calipers</li> </ul>	<ul style="list-style-type: none"> <li>To find out area of a leaf or any other irregular object using a square grid</li> </ul>

	<ul style="list-style-type: none"> <li>• Make estimations and/or measurements of area</li> <li>• Use the S.I. unit and other appropriate units for area</li> </ul>	
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## 2. September

### Habitat and Food chains

Chap No.4, Pg No. (69-92)

Contents	Learning out comes	Activity
<p>4.1 Habitats</p> <p>4.2 The Animals and plants in a habitat are interdependent</p> <p>4.3 Animals and plants in a habitat are suited to their environment.</p> <p>4.4 food chains</p>	<ul style="list-style-type: none"> <li>• to use keys to identify a number of plants and animals in a local habitat</li> <li>• to identify organisms in different habitats</li> <li>• ways in which animals and plants are interdependent</li> <li>• features of plants and animals according to their environment</li> <li>• food chains to represent feeding relationships</li> <li>• food chains begin with a producer</li> <li>• to construct food chains in a particular habitat</li> <li>• Describe the interrelationship among the various organisms in a community</li> <li>• State that the habitat together with the organisms living in it forms an ecosystem</li> <li>• List some examples of ecosystem found on earth</li> <li>• Define the terms producers, consumers and decomposers</li> <li>• Describe the non-cyclic flow of energy through the food chain</li> </ul>	<p>: To visit a park and identify at least 3 food chains there.</p>

## More About Dissolving

Chap No.6, Pg No.(114-123)

Contents	Learning out comes	Activity
<p>6.1 Do all solids Dissolve in water?</p> <p>6.2 Separating a Soluble solid from water</p> <p>6.3 Investigating how solids can dissolve more quickly in water</p>	<ul style="list-style-type: none"> <li>• to recognize that solids can be separated by filtering or sieving</li> <li>• to sequence the steps required to separate a mixture</li> <li>• to predict which type of water contain dissolved materials</li> <li>• to recognize that when solids dissolve a clear solution is formed which cannot be separated</li> <li>• to recognize that when liquid evaporates, solid is left behind</li> </ul>	<ul style="list-style-type: none"> <li>• to show the process of filtration in lab</li> </ul>

	<ul style="list-style-type: none"> <li>• to predict what happens when water from a solution evaporates and to test these predictions</li> <li>• to identify and carry out a fair test to investigate the factors which affect how fast solids dissolve</li> </ul>	
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## October

### Micro-organisms

#### Chap No.5, Pg No.(93-102)

Contents	Learning out comes	Activity
5.1 What are micro-organisms?  5.2 Diseases caused by micro-organism and viruses	<ul style="list-style-type: none"> <li>• To recognize that micro-organisms are too small to be seen</li> <li>• Diseases passed and caused by micro-organisms</li> <li>• To explain why cleaning teeth regularly helps prevent tooth decay</li> </ul>	<ul style="list-style-type: none"> <li>• To show slides of microbes.</li> </ul>

## How We See Things

#### Chap No.9, Pg No.(157-180)

Contents	Learning out comes	Activity
9.1 Sources of light  9.2 Reflection of light  9.3 Can we see through all materials?	<ul style="list-style-type: none"> <li>• To explain that light travels from a source</li> <li>• To explain that we see light sources because light enters our eyes</li> <li>• To explain that light from an object can be reflected by a mirror</li> <li>• To recognize that the direction of a beam of light travelling from a light source can be indicated by a straight line with arrow.</li> <li>• To show that shiny surface reflect light better than dull surface.</li> <li>• To recognize differences between shadows and reflection.</li> </ul>	<ul style="list-style-type: none"> <li>• Construct a pinhole camera.</li> <li>• Observe changing the length and position of a shadow.</li> </ul>

## November

Revision For Mid Term Exams

## December

Mid Term Exams

**January**  
**Physical Quantities and Measurement**  
**Chap No.2, Pg No.(24-37)**

Contents	Learning out comes	Activity
2.5 Measuring volume	<ul style="list-style-type: none"> <li>to measure volume</li> <li>to use the stop watch to measure time</li> <li>to use the electronic balance to measure mass</li> </ul>	<ul style="list-style-type: none"> <li>find out the volume of circle, cylinder and cone</li> </ul>
2.6 Measuring mass	<ul style="list-style-type: none"> <li>to explain average speed</li> <li>To calculate average speed</li> </ul>	
2.7 Measuring time	<ul style="list-style-type: none"> <li>Make estimations and/or measurements of volume including the volume of liquids and solids</li> <li>Use the derived S.I. unit and other appropriate units for volume</li> </ul>	<ul style="list-style-type: none"> <li>find out the mass of different objects</li> </ul>
2.8 Speed	<ul style="list-style-type: none"> <li>State what mass is</li> <li>State the S.I. unit of mass</li> <li>Use instruments to measure mass</li> <li>Explain what is meant by density</li> <li>Use appropriate units for density</li> <li>Calculate density using the formula</li> </ul>	

**Plant Growth**  
**Chap No.3, Pg No.(58-63)**

Contents	Learning out comes	Activity
3.1 What do plants need to grow well?	<ul style="list-style-type: none"> <li>to recognize that plants need light to grow</li> <li>to make observations of plant growth</li> <li>to recognize photosynthesis</li> <li>to recognize that fertilizers are needed by plants</li> <li>to recognize that different plants grow in different soil conditions</li> </ul>	<ul style="list-style-type: none"> <li>grow any plant in pot and observe its growth(co-ordinate with gardening).</li> </ul>
3.2Plants and Nutrients	<ul style="list-style-type: none"> <li>to recognize that water and nutrients are taken by roots</li> <li>to recognize that roots anchor the plants in the soil</li> </ul>	

**February**  
**Micro-organisms and Diseases**  
**Chap No.5, Pg No.(103-113)**

Contents	Learning out comes	Activity
5.3Micro-organisms and food	<ul style="list-style-type: none"> <li>to explain that micro-organisms grow on food and can cause food poisoning</li> <li>to identify ways to handle and store food to prevent food decay and poisoning</li> </ul>	<ul style="list-style-type: none"> <li>PowerPoint presentation</li> </ul>
5.4 Micro-organisms and decomposition	<ul style="list-style-type: none"> <li>to recognize that microbes feed and grow</li> <li>to recognize that microbes</li> </ul>	

	are useful in food production	
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**March****Forces****Chap no8,Pg no.(135-156)**

Contents	Learning out comes	Activity
8.1 Effects of a force	<ul style="list-style-type: none"> <li>• to show an understanding of the effects of force</li> <li>• to use a force meter</li> <li>• to infer that how much an elastic band stretches</li> <li>• to recognize that several forces may act on one object</li> <li>• to represent direction of force by arrows</li> <li>• to recognize different types of forces</li> <li>• to recognize that objects have weight because of gravitational force</li> <li>• to identify weight as a force and is measured in new tons</li> <li>• to recognize that when an object is submerged, the water provides an upward force on it</li> <li>• to recognize that air resistance slows moving objects</li> </ul>	
8.2 The size and direction of a force		
8.3 Magnetic force		
8.4 Gravitational force		
8.5 up thrust		
8.6 Air Resistance		

**April**

Revision for final exams

**May**

Final Examinations

**Teaching Support**

Documentaries, multimedia, presentations, slides, lab will be used.

**Resource List**

New Lower Secondary Science1 by Tho Lai Hoong, EPB

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