

POLICY: Programming Policy 7-10

1. Rationale

Teacher programmes are the main criteria used in making sure the school is both accountable to local and outside authorities such as the Board of Studies and the Catholic Schools Office. It also gives St Philomena's the tool to enhance the teaching and learning environment for both staff and students as we seek to provide a balanced curriculum in the context of Catholic Secondary Schooling.

Constant programme review and evaluation leads to 'a contextual curriculum which is relevant to the local environment' This allows staff to achieve our key objectives of *developing Knowledge, Understanding, Skills, Values and Attitudes* within our students.

2. Aim

To demonstrate continuity between assessments and the attainment of outcomes referring to the Stage 4 and 5 Syllabus Documents of the Board of Studies of New South Wales.

To demonstrate that teachers are teaching to the outcomes, of each specific Key Learning Area.

To demonstrate accountability that all requirements are being met by the teacher / school in accordance with the Board of Studies and Catholic Schools Office.

To create a tool for St Philomena's to enhance the teaching and learning environment for both staff and students as we seek to provide a balanced curriculum in the context of Catholic Secondary Schooling and the local Moree community.

3. Implementation –

Supervisors consist of the Stage 4 & 5 Co-ordinator, the Curriculum Coordinator, the Assistant Principal, Religious Education Co-ordinator and specialist staff as deemed relevant by the Principal. Written feedback to teachers is provided within 2 weeks of submission of the teaching program to the Curriculum Coordinator. Copies of program reviews are forwarded to the Principal.

Programs will be handed in within A4 binders (provided by the school) or as bound documents. Each individual teacher is to choose a format that is suitable for their KLA.

Programme Supervision involves both formative (ongoing support through meetings, co-planning and discussion) and summative (written report based on policy guidelines and expectations) feedback. This usually occurs in Week 5 of each Term. (Appendix I)

It will be the role of the Curriculum Coordinator to develop a filing system for each KLA so that units of work, both existing and developed, will be available to teachers on a term/yearly basis. Units of work are then adapted, developed and refined on a year-to-year basis according to the needs of the school and as curriculum developments arise from the Board of Studies of NSW.

Staff will be required to use appropriate templates (Appendix I – IV). Appropriate templates should include:

- Scope and sequence which outlines
 - o The title of units covered including details of key competencies (or key content) within the unit
 - o The outcomes covered by the unit
 - o The number of weeks the unit will be taught across
- Resource list
- Assessment statement; Assessment Schedule; Syllabus outcomes with teaching and learning strategies

Programming Components for each Key Learning Area. Staff are required to have their program in the following order.

- | | | |
|--|---|----------------------------------|
| <ol style="list-style-type: none"> 1. Title Page <small>(school name, emblem, stage, year, pastoral group, KLA, teacher)</small> 2. Contents 3. Introduction (copied from syllabus) 4. Rationale 5. Co Planning Statement 6. Situation Analysis 7. Assessment Statement (Appendix II) 8. Resources List (Appendix IV) 9. OH & S Statement | } | Organisational Statements |
| <ol style="list-style-type: none"> 10. Scope and Sequence (including Key competencies) (Appendix V) 11. Timetable 12. Units / Teaching and Learning Plan (Appendix VI) 13. Individual Education Plans 14. Unit Evaluation (Appendix VII) | } | Program |

Course requirements . Subject Strands – Key concepts (Yearly Overview)

At the beginning of your programme for each KLA two statements are developed indicating both the ***Strands and Key Concepts*** for that particular subject; both located in the introductory sections of each syllabus document.

Key Learning Area Outcomes (Yearly Overview)

A full set of KLA Outcomes for the relevant Key Learning Area needs to be included. An abbreviated form of these Outcomes will be used in the Content Summary Sheet.

When planning over the year (or designated time) it is essential that exist a balance of teaching and learning activities exists between the subject strands, key concepts and learning outcomes. Key Learning Outcomes programmed to achieve need to be highlighted in this section of your Programme.

In most KLA documents there needs to be a skills activity checklist. This needs to be included in this section of the programme and highlighted when it is programmed for

- It is the role of the Curriculum Co-ordinator to help develop and monitor this programming component in conjunction with staff and support from the Assistant Principal, Religious Education Coordinator and Principal.

Co-planning Statement

Co-planning is an important aspect of programming. Where two teachers are teaching the same KLA across the same grade it is imperative that units of work are co-planned and that students are exposed to similar learning activities and outcomes across the grade. New units not developed within the school may be adapted after consultation with peer staff and those involved in programme supervision.

Weekly Teaching and Learning Programme

The unit programme provides detail of the actual content covered in each KLA, and also the learning activities that students engage in. This is the body of your programme and the section that reflects your day to day teaching. Activities and content need dating when completed and regular annotations need to be made to outline modifications made; effectiveness of tasks; and suitability or the students taught with programme supervisors also looking to see that written comment or observations through this section reflect ongoing evaluation.

1. If teachers are using *specific syllabus related* or *support units* it is appropriate to make a *copy* of the unit *highlighting activities planned, dating the section completed and adding any appropriate written comments*.
2. If teachers *are using a variety of resources or texts*, a *more open planning approach* needs to be used, *linking outcomes with teaching and learning experiences, resources, assessment and evaluation*.

OUTCOMES	LEARNING EXPERIENCES	RESOURCES	ASSESSMENT	Registration/Evaluation

St Philomena's School
Secondary Department Registration/Evaluation Sheet

NAME: _____

CLASS: _____

Name of Unit: _____

Date Commenced: _____

Date Completed: _____

Content Covered (in summary):

- * _____
- _____
- * _____
- _____
- * _____
- _____
- * _____
- _____

Outcomes achieved

- * _____
- * _____
- * _____
- * _____

Assessment - items marked:

1. _____
2. _____
3. _____
4. _____
5. _____

Evaluative Statement:

Signed:



ST PHILOMENA'S SCHOOL MOREE

Secondary Program Appraisal

Teacher/s: _____

KLA: _____

Stage: _____

Term: _____

Year: _____

ORGANISATIONAL STATEMENTS	Organisation Requirements <ul style="list-style-type: none"> Cover Sheet / Title Page / Label (Teachers name, Course, Stage, Pastoral Class) Philosophy of Education Pastoral Care Policy 	
	Course Requirements <ul style="list-style-type: none"> Course overview Outcomes Course Aims – directly from the syllabus document 	
	Rationale <ul style="list-style-type: none"> refer to syllabus documents, School Mission Statement, Literacy/Numeracy Plans Co-planning Statement 	
	Situation Analysis	
	Assessment Statement <ul style="list-style-type: none"> refer to syllabus documents, course requirements Assessment Schedule (weightings) Course Performance Descriptors (Stage 5) 	
	Resources <ul style="list-style-type: none"> Relevant Syllabus and Support Documents Set Texts Supporting Texts Other content/skill resources Audio/Visual Resources 	
	Productions and Excursions Policies	
	OH&S Statement	

PROGRAM	Scope and Sequence	
	Timetable <ul style="list-style-type: none"> • include lesson allocation • Library, Computer and TAFE bookings • Indicate practical and theory lessons 	
	Term Overview	
	Topic Planner Sheet <ul style="list-style-type: none"> • Key unit outcomes • Content Summary • Learning experiences / Teaching strategies • Catering for individual needs (extension and remediation) • Resources – including teaching aides, apparatus, sporting equipment, bulk library loads • Specific assessment strategies • Other focus areas eg. Literacy / numeracy development • 	
	Units / Modules <ul style="list-style-type: none"> • Selected syllabus outcomes • A series of well sequenced lessons (learning experiences and teaching strategies task) • Evaluation and Registration • Individual Education Plan 	
	Unit Registration	

Comments:

Supervisor:
Date:

Position:

Principal:



Stage 4/5, Year 7 – 10 SCIENCE

Assessment Statement

Current as at May 2009

Assessment

Assessment is the process of collecting, analysing and recording information about student progress aligned against Syllabus Outcomes and Foundation Statements. An important purpose of assessment is to determine what students know and can do in order to assist in designing appropriate teaching/learning programs for all students. The diverse nature of the skills identified in the **Science** syllabus demand that a variety of appropriate assessment techniques be used.

Agreed Science Assessment Practices

- At St Philomena's School assessment activities in **Science** will be integral to teaching and learning activities.
- Assessment will be based on outcomes that specify what students know, understand and should be capable of demonstrating.
- Pre-assessment activities will be undertaken by teachers prior to the teaching and learning to plan to determine the content for the learners whenever possible.
- Assessment will be undertaken in all units of the **Science** syllabus within both Stage 4 and Stage 5.

Stage 4 Units

Year 7:

- Unit 1 - Introduction to Science – Working as a Scientist
- Unit 2 – Separating Mixtures
- Unit 3 – Solids, Liquids and Gases
- Unit 4 – Classification
- Unit 5 – Cells
- Unit 6 – Forces
- Unit 7 – Heat, Light and Sound
- Unit 8 – Our Planet Earth
- Unit 9 – Earth and Space

Year 8:

- Unit 1 – The Human Body
- Unit 2 – Nutrients
- Unit 3 – Transport Highways
- Unit 4 – Microbes
- Unit 5 – Atoms and Chemical Reactions
- Unit 6 – Electricity
- Unit 7 – Plant Systems (including Independent Research Project)
- Unit 8 – Ecology
- Unit 9 – The Earth and Beyond

Stage 5 Units

Year 9:

- Unit 1 – The Earth's Fragile Crust
- Unit 2 – The Periodic Table
- Unit 3 – Chemical Reactions
- Unit 4 – Origin of the Universe
- Unit 5 – Light (including Independent Student Research Project)
- Unit 6 – Energy in Ecosystems (including Independent Student Research Project)
- Unit 7 – Reproduction
- Unit 8 – Sense and Control
- Unit 9 – Simple Machine Technology

Year 10:

- Unit 1 – Biology – Evolution and Genetics
- Unit 2 – Chemistry – Chemical Reactions and Materials
- Unit 3 – Physics – Electricity and Communications Technology; Motion
- Unit 4 – Revision of Year 7-10 Science and Preparation for the School Certificate

Agreed Science Assessment Practices - continued

- Each assessment activity will be designed to cater for the range of abilities within the stage.
- Where necessary curriculum adjustments will be made for specific students. This will be identified in the program.
- Assessment tasks will provide clear instructions/details outlining precisely the requirement of the tasks to assist and inform the learner of how they can achieve at levels of success.
- Teachers will design open-ended tasks in order to allow for the demonstration of higher levels of skills, knowledge and understandings.
- There will be a wide variety of tasks conducted in order to cater for different learning styles.
- Teachers will report twice per year student achievement (at this point in time) to parents and aligned to content taught, using the Common Grade Scale A-E in accordance with Board of Studies requirements and Diocesan guidelines.
- All assessment will be used to inform/determine the next stage of planning for student needs.
- Copies of assessment tasks will be kept for future reference and use in future years if required. Assessment tasks will be evaluated against student achievement for fine – tuning and/or redesign if required.

Unit Teaching and Learning

- Each unit of work will include a number of opportunities for formal and informal assessment that will reflect this KLA statement.
- Each unit will clearly articulate the teaching and learning program that indicates the alignment of outcomes and indicators.
- Each unit of work will use a variety of in-class assessment tasks to measure student's achievement in addition to a major assessment task.

What is to be Assessed?

- Outcomes related to knowledge and understanding of the **Science** syllabus.
- Outcomes related to skills associated with the **Science** syllabus.
- Outcomes related to values and attitudes associated with the **Science** syllabus.

Assessment Schedules

Assessment of student achievement for / of learning will take place:

- As an ongoing and informal process of observation of and discussion with individual students and classes;
- At various times through the year as indicated in the Formal Assessment Schedule.

Assessment Tasks

In planning for assessment in Science it is important for teachers to consider:

- the requirements of the syllabus
- the nature of the learning styles within a class or stage group
- the appropriateness of the challenge presented to individual students
- resource availability
- how the task will be administered
- the way in which feedback will be provided.

Pre Assessment

This will occur *prior* to the topic/content delivery. It will determine the level of existing knowledge and skills that students already possess. This may be gleaned by using a variety of either individual, group or class activities. It may also be gleaned in either written or oral form.

Assessment for Learning (formative)

- Assisted by the information from pre assessment, this will occur as a regular part of the teaching and learning process and that information gained from such assessment activities will be used to shape the teaching and learning process.
- A selection of teaching strategies should be informed by stage outcomes and indicators that have been selected for each unit of work.
- A cumulative profile will be developed throughout the unit using informal and systematic observation of students and assessment tasks aligned to specific outcomes or groups of outcomes and will be recorded in the teacher's assessment book.

Assessment of Learning (summative)

- *Assessment for learning* in Science is designed to enhance teaching and improve learning. It is assessment that gives students opportunities to produce the work that leads to the development of their knowledge, understanding and skills. *Assessment for learning* involves teachers deciding how and when to assess student achievement, as they plan the work students will do, using a range of appropriate assessment strategies including self and peer assessment.
- Teachers will provide students with opportunities in the context of everyday classroom activities, as well as planned assessment events, to demonstrate their learning.
- This assessment directly relates to students acquisition of knowledge, skills and values.
- Teachers will make judgements about student progress at regular intervals. These could focus on a single outcome or a number of outcomes.

Selection of Assessment tasks

Teachers are required to:

- Create tasks that give students the opportunity to produce work that leads to development of their knowledge, understanding and skills, not just show off what they know.
- Create assessment tasks that reflect the outcomes being assessed.
- Select a variety/use a range of assessment tasks in order to cater for different learning styles.

Monitoring

Teachers are to monitor and review the assessment practices undertaken over the term in conjunction with the Curriculum Coordinator (Secondary). Points to monitor include:

- Number of tasks
- Weighting of tasks (if required)
- Relevance of tasks to the unit and outcomes
- Diversity of tasks to ensure as wide a range of learning styles are catered for.

Recording

All teachers are to keep individual records of student achievement. Records are to be maintained in:

- hard copy within the teacher's Assessment Book
- hard copy which is provided to the Curriculum Coordinator (Secondary) after the conclusion of marking of each formal assessment task
- soft copy within the teacher's own computer/laptop/thumb drive
- soft copy on the staff computer within an area predetermined by the Curriculum Coordinator

Results for assessment tasks may be presented as grades (A – E) or numerical marks or a combination of both. The final record of achievement placed on the student's report will be in the grade (A – E) format only and will be supported by a comment written in non-educational common language that is easily understood by parents / guardians.

School Certificate Grades

In Stage 4 and 5 students are awarded a report grade in accordance with school policy. The grade is based upon the results awarded in formal assessments and from teacher professional input based on class work and other indicators such as observation. In Stages 4 and 5 reports are prepared at the end of each semester and require a grade, a level of achievement for personal skills and work habits and a comment.

For determination of School Certificate grades to be placed on the School Certificate Record of Achievement, each teacher is provided with a copy of the 'Board of Studies of New South Wales – Course Performance Descriptors' (CPD's). The CPD's are utilised to assign grades according to the performance of students across the year in formative assessment tasks and through teacher professional judgement as to the abilities of a particular student within summative assessment tasks. Cut off points are determined for each grade, within each KLA. These grades are discussed at a staff meeting and any result that does not accurately reflect student performance is reviewed.

Examples of Assessment Strategies

Assessment for Learning

Assessment for learning in Science is designed to enhance teaching and improve learning. It is assessment gives students opportunities to produce the work that leads to development of their *knowledge, understanding* and *skills*. *Assessment for learning* involves using a range of appropriate assessment strategies including self-assessment and peer assessment.

Teachers in Science will provide students with opportunities to demonstrate their leaning, in the context of both:

- informal everyday classroom activities
 - lesson questioning within the classroom and on a one-to-one basis
 - quizzes
 - topic tests
 - observation of practical skills during laboratory work
- planned formal assessment events
 - topic tests
 - semester examinations (and/or Trial School Certificate examinations for Year 10 only)
 - laboratory reports
 - practical skill examinations
 - independent student research projects – identifying a problem to be investigated; and, then planning, conducting and evaluating a laboratory experiment to analyse the problem and explain any trends, patterns and relationships in the data collected to work towards a possible solution
 - assignment work involving either or both research and/or analysis and evaluation of information from a wide variety of secondary source
 - the use of appropriate forms of communication to present information to an audience (e.g. oral presentation of research, the use a power point presentation etc.)

In summary, *assessment for learning*:

- is an essential and integrated part of teaching and learning
- reflects a belief that all students can improve
- involves setting learning goals with students
- helps students know and recognise the standards they are aiming for
- involves students in self-assessment and peer assessment
- provides feedback that helps students understand the next steps in learning and plan how to achieve them
- involves teachers, students and parents in reflecting on assessment data

Quality Assessment Practices

The following *Assessment for Learning Principals* provide the criteria for judging the quality of assessment materials and practices.

Assessment for learning:

- emphasizes the interactions between learning and manageable assessment strategies that promote learning
- clearly expresses for the student and teacher the goals of the learning activity
- reflects a view of learning in which assessment helps students learn better, rather than just achieve a better mark
- provides ways for students to use feedback from assessment
- helps ways for students to use feedback from assessment
- helps students take responsibility for their own learning
- is inclusive of all learners

Peer assessment


Science encourages the active involvement of students in the learning process. Opportunities exist for individual and collaborative work. Activities involving peer assessment might include evaluating the contribution of individuals to a group task, and reflecting on peer presentation.

Self-assessment

In Science, students are encouraged to acquire basic skills to become self-directed learners. Opportunities exist for students to reflect on their progress towards the achievement of the syllabus outcomes. This reflection provides the basis for improving their learning. Developing self-assessment skills is an ongoing process, becoming increasingly more sophisticated and self initiated as a student progresses.

Reference: *Science Year 7 – 10 Syllabus*, Board of Studies, NSW, 2003.

Appendix III

		ST PHILOMENA'S SCHOOL 2009 Stage 4, Year 7B, Science Assessment Schedule			
	Task	Unit	Outcomes	Date/Due Date	Weighting (%)
1	Practical Test – Lighting the Bunsen burner	Introduction to Science	4.12, 4.14, 4.22	Term 1, Week 7	10%
2	Topic test – Safety and Skill Development Licence	Introduction to Science	4.12, 4.17, 4.19	Term 1, Week 8	10%
3	Research Assignment - Scientist	All units – specifically addressing the History of Science	4.1, 4.3, 4.16, 4.18	Term 2, Week 4	15%
4	Semester One Exam	Semester One Units	4.2, 4.7, 4.12	Term 2, Week 6	15%
5	Use of Classification Keys and Use of a Microscope - Practical Test	Classification and Cells	4.8, 4.12, 4.19	Term 3, Week 4	15%
6	Laboratory Report	Forces	4.6, 4.14, 4.15, 4.19	Term 3, Week 7	15%
7	Semester Two Exam	Semester Two Units	4.6, 4.7, 4.8, 4.12	Term 4, Week 6	20%



Science Resource List

Generic Resources

– Utilised throughout the delivery of Years 7 -10:

- Scientific Laboratory Equipment and Chemicals
- Board of Studies of New South Wales – Science 7 – 10 Syllabus Stages 4 and 5 (2003)
- Board of Studies of New South Wales – Science 7 – 10 Syllabus Support (1999)
- Australian Museum (Sydney) – Science in a Box (various themes - e.g. Evolution of the Australian Biota; Insects etc.)
- Easy experiments with everyday objects
- Internet – Various sites
- Oxford Dictionary of Science
- Problem Solving in Science – Book 1
- Problem Solving in Science – Book 2
- Progress Questions for Junior Science – Volume 1
- Progress Questions for Junior Science – Volume 2
- Progress Questions for Junior Science – Teacher's Guide
- Science on the move
- Science Resource Packs (Computer Software)
- Science topics for senior students – Book 1
- Science topics for senior students – Book 2
- Science topics for senior students – Book 3
- Scientific Enquiry Skills – Book 1
- Scientific Enquiry Skills – Book 2
- Sensational Science: Easy experiment with everyday objects
- Simple Chemistry Experiments for Junior Science
- Stage 4 Science Assessment
- The Complete Handbook of Science Fair Projects
- The Great Double Helix Science Quiz Book
- The Laboratory: A Science reference and preparation manual for schools
- The New Penguin Dictionary of Science
- Thought Provoking Demonstrations and Experiments for Junior Science
- 100 Hands-on Physical Science Activities for Years 7 – 9
- Working Scientifically with Earth and Beyond



Science Resource List

Year 7:

- About Science 1
- Active Science Skills and Experiments 1 – Student's Workbook
- Active Science Skills and Experiments 1 – Teacher's Answer Book
- Core Science – Teacher Support Kit for Books 1 & 2
- Core Science 1 (**in class Student Text**)
- Everyday Science – Book 1
- Heinemann Achieve Science – One: Alternative Outcomes-based worksheets
- Literacy in Science – Book 1
- Longman Science 1
- Science Assessments Years 7 and 8
- Science Australia 1
- Science Edge 1
- Science Focus 1 (**STUDENT TEXTBOOK**)
- Science Focus 1 – Homework Book
- Science Focus 1 – Teacher's Resource
- Science Moves 1
- Science Search Book 1
- Science Skills 1
- Science Skills in Perspective – Book 1
- Science Tracks 7: Explorations for Australian Schools
- Science World 7
- Science World 7 Workbook
- The World of Science – Book 1



Science Resource List

Year 8:

- About Science 2
- Core Science – Teacher Support Kit for Books 1 & 2
- Core Science 2 (**in class Student Text**)
- Comprehensions Strategies Instructions (CSI) Kit for the Smart Board – Science Literacy 8
- Heinemann Interactive Science 2
- Literacy in Science – Book 2
- Longman Science 2
- Science Assessments Years 7 and 8
- Science Australia 2
- Science Edge 2
- Science Focus 2 (**STUDENT TEXTBOOK**)
- Science Focus 2 – Homework Book
- Science Focus 2 – Teacher's Resource
- Science Moves 2
- Science Search Book 2
- Science Skills 2
- Science Skills in Perspective – Book 2
- Science Tracks 8: Explorations for Australian Schools
- Science World 8
- Science World 8 Workbook
- The World of Science – Book 2



Science Resource List

Year 9:

- About Science 3
- Core Science – Teacher Support Kit for Books 3 & 4
- Core Science 3 (**in class Student Text**)
- Heinemann Interactive Science 3
- Literacy in Science – Book 3
- Longman Science 3
- Science Australia 3
- Science Edge 3
- Science Edge 3 – Stage 5 – Year 9 Teacher Resource Pack
- Science Focus 3 (**STUDENT TEXTBOOK**)
- Science Focus 3 – Homework Book
- Science Focus 3 – Teacher's Resource
- Science Moves 3
- Science Search Book 3
- Science Skills 3
- Science Skills in Perspective – Book 3
- Science Tracks 9: Explorations for Australian Schools
- Science World 9
- Science World 9 Workbook
- The World of Science – Book 3



Science Resource List

Year 10:

- About Science 4
- Core Science – Teacher Support Kit for Books 3 & 4
- Core Science 4 (**in class Student Text**)
- Heinemann Interactive Science 4
- Literacy in Science – Book 4
- Longman Science 4
- Past School Certificate Science Reference Tests: Questions and answers 1990 – 1997
- Science: NSW School Certificate test 2000: Questions and answers 2000
- Science: NSW School Certificate test 2000: Questions and answers 2001
- Science Australia 4
- Science Edge 4
- Science Focus 4 (**STUDENT TEXTBOOK**)
- Science Focus 4 – Homework Book
- Science Focus 4 – Teacher's Resource
- Science Moves 4
- Science Search Book 4
- Science Skills 4
- Science Skills in Perspective – Book 4
- Science Tests for the School Certificate – Questions and Answers Plus A Guide on How to Achieve Success in School Certificate Science
- Science Tracks 10: Explorations for Australian Schools
- Science World 10
- Science World 10 Workbook
- Securing their future – Subject based assessment materials for the School Certificate
- The World of Science – Book 4



ST PHILOMENA'S SCHOOL MOREE

2009 Stage 4 Year 7B SCIENCE Scope and Sequence											
Term 1	1	2	3	4	5	6	7	8	9	10	11
	Introduction to Science – Working as a Scientist: Safety, Equipment and its safe and correct use including lighting the Bunsen burner; Skills of Science – Observing, Measuring (qualitative Vs. quantitative); Recording; and, Reporting.							Mixtures and their separation: Terminology – solute, solvent, solution, soluble, insoluble, saturated, concentrated, suspension, colloids.			
Outcomes	4.1, 4.2, 4.5, 4.12, 4.13, 4.14, 4.15, 4.16, 4.17, 4.18, 4.19, 4.20, 4.21, 4.22, 4.23							4.3, 4.7, 4.11 – 4.20, 4.22, 4.25, 4.27			
Term 2	1	2	3	4	5	6	7	8	9	10	11
	Mixtures and their separation: Techniques; Water supply and treatment (sewage, sewerage).		Solids, Liquids and Gases: What is matter? States of matter; The particle model; How matter acts in various conditions to change state – e.g. cold, RT, hot; Density.			Classification: Living, non-living and dead; Characteristics of Living Things; Kingdoms to Species; Classification of Animals and Plants; Use and construction of keys (e.g. dichotomous keys, tabular keys, circular keys) and field guides.					
Outcomes	4.3, 4.7, 4.11 – 4.20, 4.22, 4.25, 4.27		4.2, 4.7, 4.12 – 4.22, 4.25			4.2, 4.4, 4.8, 4.13 – 4.23, 4.25					
Term 3	1	2	3	4	5	6	7	8	9	10	11
	Cells: The microscope – types (stereomicroscope, monocular microscope, electron microscope), use, drawing images; Types of cells – animal, plant; Specialised cells of animals, especially the human body and plants; Groups of cells → tissues → organs → systems.				Forces: What are they? (A push, a pull or a twist); How to draw and measure forces; Balanced Vs. Unbalanced; Friction; Gravity – difference between mass and weight; Forces in Water – Buoyancy, Surface Tension; Magnetic Forces.			Heat, Light and Sound: Energy – def., forms, transformations; Heat and Temperature - conduction, convection, radiation; Light – luminous, non-luminous, shadows, reflection; Sound - transmission, speed.			
Outcomes	4.1, 4.2, 4.5, 4.8, 4.13-4.19, 4.21-4.22, 4.25, 4.26				4.3, 4.6, 4.12- 4.22, 4.25, 4.26			4.3, 4.6, 4.12 – 4.22, 4.25, 4.26			
Term 4	1	2	3	4	5	6	7	8	9	10	11
	Our Planet Earth: Structure – internal (crust, mantle, core – inner and outer), external (four spheres); Rocks and Minerals; Types of Rocks – Igneous, Sedimentary, Metamorphic; Rock cycle; Weathering and Erosion; Weather – wind, rain, storms, cyclone.				Earth and Space: Theories of the Solar System; Ancient Planets – Mercury, Venus, Earth, Mars, Jupiter, Saturn; Modern Planets – Uranus, Neptune, Pluto; Early astronomy; The Sun – importance, size, features, types of solar eclipses; Earth's movement – Day and night; The year and the Seasons.						
Outcomes	4.4, 4.5, 4.9, 4.11, 4.13 – 4.24, 4.27				4.1, 4.2, 4.9, 4.12 – 4.22, 4.24 – 4.26						

Last Review May 09 Next Review May 11