



WAGIN DISTRICT HIGH SCHOOL SEMESTER 1 OUTLINE

Year 9/10 Science 2017

COURSE OUTLINE

During first semester the focus in Science will be on Chemical Science, Earth and Space Science and Physical Science.

Students will start Term 1 by looking at atoms and the Periodic Table. They will then move on to look at chemical reactions and the factors that affect the rate of reactions.

During Term 2 students will spend the first 5 weeks focussed on Earth and Space Sciences, specifically learning about global cycles and the origins of the universe.

For the remainder of Term 2 students will begin their study of Physical Sciences by looking at energy conservation during transfer and transformation, and this will be continued into and assessed in Term 3.

In addition, students will spend time looking at the development of these scientific areas over time and how changes in technology have influenced our understandings.

Investigative skills will also be developed through the use of the scientific inquiry process.

COURSE OUTCOMES

The following concepts form the Science Understanding strand of the Australian Curriculum will be addressed:

Chemical Sciences

- The atomic structure and properties of elements are used to organise them in the Periodic Table (ACSSU186)
- Different types of chemical reactions are used to produce a range of products and can occur at different rates (ACSSU187)

Earth and Space Sciences

- The universe contains features including galaxies, stars and solar systems and the Big Bang theory can be used to explain the origin of the universe (ACSSU188)
- Global systems, including the carbon cycle, rely on interactions involving the biosphere, lithosphere, hydrosphere and atmosphere (ACSSU189)

Physical Sciences

- Energy conservation in a system can be explained by describing energy transfers and transformations (ACSSU190)

Students will also look at the Science as a Human Endeavour strand of the Australian Curriculum by addressing the following:

Nature and Development of Science

- Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (ACSHE191)
- Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (ACSHE192)

Use and Influence of Science

- People can use scientific knowledge to evaluate whether they should accept claims, explanations or predictions (ACSHE194)
- Advances in science and emerging sciences and technologies can significantly affect people's lives, including generating new career opportunities (ACSHE195)

- The values and needs of contemporary society can influence the focus of scientific research (ACSHE230)

The Science Inquiry Skills strand will also be covered through the use of investigation and experimentation.

TASKS

Students will complete a number of formal and informal assessment items over the semester, including investigations, assignments, and tests. Each investigation and assignment will come with a task sheet detailing exactly what is required of the student.

Tests will be conducted after a minimum of 1 class lesson of revision, though further revision is expected to be completed at home on a regular basis, and in preparation for tests.

ASSESSMENT BREAKDOWN

CONTENT AREA	TASK	WEIGHTING
Chemical Science	Investigation work	25%
	Assignments	25%
	Tests & Quizzes	50%
		Total = 100%
Earth & Space Science	Investigation work	25%
	Assignments	25%
	Tests & Quizzes	50%
		Total = 100%
Science Inquiry Skills	Investigation work	100%

TIME LINE

The following timeline can be used as a guide to the sequence and timing of activities over the semester, though changes may be made at the discretion of the teacher.

WEEK	ACTIVITY	TASK DUE/HOMEWORK
1	The atom	Assignment 1 TEST 1
2	Periodic Table	
3	Chemical bonding	
4	Law of Conservation	
5	Types of reactions	
6	Chemical equations	Investigation 1 TEST 2
7	Chemical equations	
8	Rate of reaction	
9	Rate of reaction	
10	Revision and Test	
11	Global cycles	Investigation 2 Assignment 2 TEST 3
12	Natural impact on cycles	
13	Human impact on cycles	
14	Changing environments	
15	Revision and Test	
16	Energy transformation	Assignment TEST (included in second semester)
17	Energy efficiency	
18	Motion	
19	Acceleration	
20	Revision and Test	