



Lesson Plans

Year 8 Science

Chapter 4 Reproduction

Some general points about the following lesson plans:

- ★ The lesson plans outline only one way of sequencing the learning material in this chapter of the textbook.
- ★ The content and sequence will obviously vary from class to class (The following guide is ambitious in many instances).
- ★ All activities and investigations in each chapter have been deliberately designed to support the National Curriculum content whilst keeping in mind the development and reinforcement of skills required in the study of science in Year 11/12.
- ★ The length of lessons vary from school to school and even within schools. The following guide is based on 35/40 min lessons because it was reasoned that adjustment to 60/75/90 mins lessons would be easier than reducing lesson plans.
- ★ Students may be challenged further by completing each chapter Task, Competition Questions, Challenges, and by finding and entering any of the many competitions, challenges, projects etc that may be found on the Internet. Such students may benefit by doing an Internet search early in the year and planning entries before they close.

Assessment

A Task
Inquiry Report
End of Unit Test

Content Description (2 weeks)

Chapter 4

Multi-cellular organisms contain systems of organs that carry out specialised functions that enable them to survive and reproduce (ACSSU150)

- ★ distinguish between asexual and sexual reproduction
- ★ compare reproductive systems of organisms

Content strands

The Australian Curriculum: Science has three interrelated strands: Science Understanding, Science as a Human Endeavour and Science Inquiry Skills.

Science as a Human Endeavour

Scientific knowledge changes as new evidence becomes available, and some scientific discoveries have significantly changed people's understanding of the world (ACSHE134)

- investigating developments in the understanding of cells and how this knowledge has impacted on areas such as health and medicine
- discovering how people's understanding of the nature of matter has changed over time as evidence for particle theory has become available through developments in technology
- considering how the idea of elements has developed over time as knowledge of the nature of matter has improved
- investigating the development of the microscope and the impact it has had on the understanding of cell functions and division

Science knowledge can develop through collaboration and connecting ideas across the disciplines of science (ACSHE226)

- investigating how knowledge of the location and extraction of mineral resources relies on expertise from across the disciplines of science
- considering how advances in technology, combined with scientific understanding of the functioning of body systems, has enabled medical science to replace or repair organs
- researching the use of reproductive technologies and how developments in this field rely on scientific knowledge from different areas of science

Use and influence of science

Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (ACSHE135)

- investigating requirements and the design of systems for collecting and recycling household waste
- investigating strategies implemented to maintain part of the local environment, such as bushland, a beach, a lake, a desert or a shoreline
- investigating how energy efficiency can reduce energy consumption
- investigating the development of vehicles over time, including the application of science to contemporary designs of solar-powered vehicles
- discussing ethical issues that arise from organ transplantation

Science understanding influences the development of practices in areas of human activity such as industry, agriculture and marine and terrestrial resource management (ACSHE136)

- describing how technologies have been applied to modern farming techniques to improve yields and sustainability
- investigating how Aboriginal people recognise relationships in ecosystems by burning to promote new growth, attract animals and afford easier hunting and food gathering
- describing the impact of plant cloning techniques (asexual production) in agriculture such as horticulture, fruit production and vineyards
- investigating the role of science in the development of technology important to the economies and communities of the Asia-Pacific regions, for example car manufacture, earthquake prediction and electronic optics

People use understanding and skills from across the disciplines of science in their occupations (ACSHE227)

- recognising the role of knowledge of the environment and ecosystems in a number of occupations
- considering how engineers improve energy efficiency of a range of processes
- recognising the role of knowledge of cells and cell divisions in the area of disease treatment and control
- investigating how scientists have created new materials such as synthetic fibres, heat-resistant plastics and pharmaceuticals

Science Inquiry Skills

Science inquiry involves identifying and posing questions; planning, conducting and reflecting on investigations; processing, analysing and interpreting evidence; and communicating findings. This strand is concerned with evaluating claims, investigating ideas, solving problems, drawing valid conclusions and developing evidence-based arguments.

Chapter 4 Reproduction (2 weeks)

Lesson	Method	Resources
1	<ul style="list-style-type: none"> <input type="checkbox"/> General (covering book, ruling pages, paste study guide etc.) <input type="checkbox"/> Purpose of chapter <input type="checkbox"/> Introduce/discuss Reproduction p87 <input type="checkbox"/> Plant Zinnia seeds - Task p87 <input type="checkbox"/> HW: A couple of puzzles p99 	
2	<ul style="list-style-type: none"> <input type="checkbox"/> Discuss Asexual reproduction p88 <input type="checkbox"/> Try to memorise 5 types of asexual reproduction p88 <input type="checkbox"/> Internet: Watch a couple of videos on asexual reproduction <input type="checkbox"/> Activity: Start a wequest on asexual reproduction <input type="checkbox"/> HW: research growing plants from cuttings 	Internet
3	<ul style="list-style-type: none"> <input type="checkbox"/> Test types of asexual reproduction p88 <input type="checkbox"/> Discuss advantages and disadvantages of asexual reproduction p89 <input type="checkbox"/> Activity: Grow plants from cuttings p89 <input type="checkbox"/> Exercise p89 <input type="checkbox"/> HW: Complete exercise as necessary 	Internet cuttings and potting mate- rial
4	<ul style="list-style-type: none"> <input type="checkbox"/> Test types of asexual reproduction & adv and disadv of asexual reprod. <input type="checkbox"/> Discuss Sexual reproduction p90 <input type="checkbox"/> Practice diagram/labelling sexual reproduction p90 <input type="checkbox"/> Internet: Parts of an egg videos <input type="checkbox"/> HW: Learn parts of an egg 	Internet
5	<ul style="list-style-type: none"> <input type="checkbox"/> Test sexual reproduction diagram & parts of an egg <input type="checkbox"/> Discuss advantages and disadvantages of sexual reproduction p91 <input type="checkbox"/> Activity: An egg p91 <input type="checkbox"/> Activity: Make an egg poster p91 <input type="checkbox"/> Exercise p91 <input type="checkbox"/> HW: Complete exercise as necessary 	Eggs, dish Poster material
6	<ul style="list-style-type: none"> <input type="checkbox"/> Discuss reproductive systems p92 <input type="checkbox"/> Compare internal and external fertilisation p92 <input type="checkbox"/> Discuss sexual reproduction in birds p93 <input type="checkbox"/> Exercise: p93 <input type="checkbox"/> HW: Complete exercise as necessary 	Internet
7	<ul style="list-style-type: none"> <input type="checkbox"/> Discuss reproductive systems p95 <input type="checkbox"/> Compare reproductive systems of flowers and mammals p94 and p95 <input type="checkbox"/> Activity: reproductive system of a flower p94 <input type="checkbox"/> Internet: Watch videos on 'mammal reproduction'. <input type="checkbox"/> Exercise p95 <input type="checkbox"/> HW: Complete exercise as necessary 	Internet
8	<p>Chapter Review and Task</p> <ul style="list-style-type: none"> <input type="checkbox"/> Exercises p98 and p100 <input type="checkbox"/> Continue work on 'A Task' p87 <input type="checkbox"/> HW: Complete exercises & work on task as required 	
9	<p>Chapter Review and Task</p> <ul style="list-style-type: none"> <input type="checkbox"/> Competition questions p101 <input type="checkbox"/> Harder test questions p102 <input type="checkbox"/> Preparation for test <input type="checkbox"/> Continue work on 'A Task' p87 <input type="checkbox"/> HW: Complete exercises & work on task as required 	
10	<ul style="list-style-type: none"> <input type="checkbox"/> End of chapter/unit test 	