Week 1

Scientific Literacy

A scientifically literate person is someone who:

is interested in and understands the world around them,

engages in the discourses of and about science,

is able to identify questions, investigate and draw evidence-based conclusions,

is sceptical and questioning of claims made by others about scientific matters,

makes informed decisions about the environment and their own health and well being.

Nature of Science

Science is inquiry based

Science is tentative

Science is developmental

Science is subjective

Science is creative

Science is collaborative

Design Technology

Having the opportunity to teach S&T

Science and technology advances involve thinking and working scientifically via testing and development. Testing ideas = understanding of key concepts, evidence and a competence in a range of skills. Thinking behind the doing. Need for evidence. Working Scientifically = validate their own or someone else's theory, answering questions or solving problems. Thinking scientifically = knowing the how, why and when that underpins Working Scientifically (the doing)

Investigating Process

Week 4:

Plants:

Autotrophs : soak up sunlight to gain energy

Light energy is transformed into chemical energy stored in sugars

No autotrophs = no energy into ecosystems = no food production = death to consumers

Photosynthesis

Parts of a Plant

ROOTS:

Taps soil for water and minerals

STEMS:

Xylem transports water

Phloem transports products of photosynthesis to the plant

LEAVES:

Flat shape for large surface area for sunlight exposure

Stomata on one or both leaf surfaces

Stomata:

Site of gas exchange in plants and water loss

Water Loss:

Guard cells fill with water and stoma open

Water loss closes stoma

Transpiration:

Evaporation of water from plants

ADAPTATION of Australian Natives

Hakea = sunken stoma to reduce transpiration

Invertebrates

Young children's conceptions related to size and shape

Focus on negative features : biting and stinging

Positive aspects = role in ecosystem

Size and shape = spiders are insects (incorrect)

Role in ecosystem = pollinators, scavengers, food source, making products (wax, honey, silk)