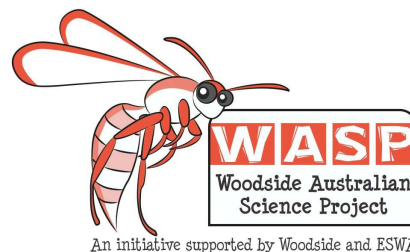


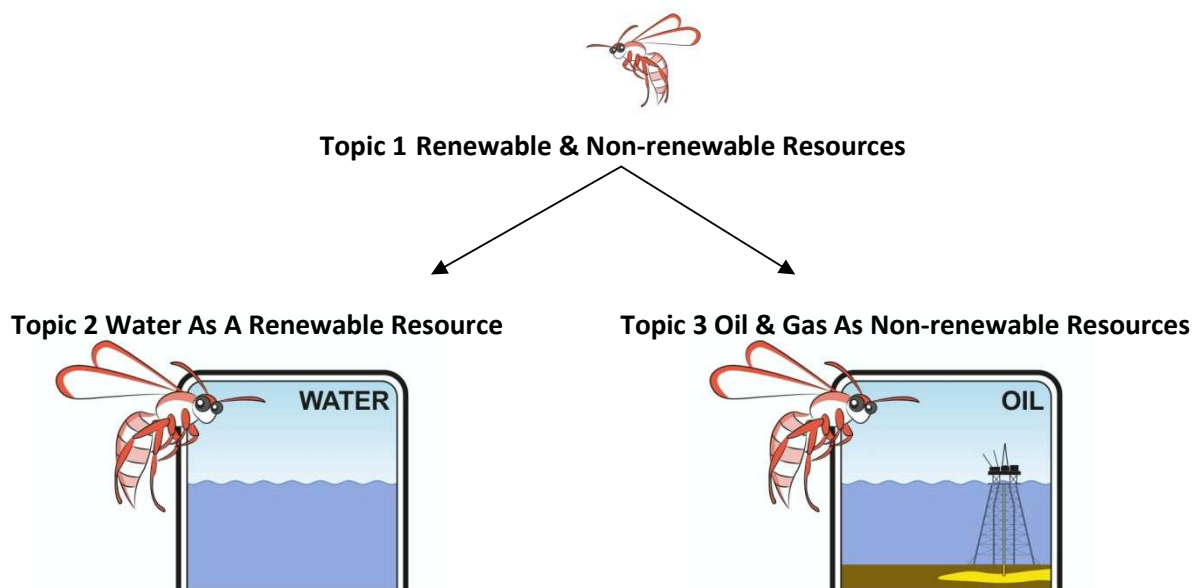
# Year 7 WASP – Teacher Introduction



The WASP (Woodside Australian Science Project) is an initiative supported by Woodside and Earth Science Western Australia (ESWA).

These activities are designed to provide support for the Earth Science part of the Earth & Space Science and Chemical Sciences topics required by the Year 7 Australian Curriculum.

Copies of this and other supporting material can be downloaded from the WASP website <http://www.wasp.edu.au> or by contacting Julia Ferguson, [julia@wasp.edu.au](mailto:julia@wasp.edu.au).



## Year 7 Australian Curriculum Science Earth & Space Science

Some of the Earth's resources are renewable but others are non-renewable

- considering what is meant by the term "renewable" in relation to Earth's resources
- considering timescales for regeneration of resources

Water is an important resource that moves through a cycle in the environment

- considering the water cycle in terms of changes of state of water
- investigating factors that influence the water cycle in nature

## Chemical Sciences

Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques

- recognising the differences between pure substances and mixtures and identifying examples of each
- identifying the solvent and solute in solutions
- investigating and using a range of physical separation techniques such as filtration, decantation, evaporation, crystallisation, chromatography and distillation
- exploring and comparing separation methods used in the home

# Year 7 WASP – Teacher Introduction



## Topic 1 Renewable & Non-renewable Resources

### 1. Resources For Schools

- Resources For School – Student Activity
- Human Resources For School – Student Activity

### 2. Earth's Resources

- Earth's Resources – Student Activity

### 3. Timescale For Renewal

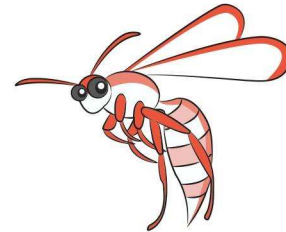
- Timescale For Renewal – Student Research

### 4. Resource Use & Sustainability

- Paper Aeroplanes – Teacher Notes

### 5. Revision

- Renewable & Non-renewable Resources – Student Review



## Topic 2 Water As A Renewable Resource

### - Laboratory Rules

#### 1. Laboratory Rules

- Laboratory Rules – Student Activity
- Fair Test – Teacher's Notes

### - Physical & Chemical Behaviour Of Water

#### 1. Surface Tension (Cohesion)

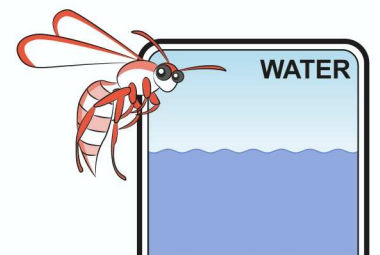
- Surface Tension – Student Activities
  - Surface tension on a glass slide activity
  - Charged balloon with stream of water (demonstration)
  - Bubbles and surface tension (extension)

#### 2. Breaking Surface Tension (Cohesion)

- Breaking Surface Tension – Student Activities
  - Plummeting pepper
  - Racing boat or fish
  - Floating needle or paperclip (extension)
  - Colour chaos (extension)

#### 3. Adhesion (Capillarity)

- Adhesion (Capillarity) – Student Activities





## Year 7 WASP – Teacher Introduction

- Capillarity in glass tubes (demonstration, optional)
- Capillarity in plant fibres
- Twisted paper towel
- Coloured flower (extension)
- Stains (extension)
- Minimise your footprint/handprint

### 4. Meniscus and Parallax

- Meniscus & Parallax - Student Activities

### 5. Revision

- Cohesion & Adhesion – Student Review
- Cohesion & Adhesion - Wordsleuth

## - Physical Separation Techniques

### 1. Decanting

- Decanting – Student Activity

### 2. Filtering

- Filtering With Filter Paper – Teacher Demonstration
- Filtering With Sand - Student Activity
- Filtering With A Sari - Student Activity
- Filtering With Rock - Student Activity
- Filtering - Vocabulary Worksheet

### 3. Evaporating & Condensing

- Evaporating & Condensing – Teacher Demonstration

### 4. Living Things In Water

- Growing Bacterial & Fungal Colonies – Teacher Notes (for student activity)

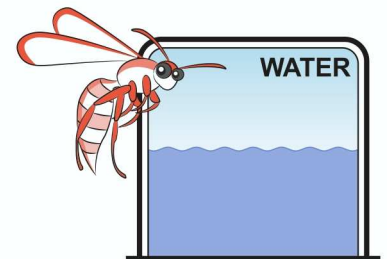
### 5. Revision

- Physical Separation Techniques – Student Revision

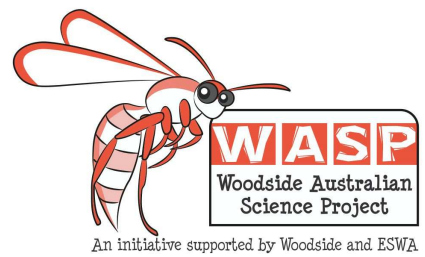
## - The Water Cycle

### 1. Water In The Atmosphere

- Rate of Evaporation - Student Activity
- Rain - Student Activity
- Clouds – Teacher Demonstration



# Year 7 WASP – Teacher Introduction



## 2. Water On Land

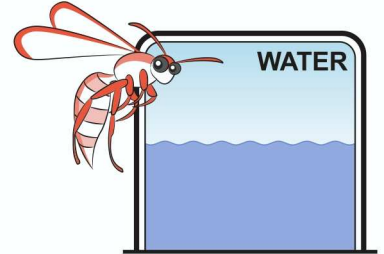
- Sources of Water - Student Research
- Permeability - Student Activity

## 3. Water For Humans

- Student Quiz
- Water Cycle - Cloze Worksheet

## 4. Water An Aboriginal and Indian Perspective

- An Aboriginal Perspective – Student Activity
- An Indian Perspective – Student Activity



## Topic 3 Oil & Gas As Non-renewable Resources

### 1. Formation Of A Source Rock

- De-watering Of Sediments – Student Activity
- It's A Gas! – Student Activity

### 2. Migration To A Reservoir

- Pressure & Depth of Burial – Student Activity
- Porosity & Permeability – Student Activity
- Permeability – Student Activity (Optional)
- Migration Rate – Student Activity

### 3. Formation Of A Reservoir

- Structural Seal – Teacher Demonstration

### 4. Recovery Of Oil & Gas

- Pressure Lift – Student Activity
- Viscosity & Raising Raisins – Student Activity
- LNG Gas & Oil Treatment - Flow Plan

### 5. Safety In The Oil & Gas Industry

- Safety In The Oil & Gas Industry – Student Activity

