

## Year 1 and Year 2 – Cycle A

### **Living Things and their Habitats –**

#### **Why does a Polar Bear not live in Africa?**

Suggested questions:

1. How do we classify things on whether they are alive, dead or never alive?
2. What eats what? (food chains)
2. What is a habitat and what different habitats are there?
3. What happens if an animal's habitat is destroyed?
4. Why do animals live in different habitats to each other?
5. How is the habitat of an animal living in a cold climate different to one living in a hot one?
6. How does an animal adapt to their environment?

### **Animals including Humans –**

#### **Why should humans exercise?**

Suggested questions:

1. How have I changed since I was a baby?
2. What are the basic needs of humans and animals to survive?
3. Why do we have senses?
4. What is the importance of exercise?
3. What happens to our heartbeat when we exercise?
4. Is chocolate good for us?
5. What do we have in our lunch box?

### **Use of Everyday Materials –**

#### **Why do boats float?**

Suggested questions:

1. What is a material?
2. What are the simple physical properties of materials?
3. How can we group together materials?
4. Why do magnets stick together?
5. What materials are suitable for floating?
6. How and why do boats float?

### **Plants –**

#### **Can seeds grow anywhere?**

Suggested questions:

1. Can I name and group different types of plants?
2. What is the basic structure of a plant?
3. What does a plant need to grow and why?
4. Will a seed grow if it is planted upside down?

### **Seasonal Change –**

#### **Why do leaves change colour?**

1. Observations of trees and leaves over the 4 seasons.
2. Does it matter what type of tree it is for the leaves to change?
3. Why do trees lose their leaves?
4. Why do trees have leaves?
5. What happens to the leaves that fall?
6. Why do leaves change colour?

## Year 1 and Year 2 – Cycle B

### **Living Things and their Habitats –**

#### **How does a Tadpole change over time?**

Suggested questions:

1. How do we classify things on whether they are alive, dead or never alive? (recap and build on prior knowledge)
2. What eats what? (food chains) (recap and build on prior knowledge)
3. Where does a tadpole live?
4. What does a tadpole need in order to survive?
5. What does a tadpole turn into?
6. Suggested trip to Low Barnes nature reserve or have someone in to speak to the children about tadpoles and other animals and their habitats.

### **Animals including Humans –**

#### **Do all animals eat meat?**

Suggested questions:

1. Are all animals the same?
2. What are the different groups of animals?
3. Do all animals eat the same?
4. What are herbivores, omnivores and carnivores?
5. Why do animals eat different?
6. What importance does our teeth play when eating?

### **Use of Everyday Materials –**

#### **Why don't we build houses out of straw?**

Suggested questions:

1. Can I identify and compare the suitability of a variety of everyday materials?
2. Why do we have different materials?
3. Can we change the shape of different materials?
4. What are the simple physical properties of a variety of everyday materials?
5. What materials are used to build a house and why?
6. Practical investigation.

## **Plants –**

### **Why should you not keep plants in the bedroom?**

Suggested questions:

1. Can I name and group different types of plants?
2. What is the basic structure of a plant?
3. What does a plant need to grow and why?
4. Why do some plants grow inside and some grow outside?
5. Practical investigation – Will my plant grow in different conditions?
6. Follow up from practical investigation – What has happened to my plant?

## **Seasonal Change –**

### **Why does the weather change?**

1. What types of weather do you think we will see at different points in the year?
2. What is the weather like during different seasons?
3. Why does the weather change?
4. Does it snow in the summer?
5. Is the weather the same everywhere?
6. Why do we have seasons?

## Year 3 and Year 4 – Cycle A

### **Living Things and their Habitats –**

#### **Why are people cutting down the rainforest and what affect does it have?**

Suggested questions:

1. How can we group together different animals?
2. What animals can we find in the local environment?
3. What animals can we find in the wider environment?
4. How can environments change?
5. What dangers can animals face when their habitat is changed?
6. What natural disasters can you think of that may affect habitats?

### **Animals including Humans –**

#### **What is the job of our teeth?**

Suggested questions:

1. What do we need to survive? (MRS GREN)
2. What is a balanced diet?
3. What are the different food groups?
4. What happens when we swallow our food? – practical investigation.
5. Why do we have different types of teeth and what are they?
6. Are sugary drinks good for our teeth? – practical investigation.
7. Why do we have skeletons and muscles?
8. What are producers, predators and prey?

### **Forces and Magnets–**

#### **Why do magnets attract and repel?**

Suggested questions:

1. Do all objects move the same on different surfaces?
2. How do magnets work?
3. How can objects be grouped together?
4. What are the two poles on a magnet?

5. Practical activity – predict whether two magnets will attract or repel each other, depending on which poles are facing.

## **Light –**

### **How does light travel?**

Suggested questions:

1. Why do we need light?
2. What is the dark?
3. How is light reflected?
4. How can we protect our eyes from the sun and why is the sun dangerous?
5. What is a shadow?
6. How can we change shadows? (practical investigation)

## Year 3 and Year 4 – Cycle B

### **Materials – Rocks and Fossils –**

#### **How do fossils form?**

Suggested questions:

1. What are the different types of rocks?
2. How can we group rocks together based on their physical properties?
3. What is a fossil and how are they formed?
4. What is soil?

### **Electricity –**

#### **How has electricity changed the way we live?**

Suggested questions:

1. What appliances run on electricity?
2. How can we make an electrical circuit?
3. What are conductors and insulators of electricity?
4. Practical investigation – Making an electrical circuit
5. What is needed to make an electrical circuit?
6. How does life compare now to when there was no electricity?

### **Sound –**

#### **How far does sound travel?**

Suggested questions:

1. How are sounds made?
2. What is a vibration?
3. How does sounds travel through the ear?
4. What is inside my ear?
5. What is pitch and volume?
6. What happens when the distance from the sound source decreases and increases? - practical investigation.

### **States of Matter –**

### **Why does ice melt?**

Suggested questions:

1. What is a solid, liquid and gas?
2. What materials can be grouped as a solid, liquid or gas?
3. What is evaporation and condensation?
4. Why do we see condensation on windows?
5. What affect does temperature have with evaporation?
6. What happens to the state of materials when heated or cooled? – practical investigation.

### **Plants –**

#### **Why do plants need water?**

Suggested questions:

1. What are the main parts of different plants and their functions?
2. How do plants live and grow?
3. How is water transported

## Year 5 and Year 6 – Cycle A

### **Animals including Humans-**

#### **How does our heart keep us alive?**

Suggested questions:

1. What is the difference you and someone who is 70 years old?  
What do you notice in-between?
2. How can we keep our heart healthy and why is this important?
3. What is the impact of diet, exercise, drugs and lifestyle on how our bodies function?
4. What are the main parts of the circulatory system?
5. What does our heart, blood vessels and blood do?
6. How are nutrients and water transported around the body in humans and animals?

### **Evolution and Inheritance –**

#### **How do we know that fossils were once living organisms and not a peculiar type of rock?**

Suggested questions:

1. How do we know that living things have changed over time?
2. What are fossils?
3. What do fossils tell us about the past?
4. Is all offspring the same?
5. How do animals and plants adapt to their environment?
6. How does adaptation lead to evolution?

### **Forces –**

#### **What forces are used at the circus?**

Suggested questions:

1. What is gravity?
2. What effect does air resistance, water resistance and friction have on moving surfaces?
3. Are all forces the same?

4. Does a smaller force have a greater effect?

**Light –**

**How do we see light?**

Suggested questions:

1. Does light travel in straight or curvy lines?
2. How do our eyes help us see light?
3. What is a rainbow?
4. What are shadows?
5. How do we make shadows? Can we change the shape of shadows? – practical investigation.

## Year 5 and Year 6 – Cycle B

### **Living things and their habitats including Plants – Are life cycles the same in humans, plants and animals?**

Suggested questions:

1. How can we group living things?
2. Why have we classified plants and animals based on their specific characteristics?
3. What are mammals, amphibians, insects and birds?
4. Are all life cycles the same?
5. How do animals reproduce?
6. How do plants reproduce?

### **Electricity-**

#### **Where does electricity come from?**

Suggested questions:

1. What is electricity?
2. Can I make a series of electrical circuits? -practical investigation.
3. How can I change the brightness of a lamp? -practical investigation.
4. How can I change the volume of a buzzer? -practical investigation.
5. Why do we use symbols when representing a simple circuit in a diagram?
6. Can I use symbols when representing a simple circuit in a diagram? – practical investigation.

### **Earth and Space –**

#### **Are people upside down in Australia?**

Suggested questions:

1. How does the Earth and planets move?

2. Why do we have day and night?
3. How does the moon move relative to the Earth?
4. How can we describe the Sun, Earth and Moon?

### **Properties of changes of Materials-**

#### **How is wool the same as glass?**

Suggested questions:

1. How do certain materials react to magnets?
2. How can we group together materials on the basis of their properties?
3. What is a solution?
4. How can mixtures be separated?
5. What are materials used for?
6. When dissolving, mixing and changing state of materials how are they reversible changes? – practical investigation.
7. How can new materials be formed through investigation?
8. How are some materials irreversible?