

## WithOnePlanet

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# Introduce

Lesson 1  
Teacher notes  
Carbon alive!

Years

1 to 2



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INQuIRY



# Carbon alive!

## Lesson 1: Teacher notes

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This document provides the teacher with the details of the lesson.

### At a glance

To capture students' interest and find out what they think they know about carbon in living things.

Students:

- > Use a graphic organiser to record what they think they know about the role of carbon in living things.
- > Discuss the understandings from this activity as a class, including the reasons students have for these understandings.

### Lesson focus

The focus of the *Introduce* phase is to spark students' interest and engagement, stimulate their curiosity, and elicit their existing beliefs about the topic. Students' existing ideas and questions can then be taken into account in future lessons.

### Assessment guide

**Diagnostic assessment** is an important aspect of the *Introduce* phase. In this lesson you will elicit what students already know and understand about:

- > carbon in living things.

### Key lesson objectives

#### Science

Students will be able to represent their current understanding as they:

- > summarise their understanding of carbon as a part of living things.

#### Literacy

Students will be able to:

- > contribute to discussions about carbon's role in living and growing
- > record, sort and summarise their descriptions, explanations and ideas using words and drawings.

## Teacher background information

Carbon is a substance that is found in all living things. As living things grow and change, they change the amount of carbon they contain and how it is used in their bodies. When living things reproduce, they are creating new life out of carbon. The natural processes that allow living things to survive, grow and reproduce necessarily affect the amount and use of carbon in these life forms.

## Equipment

### For the Class

- > 1 seedling (preferably of a native species that students are familiar with, e.g. eucalypt) growing in a small pot per pair of students.
- > Group worksheets:
  - Our thoughts and ideas about things that grow.
  - How are they alike? How are they different?
  - Agree or disagree?
- > 3 large signs – ‘Agree’, ‘Disagree’, ‘Not sure’.

### For each Student

- > A copy of the *Watch me grow – Student worksheet*
- > Pencils

## Preparation

- > 1 seedling (preferably of a native species that students are familiar with, e.g. eucalypt) growing in a small pot per pair of students.
- > Print out/redraw all Group worksheets in a large format.
- > *Optional*: Find a natural setting to conduct the lesson in.

## Lesson steps

1. *Optional*: This lesson can be conducted outside in a natural setting.
2. Invite students to sit with a partner and carefully observe a seedling in a pot. Ask students to talk with their partner about what they can see, what they think and what they are wondering about.
3. Ask students to share their observations and thoughts with the class.
4. Discuss with students that these seedlings are of a particular type of native tree (e.g. gum tree/eucalypt). Ask students what they think they know about seedlings and trees. Some prompt questions include:
  - > What do you think the seedlings will turn into?
  - > What do you think they will look like when they get older?
  - > How do you think the seedlings began life?
  - > What will they need to help them to grow?
  - > What changes do you think they will go through before they become a big tree?
  - > How long do you think they will take to grow into a big tree?
  - > Do trees grow quickly or slowly?

Record students' thoughts about seedlings on the large format *Our thoughts and ideas about things that grow – Group worksheet*.

5. Explain to students that, just like plants, animals (including themselves) also grow.

Discuss with students what they think they know about how they started life and what they will look like as they grow up. Record students' ideas about how they grow on the large format *Our thoughts and ideas about things that grow* – *Group worksheet*.

6. Introduce the *Watch me grow* – *Student worksheet*.

- > Explain to students that they will draw one or more pictures with words on either side of the seedling picture to show how they think the seedling started life and what it might look like when it grows older.
- > Ask students to complete a similar growth chart for themselves. They can begin by drawing themselves now and then draw a younger and older version of themselves on either side of this.

7. As a whole class, discuss the pictures the students have drawn. Ask students how they think the growth of the seedling and the person are alike and how they are different. Record students' responses on the large format *How are they alike? How are they different?* – *Group worksheet*.

8. Ask a student to stand up next to a seedling so that the other students can compare them. Again ask students how they are alike and how they are different. Record students' responses on the large format *How are they alike? How are they different?* – *Group worksheet*.

9. Arrange the 3 large signs, 'Agree', 'Not sure', 'Disagree' evenly in front of the class. Ask students to stand and explain that you will read a statement to them. If they agree with the statement they will move towards the sign labelled 'Agree'. If they disagree they will move to the opposite sign labelled 'Disagree'. If they are not sure they will move to the sign in the middle, labelled 'Not sure'.

10. Begin with an easy claim, such as 'The person and the seedling look different from each other'.

11. For each of the following statements:

- > Allow students time to consider their response and move in their preferred direction.
- > Ask students to discuss the reasons for their choice with those nearby.
- > Record the names of the students or the number of students for each choice on the *Agree or disagree?* – *Group worksheet*.

Statements:

- a. The person and the seedling are both living things.
- b. The person and the seedling would both look very similar if you looked at them very close up (e.g. under a microscope).
- c. The person and the seedling are made up of the same basic materials but in different combinations that look different.

12. Discuss with students that scientists' ideas can change as they find out more information. Explain that in this unit they will be working like scientists and will be able to change their ideas if the information they find makes them change their mind.

13. Display all three class worksheets on your return to the classroom so that the students can refer back to them throughout the unit.