

WithOnePlanet

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Question

Lesson 2

Teacher notes

The big question about plants

Years

5 to 6

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INQuIRY     

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WithOnePlanet

Climate change education

An xpanD Foundation initiative

The big question about plants

Lesson 2: Teacher notes

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

At a glance

Please note: This lesson has been written as a single lesson, but teachers are welcome to teach selected parts of the lesson only, or alternatively run the lesson over a number of classroom periods.

This lesson aims to use the understandings, information and questions developed during the *Introduce* phase of the *INQuIRY* process to assist students in determining the essential questions that will form the basis of their investigation.

Students will:

- > distil the learning from the *Introduce* phase and consider the key questions that arise for them from this learning
- > develop one or more essential questions about plants for use in the *Investigate* phase of the *INQuIRY* process.

For an assessment guide and key lesson objectives, refer to the Unit outline.

INQuIRY focus: Question

The focus of the *Question* phase is for students to develop an essential question, or a small number of essential questions, that accurately reflect their ideas and thoughts from the *Introduce* phase and can act as a springboard for their learning in the *Investigate* phase.

Teacher background information

Essential questions

Wiggins & McTighe and OCM BOCES outline the following core attributes of successful essential questions: *Core-Focused, Inquiry-Based, Reinforce Thinking Skills, Interdisciplinary, and Engaging*.

At Years 5 and 6, students may have limited prior experience of this specific thinking and learning tool and may, therefore, require substantial support and guidance, in the form of scaffolding and modelling, to be able to construct their own essential question, either as a whole class, or in small groups. Use the [Essential questions guide document](#) and *Lesson 2–Student worksheet* to assist students with their learning.

The development of the essential question(s) is a natural progression from the student-provided understandings, thoughts, observations and questions that have arisen in the *Introduce* phase of the *INQuIRY* process.

Through summarising and paraphrasing student contributions from the *Introduce* phase, as well as through the use of stimulating and clarifying questioning, the teacher can act as a facilitator in the development of the essential question.

The *WithOnePlanet Module: Culture curriculum* is based on 5 essential questions that are considered at each stage in the students' schooling from F–10. These are shown in the Table below. In addition, the specific *WithOnePlanet Big ideas* for Years 5 and 6 are also a key stimulus for the development of the essential question(s) at this stage in the *INQuIRY* process. These are shown in the table below.

Table: WithOnePlanet Big ideas for Years 5-6

Big Ideas	What is my cultural environment?	How is my cultural environment different from other places?	What are some of the influences that shape cultural environments?	What is my carbon footprint and how can I reduce it?	What can be done to mitigate climate change on a regional scale?
Years 5 to 6	We all use plants in our culture. There are many different types of plants that we use for many different things. Plants can be processed for consumption in many different ways.	In Timor Leste there are many different types of plants that people use for many things. People in Timor Leste process their own plants to use for food, shelter, etc.	Over time, people have introduced new plant species to different countries for many different purposes. People process plant differently in different places because of the history of industrialisation in some countries, but not others.	We rely on plants to survive. When we don't look after our plants, impacts on the environment can lead to less food, less oxygen, global warming, natural disasters, and many other things.	We can look after the environment by planting trees, reducing our consumption of things like electricity, other fuel and paper, and switching to forms of renewable energy.

These essential questions can provide a stimulus for, and form the basis of, the essential questions that students develop in the Question phase of the *INQuIRY* process. However, the questions that the students arrive at may not necessarily be exactly the same as these *WithOnePlanet Big ideas* essential questions. This is preferable as it is important that the questions are student-driven rather than provided by the teacher. Student ownership and engagement in the unit is important. However, it is also important that the teacher plays the role of effective facilitator and gently guides the students' thinking in an appropriate direction using the techniques outlined above.

Some examples of possible student-derived essential questions include:

- > Why are plants so important?
- > What would happen if there were no more plants?
- > If we keep going the way we are, how long will the earth's plants last?
- > Why do people use plants differently in other places?
- > Why are there different types of plants in different places?
- > Why do some people grow their own food, but other people go to a supermarket?
- > How do changes in the environment affect people?
- > If we look after the environment here, can it affect people in other places?

Sources:

Wiggins, G & McTighe, J 1998, *Understanding by design*, Association for Supervision & Curriculum Development, Alexandria, VA.
 OCM BOCES 2013, *Curriculum Mapping Essential Questions Guide*, viewed 1 December 2013, <http://www.ocmboces.org/tfiles/folder1682/OHS_essentialquestions.pdf>.

Equipment

For the Class

A summary of the students' ideas from the *Introduce* phase in Lesson 1.

Additional preparation

- > Read the Essential questions guide document. OCM BOCES 2013, *Curriculum Mapping Essential Questions Guide*, viewed 1 December 2013, <http://www.ocmboces.org/tfiles/folder1682/OHS_essentialquestions.pdf>.
- > Review and summarise students' ideas from the Introduce phase, including responses to both the *KWHL* charts and *Sorting tree – Student worksheet*. Focus in particular on the **H** phase (i.e. How?) of students' *KWHL* responses.
- > Using students' ideas and the *WithOnePlanet Big ideas* (see table above), generate some possible essential questions that can act as a teacher reference guide when facilitating student discussion of the essential question during the lesson.

Lesson steps

Please note: This lesson has been written as a single lesson, but teachers are welcome to teach selected parts of the lesson only, or alternatively run the lesson over a number of classroom periods.

1. Students to review their own ideas and *KWHL* charts and *Sorting tree* activity from the *Introduce* phase.
2. Provide the class with a brief summary of their ideas from these activities, focusing particularly on the **H** phase (i.e. How?) of their *KWHL charts*, as these are already in the form of questions.
3. Explain to students that in order to investigate their ideas further, it is valuable to come to a consensus about key ideas, thoughts and questions that the students have thought of so far.
4. Use the *Essential questions guide* to introduce students to the idea of essential questions - what they are, the role they play in learning and the key attributes that make a good essential question. Provide students with some examples of essential questions, as shown in the *Essential questions guide*.
5. Introduce the *Lesson 2 – Student worksheet* to the students, and facilitate the development of an essential question – related to Lesson 1 and the *WithOnePlanet Big ideas* – with the class. Students can complete the worksheet by themselves and take part in whole class discussions about students' ideas. Alternatively, students can work in small groups and each group can present their ideas to the rest of the class.
6. From this essential question, students should form small groups of no more than three students. Students can brainstorm a list of the concepts and other questions that they feel they need to research and/or answer in order to answer the essential question.
7. Each student group to provide feedback from their discussions. The teacher can generate a list of the key concepts and questions that students have generated. This will inform teacher planning of the *Investigate* phase of the *INQUIRY* process.