



# From Soils to Pulses



Continuing this environmental education series by Jeanie Clark into the International Year of Pulses (IYP)2016

Farewell 2015, with its International Year (IY) of Soils. Welcome 2016 and IY Pulses (IYP)! Pulses - do your children know what they are? The first aim of an IY is to raise awareness of the subject and what good it does, e.g. of pulses. Where do they fit into the Environment – within the water, air, land/soil or Life/living things parts? This article will not just be an introduction to pulses, but also thinking about learning.

## Icons

How do we learn through icons? Their use is to communicate across a world of many languages. This skill was used in my last article - "Sustainability for Soils", Otherways,146, pp 24-5.



When you and your children interpret the IYP icons above, you use visual clues to help 'sleuth' meaning about pulses and their values. How well did this match what was intended? Find each icon's message at <http://www.fao.org/pulses-2016/about/key-messages/en/>.

## Thinking Skills

Being able to interpret such icons is not only a Communication Skill, but also a Thinking Skill. Both are recognised as Victorian education AusVELS curriculum domains. Thinking Skills are those which help us grow what we know. They are part of life-long learning. As facilitators of learning, we can help our children develop them by drawing attention to learning processes.

This is easy to do when tackling something more difficult than normally encountered e.g. a text that is more difficult than what is normally read/heard. What happens when it is used? We 'scaffold' – build on - what we already know. We find clues in known words (sleuthing) to build the new upon.

## Pulses are .....

Assuming 'pulses' is a new word, let's consider ways to find meaning for it. We've already begun by sleuthing our knowledge of pulses from the icon context above. Make a list of what has already been discovered about pulses from that.

What about if the context had been the statement of IYP aims, in the box, right? Is it too hard to use? Read it with/for your children and note what meaning they can find in it. These will be familiar words. When using something more difficult, we pick out what we know already to give meaning. Draw attention to this as a Thinking Skill.

Discuss what is now known and not known about pulses. Did your children find it was a food, - so comes from the living things part of the environment- and is good for soils, climate and people. Does that define pulses well enough?

## Dictionary Skills

Using a dictionary is an important skill to grow knowledge. With younger children, a physical dictionary (book) can aid learning the order of the alphabet, while looking up words. So search for 'pulses' in a physical dictionary – they are still in libraries, if you don't have one. What happens when dictionary definitions have unfamiliar words? Look them up too! Some other words/terms that might come up with 'pulses' are: grains, legumes, cereals, seeds, and beans.

## On-line dictionaries

Web dictionaries can also be used to teach the importance of cross-checking information for the reliability of its source, by using the author of the resource. There are common dictionaries and specialised ones. With older children, knowing how to find a specialised dictionary, and if it's worth using, is another independent learning skill.

It is easy to find definitions on-line. Do not rely on one source, but compare meanings from different sources. Google 'pulses'! A Wikipedia definition may come up first. Discuss how Wikipedia is created. Use its reference list or other dictionaries to check the reliability of the information there. What is, and is not, given in different sources?

Now google 'agricultural dictionaries'. Terms may differ between Australia, Europe and North America. When looking for definitions, choose a webpage that has the '.au' at the end of the domain name, so it will be Australian. The NSW Dept of Primary Industry entry should be there as a pdf, that can be downloaded for later use. It has an easy to read layout, that can be searched alphabetically or with a 'find' instruction. Notice differences between resources to identify features of a good resource for the way you learn.

### The specific objectives of the IYP 2016 are to:

- Raise awareness about the important role of pulses in sustainable food production and healthy diets and their contribution to food security and nutrition;
- Promote the value and utilization of pulses throughout the food system, their benefits for soil fertility and climate change and for combating malnutrition;
- Encourage connections throughout the food chain to further global production of pulses, foster enhanced research, better utilize crop rotations and address the challenges in the trade of pulses.

Source Food and Agricultural Organisation of the United Nations, 2016 at [www.fao.org/pulses-2016/en/](http://www.fao.org/pulses-2016/en/)

Have the names of different pulses come up in the meanings and values so far? A glossary is a short specific dictionary, e.g. a list of pulses. Ben G. Bareja has put such a detailed list of pulse names, with their alternatives, on the web at <http://www.cropsreview.com/grain-legumes.html>. But it has no photos to show their differences – a gallery (short specific visual dictionary) is needed. A simple comprehensive one is at [http://beyhangroup.com/?page\\_id=76](http://beyhangroup.com/?page_id=76). More are at <http://iyp2016.org/resources/photo-gallery>.

### Reformatting information learned

Taking what you learn from one communication format and putting it into a different format is another valuable Thinking Skill. Try this example:

- 1 Find what pulses are in your pantry. (*Warning - Uncooked pulses are hard solids – and potential choking hazards for young children.*)
- 2 Make a photo to show the meaning of pulses using yours e.g. in a spoon. You may annotate it with key words for its meaning or pulse names.
- 3 Share it with others, with a question. (I'd love to see it.) e.g. What pulses are in my photo\*?



### The IYP 2016

Now we know what pulses are, let's go onto the IYP's purpose. Watch the FAO 2 minute you-tube video "What are pulses and why are they important crops for food security" and then do the short Quiz at <http://www.fao.org/zhc/detail-events/en/c/343654/>. Next, look at the visual messages for the four themes from the IYP aims (at <http://iyp2016.org/themes>). The first (awareness) is shown at the top right hand corner of the previous page. Three values are below.



### Learning about learning

Reflect on your learning of pulses' values from the above formats: icons, adult text, glossaries, galleries, video, quiz, and visual messages. Which worked best? Why? People learn differently. Knowing from what format one learns best is another Thinking Skill for life-long learning.

\* What is in my photo? – Clockwise from the largest: faba beans, lupins, lentils, chick peas, field peas

### Reading skills with pulses

What pulses were in the pantry? To practise reading skills with young readers, look at the size and placement of product names on packets. Sort the packets by names alphabetically. Split names into syllables. Use Bareja's list for better readers. You may also like to do this for words showing sources, or other details, important to you about the products. Then in the supermarket, see if the children can find these names to read.

Diversions are worth exploring too. Were there other dry seed foods in your pantry, eg barley? (It's not on the pulses list as it's a grain.) For a quick exercise on the differences between cereals, pulses, legumes, grains and oil seeds use the 'Wimmera Crops to Feed the World' pdf linked at <http://enviroed4all.com.au/wimmera-biodiversity/crops/>-which also has 10 seed photos

### Maths Shape Skills with Pulses

The Maths skill of recognising shapes goes from simple to complex ones. What shapes are in the photos to the left? Which have a basic circle (2-D) shape? How have they been changed? Use your pantry examples to identify 3D shapes. Do you have basic balls, footballs or discus? Make larger play-doh or plasticine models to go from basic ball shapes to the shapes of your pulses. Don't miss any dimples or peaks! Give these shape names and create a 'Name me' quiz to match your shapes against your pulses' names. Share it. For older children, you may want to introduce higher level 3D shape names: sphere and spheroid/ellipsoid.



Which of your shapes, and pulses, are in the logo above? Can you name all the pulses in this logo? You may need help from galleries for this.

### FAO's IYP lessons

FAO has provided a free on-line set of six, hour-long lesson plans for mid-upper primary children, at <http://iyp2016.org/resources/lesson-plans>. The topics are: 1 Introduction 2 health and nutrition 3 Cooking 4 Growing 5 Around the world 6 Food Security. The lessons can be used independently.

### Australian pulse activities

Pulse Australia hosts the national IYP website at <http://www.pulseaus.com.au/about/international-year-pulses> with recipes, videos and newsletters.

Looks like there is great variety that can be put into learning through pulses this year! What ideas do you have now? Let's pulse ahead into 2016!