



UNDERSTANDING WHY DIVERSITY GIVES STRENGTH

OBJECTIVE

Understand that in nature diversity gives strength and discover how this insight can impact the human world.

KEY COMPETENCIES

- Enquiry and coping with uncertainty
- Using imagination
- Communicating ideas
- Analysing information
- Reflecting & Evaluating

INVESTIGATION (45 mins)

Investigate the variety of trees in a local green space (e.g. school grounds) for 15mins.

How many trees are in the area?

How many different varieties of trees are in your area?

If you are not sure of the species of tree you can download a tree identification guide, use a FSC foldout chart or you can send a photo of the tree to ispot (www.ispot.org.uk).

Record your findings on the Tree Recording Sheet.



Assess the diversity by calculating the Simpsons Diversity Index for the trees in an area.

How does your data compare to the example from Epping Forest Field Centre?

How robust is the area against disease/invasion?

Are there any signs of disease on the trees in your area?

DM5 Tree recording sheet
DM6 Simpsons Diversity Index
DM7 Tree disease sheet



DIVERSITY GIVES STRENGTH GAME (10 mins)*

Participate in the Diversity gives Strength game:

In the first round most of the group are Oak leaves and one or two people are a disease. The disease kills Oak leaves, the person representing the disease does this by tagging the Oak leaves who then sit down.

- What happened to the Oak woodland?
- How could tree diseases spread?

In the second round there are also people who are Beech and Hornbeam leaves, this time if they are tagged they do not die as the disease only kills Oak leaves.

- What happened this time?
- How is this an example of Diversity gives Strength?



IM13 Tree game instructions



UNDERSTAND

DISCUSSION (5 mins)*

Look at the pictures of current food production system.

- What are the reasons for these system?
- What problems could occur?



CURRICULUM LINKS

Geography¹ and
Biology²

- Modern farming practices impact the environment¹.
- Biodiversity refers to the variety of life on Earth^{1,2}.
- Biodiversity is important for the future development of food crops and medicine and also for resisting disease².



MONOCULTURE
Monoculture is the farming practice of growing a single plant species over a wide area.

IM12 Monoculture pictures



OPTIONAL MONOCULTURE CASE STUDY HOMEWORK (30 mins)

Investigate the Irish Potato famine. Could it have been avoided by using the 'diversity gives strength' insight?

DM9 Monoculture case study



REFLECTION (5 mins)*

You should now have a greater understanding of how Diversity gives Strength in nature. Add notes to the Reflection sheet and chart your progress on the Learning wall.

Visit the Share page of www.lessonsfromnature.org to comment on the activities you have taken part in.

Explore how this Diversity gives Strength insight can be applied to the human world for example management strategies for rivers and coasts and marketing approaches for products.

