**Interdependence in Nature – KS2/3**

Interdependence is a consistent relationship between organisms that lead a way of life together. Not only do animals and plants depend on each other, but humans do, too. We depend on other humans, on animals, plants and on non-living things in order to survive and live happy lives. These lesson ideas are designed to develop understanding and facilitate discussion about the concept of interdependence. *Ubuntu* describes a positive human experience of the impact of our interactions with each other and reflects how interdependence should have a positive impact on each of us if we all demonstrate Ubuntu.

**Curriculum Links**

**Science**

KS2 Year 6 Science curriculum - Evolution and Inheritance

* *identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution*

KS3 Biology curriculum – Interactions and interdependencies, relationships in an ecosystem:

* *the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops*

**RSHE/PSHE/SMSC**

* *consider one’s place in communities of which we are a part (eg: family, school, class, church, sports teams, theatre groups etc) and how our behaviour impacts others and how their behaviour impacts us*
* *Spirituality – Mirror moments: how do I depend on others and how do others depend on me?*

**Lesson 1**

**Resources -** PowerPoint (Ppt) files – ‘Nature Links’ and ‘Sorting Cards’

**Pre-reading -** PDF background information sheets, ‘Interdependence Fact Sheets 1 and 2’

**Introduction**

Start with the presentation, ‘Nature Links’ and ask pupils to come up with ideas how the animals could be linked (you could make laminated cards for them to sort using the Ppt file, ‘Sorting Cards’). They may well come up with ideas such as: there are two birds, two creatures that live in the sea, two insects etc. Maybe they will link herbivores, carnivores etc All these are valid ideas.

**Main task**

1. Say that you would like pupils to put them together in pairs and explain how they are linked – share examples and ideas
2. Then explain that, actually, in the set of cards there are pairs of animals linked because of the fact that they depend on each other for something – at this point click the Ppt for the next animation which will reveal the names of each animal. Ask pupils to discuss what each pair might be and ideas for how the animals might depend on each other. Reveal the answers by advancing to the next slide (supporting information is detailed in the background information sheets).
3. Then repeat the same process with the next ppt slide and cards linking plants and animals.
4. Pupils to record and present in their science/topic books as appropriate (or through photographs of the card sorting activity etc)

**Plenary and reflection**

Can pupils think about the plants and animals we **depend\*** on? How many different ways can this question be answered? For example:

* For food, for friendship, for safety (eg guide dogs), for exercise and good mental health etc**\*\***

**\*** Reinforce the meaning of this by using the example of the giraffe and oxpecker. These two animals **depend**, or rely on, each other. This is an example of **interdependence** which is simply how living things depend on one another. Another life-dependent relationship is of course that animals breathe oxygen and exhale carbon dioxide; plants take in carbon dioxide and release oxygen back into the air.

**\*\*** We sometimes use interdependence to describe complex systems.  If your dog provides you with love and happiness, and you provide your dog with food and walks (and love and happiness), then your relationship with your dog is one of interdependence.

**Lesson 2**

**Resources –** Diamond 9 template Ppt file, ‘Diamond 9’

**Introduction**

Recap on lesson one and revisit the meaning of interdependence. Ask pupils to discuss as response partners about how they survive each day. For example, at some point, they probably depend on their parents for things like food, clothing, and shelter. They also go to school and depend on their teacher to help them learn. What do they depend on each other for?

**Main task**

1. Develop this reflection further. We depend on other humans, on animals, and on non-living things in order to survive and live happy lives. Ask pupils to think about their own life further. Try to think of all of the people, plants, animals, and resources that they rely on every day. Think about the food they eat and where it comes from, the clothes they wear and who makes them, and the relationships they have with friends, family, and even strangers. Think also about the people, plants, and animals that rely on them.
2. Record a personal reflection about the interdependences in your own life. There are many ways this could be recorded:

* Written: diary entry, explanatory text, non-chronological report, letter of gratitude to others, prayer of thanks to God, a poem, a recipe for successful communities etc
* An illustrated mind-map

1. OR……you could ask pupils to consider similar reflections but for other people in a particular role, for example a police officer, teacher, nurse, vicar or a specific person, for example, a parent or carer. Marriage or civil partnerships create a state of interdependence between partners; parents or carers are employees or employers; there maybe complex family structures and friendships to explore.

**Plenary**

Diamond 9 exercise – putting things in order of dependency importance. Consider all the ideas that have been shared and thought about during the lesson. Either individually, in pairs or in small groups, complete a dependency diamond 9. In each diamond, place the name of a person, plant, animal or non-living things on which we depend.

Share and discuss ideas.

**Further Development and ideas**

*The environment* – In many places around the world today, climate change and other human activities are causing ecosystems to suffer. Ask pupils to carry out some research and find out about what people are doing to help preserve ecosystems and all of their interdependent relationships where they live. Encourage pupils to talk to you/parent/carer about getting involved in local environmental conservation events that help preserve relationships between species. Perhaps generate a school grounds project of some kind!

*Local examples* - Depending on where you live in the world, the relationships between animals living near you will be different. For example, typically in UK forests and woodland, trees that die often become nurse logs, providing food and shelter to other plants and animals. Bees and other insects pollinate flowers and other plants and take nectar to feed themselves at the same time. What connections can you find between living things where you live? Write a list or draw a mind map or diagram based on your own observations or based on information you find online or in books.

Further useful resources and activities can be found online here:

<https://www.stem.org.uk/resources/community/collection/11080/interdependence>

Examples of animal interdependence:

<https://www.treehugger.com/animal-species-working-together-in-wild-1140809>