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| LESSON 7: Food Cycles | | | |
| **Objective:** For children to understand life cycles in general by investigating food cycles for animals and humans. | | | |
| **Time:** 1 hour | | **Stage:** 2 | |
| **CURRICULUM LINKS** | | | |
| **Science and Technology K-6:**  CONTENT STRAND: Living Things LT S2.3. Identifies & describes the structure and function of living things and ways in which living things interact with other living things and their environment.  INDICATORS:  draws and labels a plan to refine ideas for making a diorama to show a food chain/web within a particular environment  uses a digital camera to record stages of an animals life cycle  draws and labels a food chain/web/pyramid within a particular environment  LEARNING PROCESSES:  Investigating INV S2.7. Conducts guided investigations by observing, questioning, predicting, collecting & recording data, & suggesting possible explanations.  Designing & Making DM S2.8. Develops & implements their own design ideas in response to an investigation of needs & wants.  Using Technology UT S2.9. Selects & uses equipment, computer based technology, materials & other resources to undertake an investigation or design task.  VALUES AND ATTITUDES:   VA5. Works cooperatively with others in groups on scientific and technological tasks and challenges.  KLA LINKS:  HSIE - CUS2.4 and ENGLISH - RS2.5 | | | **Australian Curriculum:**  OUTCOME:  ST2-10LW Describes that living things have life cycles, can be distinguished from non-living things and grouped, based on their observable features  ST2-11LW Describes ways that science knowledge helps people understand the effect of their actions on the environment and on the survival of living things  CONTENT:  ACSSU072 Living things have life cycles  INDICATORS:  Identifies ways that the environment can affect the life cycle of plants and animals  KLA LINKS:  ENGLISH - EN2-8B |
| **Key Scientific Knowledge (KSK)**   * An ecosystem is a community where living things interact in conjunction with other living and non living things through nutrient cycles and energy flows ([Mader, 2000](#_ENREF_10)) * The human population modifies existing ecosystems for its own purposes ([Mader, 2000](#_ENREF_10)) * Life Cycles are also known as Reproductive Cycles ([Skamp, 2012](#_ENREF_15)). * Life cycles include birth, environmental requirements for life like food and sun, threats to life like predation, reproduction and finally death. * Food cycles are often seasonal ([Skamp, 2012](#_ENREF_15)) * A food chain is a sequence of who eats who to obtain food for nutrition and energy ([Enchanted Learning, n.d](#_ENREF_6)) * A food pyramid is the “natural consequence of the way energy flows through an ecosystem” ([Skamp, 2012, p. 269](#_ENREF_15)) * Producers are the start of a food chain. Producers are plants and vegetables that require the sun to survive. ([Geography4kids, 2013](#_ENREF_8)) * There are two levels in the second phase of the food chain: a) Herbivores who eat plants and b) carnivores who eat meat. Omnivores who eat both and almost anything – like humans ([Geography4kids, 2013](#_ENREF_8)) * Decomposers are the final link in the food chain. Decomposers are mostly fungi that break down dead animals and other organic wastes ([Geography4kids, 2013](#_ENREF_8)) * Fires are considered necessary for renewal of habitats and ecosystems. Fires can help environments re-establish themselves through germinations and regrowth, necessary for the other living things that depend on them ([Mader, 2000](#_ENREF_10)). Aboriginal cultures used fires to assist with regeneration to maintain their food cycle, drive snakes away and avoid wild fires ([Jenolan Caves, n.d](#_ENREF_9)). | | | |
| **LESSON OVERVIEW**  **Introduction (10 mins)**   * Watch 5 minute You Tube clip on Food Chains **(link below page)** or www.youtube.com/watch?v=SWvtRf4TAO4 * Brief discussion about what the children have just viewed and of what the children already know about the food chains, in particular the human food chain. * Introduce the rotations and provide clear expectations.   **Divide the class into 3 groups for workshops (approx. 15 minutes each)** | | | |
| **Workshop** | **Description of 15 min rotations** | | **Resources** |
| Food Chain in the playground | **Food Relationships within the Playground** – Adapted from ([Skamp, 2012, p. 267](#_ENREF_15)). Children to go outside into the playground and look for life such as insects, lizards or birds, then to photograph a living thing each and draw a relevant food pyramid or food web for their chosen living thing.  Teacher to have a pre-prepared example of Food Web and Pyramid available to children. | | Digital Cameras |
| Food Cycle | **Interactive Food Chain Game**  Children to play game on IWB: **(link below page) or www.sheppardsoftware.com/content/animals/kidscorner/games/foodchaingame.htm**  Following game, children to think about their dinner the previous evening and write or draw their own food chain. | | Interactive White Board (IWB)  Internet Access |
| Aboriginal Fire & Food Cycles | **Research aspects of Aboriginal people’s food cycle**  Children to research on computers and/or iPads, how fire is a part of the Indigenous food cycle given it helps regenerate plants for food. Have children extend their thinking to see how small Aboriginal fire for back-burning can help all specie’s life cycles given it reduces the threat of big bush fires.  Have children write up their hypotheses of how fire helps the food cycle OR create a mind map on how fires benefitted Indigenous people’s life cycle.  **Possible sites children can explore:**  www.splash.abc.net.au/media/-/m/30042/aboriginal-fire-knowledge-reduces-greenhouse-gases  www.csiro.au/Organisation-Structure/Divisions/Ecosystem-Sciences/BushfireInAustralia.aspx  www.jenolancaves.org.au/about/aboriginal-culture/aboriginal-use-of-fire/ | |  Internet Access |
| **Modification**  **Simplification:** Children to work on only one or two of the rotations best suited to them.  **Extension:** Children to research the food chain of animals connected to Aboriginal culture such as the Kangaroo. | | | |