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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 environmentLEARNING 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 thingsCONTENT:ACSSU072 Living things have life cyclesINDICATORS:Identifies ways that the environment can affect the life cycle of plants and animalsKLA 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)).
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| **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 Chainin 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 |
| AboriginalFire & 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-gaseswww.csiro.au/Organisation-Structure/Divisions/Ecosystem-Sciences/BushfireInAustralia.aspxwww.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. |