

## #17. Trees and Forest Review Notes

1. Identify reasons why trees and forests are valued.

Forests serve as habitat for a variety of living things

Human needs – recreation, raw materials, life supporting environment

Habitat – an environment where something lives

Ecosystem – a living community that depends on each member and it's surrounding environment (cooperating together to survive)

Living things in the forest –

- Producers – living things that use energy from the sun to produce their food.
- Consumers - living things that eat the producers
  - Three types of consumers – herbivores, carnivores and omnivores
- Decomposers – living things which feed off dead plants and animals
  - They reduce the remains to nutrients and minerals for the soil
    - Examples – mushrooms (fungi) and bacteria

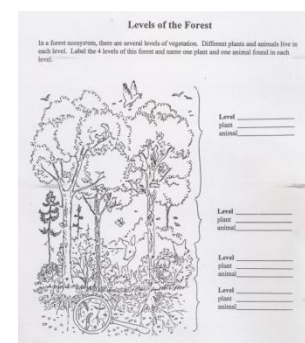
Non-living things in the forest – water, rocks, sunlight, air, soil and chemicals.

\*\*\*Study food chains/food webs (as well as Producers, consumers, decomposers) here:

[http://projects.cbe.ab.ca/chinookpark/curriculum\\_links/Grade\\_Pages/grade6/Gr\\_6\\_Units/science/foodchains/food\\_chai.html](http://projects.cbe.ab.ca/chinookpark/curriculum_links/Grade_Pages/grade6/Gr_6_Units/science/foodchains/food_chai.html) (link on website as well)\*\*\*

2. Describe kinds of plants and animals found living on, under and among trees; and identify how trees affect and are affected by those living things.

- Forest Layers
  - Upper canopy: top layer of the forest
    - Captures more than 90% of the sunlight
    - Where most of the photosynthesis occurs
    - A Lot of flying animals can be found here.
      - Humming bird, owl, and insects(butterfly, caterpillars).
  - Understory: Many small trees, larger bushes and shrubs.
    - Provides shelter for many forest animals
  - Shrubbery layer: Home to many forest wildflowers, ferns, deer skunks and rabbits
    - These animals find their food on this level.



- Forest Floor: Dark and damp. Only plants that can live with very little light grow here.
    - Fungi decompose dead plant material here
    - Fungi are not green because they don't have chlorophyll and can not produce food through photosynthesis.
    - Fungi eat dead plant material. Mushrooms, conks and lichens are examples of fungi.
    - Decomposers such as worms, bacteria, millipedes, and centipedes are examples of decomposers.
    - Inhabitants of the forest floor are toads, mushrooms, and insects.
3. Describe the role of trees in nutrient cycles and in the production of oxygen.

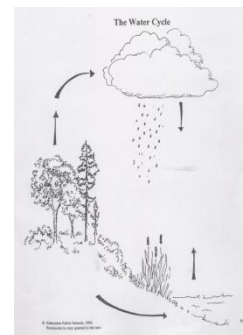
### Nutrient Cycle

1. Decomposers break down the dead matter from trees or animals break down plant leaves
2. Nutrients are released back into the soil
3. Roots of trees absorb the nutrients
4. Nutrients travel up the trunk of the tree and are used as energy for growth.
5. Consumers eat the leaves of trees or the dead leaves fall back to the ground



### Water Cycle

1. Trees take in water through their roots
2. Water is transported up through the trunk to the leaves
3. Leaf endings release water vapor (transpiration)
4. Water which is transpired by plants enters the atmosphere and cools (forming clouds)
5. Water also enters the atmosphere by the process of evaporation.
6. Dirt particles and various chemicals are left behind as vapor rises
7. Cooling of water vapor (condensation) forms precipitation
8. Precipitation falls to Earth as rain, sleet, snow or hail.
9. Precipitation lands on the ground or remains on the surface and collects in streams, rivers, and lakes.
10. Plants use water as part of the process of photosynthesis.
11. The cycle repeats over and over.



Photosynthesis: The process by which leaves make food for the plant.

- Leaves make food from water and carbon dioxide
- Sunlight captured by chlorophyll traps light energy. Chlorophyll is what makes the leaves green.
- Chlorophyll molecules use light energy to change carbon dioxide and water into oxygen, sugars, and starches.
- Leaves release the oxygen they don't need into the air and keep the sugar for food.
- Plants give off almost all the free oxygen in the atmosphere.
- Photosynthesis Website (link on website):  
<http://www.pbs.org/webh/nova/nature/Photosynthesis.html#>
- Wonderville - Choose Photosynthesis (link on website):  
<http://www.wonderville.ca/>

