**Section 2.1: the Role of Organisms in an Ecosystem**

All organisms have a role within their ecosystem; that is, they have a particular **NICHE**. A niche refers to an organisms role or JOB in it’s ecosystem. With your elbow partners, read through pages 27 & 28 of your text to fill in the flow chart using the following terms: *omnivore, producer, herbivore, carnivore, & consumer*. Don’t forget to include their definitions.

Consumers are also known as **heterotrophs**; they rely on other organisms to gain energy. Different consumers have specific **adaptations** that allow them to be successful in their niche. What adaptations do you think each has? Discuss some of these, and prepare to share:

|  |  |  |
| --- | --- | --- |
| **Herbivore** | **Omnivore** | **Carnivore** |
|  |  |  |

One of the easiest ways to identify whether or not a heterotroph is a herbivore, carnivore, or omnivore is by looking at their skull structure. The mandible (or jaw) will be shaped differently depending on what food the organism is consuming. An easier way to determine the type of heterotroph is by looking at their teeth.

***INTERACTIVE****: Investigate a variety of skull structures and determine they niche of heterotroph each organism belongs to. Read the ENTIRE information sheet and make sure you only choose animals from the list provided.*

There are 2 other heterotrophs that we must still discuss: **scavengers** and **decomposers,** also known as the clean-up squad. These consumers will get rid of all garbage and waste materials left behind by the other producers and consumers.

**SCAVENGERS**: Scavengers are consumers that don’t usually kill for their own food. Instead, they feed off the remains of living things that are killed by other consumers.

*What different kinds of scavengers can you think of?*

**DECOMPOSERS**: Decomposers are consumers that break down (decompose) dead plants and animals. They also break down animal waste materials.

*What different kinds of decomposers can you think of?*

Together, read p.31 (A Special Group of Consumers) and p.33 and add to your lists above.

***INTERACTIVE****: Now that you have learned about decomposers, determine whether or not they are hurtful or harmful to yourself. Use page 32 to fill in the chart and then research a DIFFERENT decomposer of your own. Include facts about the organism, identify if it is helpful or harmful, and even draw it if you wish!*

|  |  |
| --- | --- |
| ***Baker’s Yeast*** | ***Escherichia Coli*** |
| ***Candida Albicans*** | ***E.Coli bacteria 0157:H7*** |
| ***Nitrogen-fixing nodules*** | ***Your choice… .*** ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** |

The interaction of organisms based on their given *niche* can be described using a variety of models.

\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are models that show how energy stored in food passes from one organism to another. Plant life grows by using energy from the \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the soil as sources of food. This energy passes along from the producers to the consumers in an ecosystem.

**Food chains** are simple models; however, in the real world, *producers* are usually eaten by many different \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. As such, we use a \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ to show the network of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ food chains.

*Food chains* and *food webs* show how energy is transferred in an ecosystem, but it does not tell us HOW

MANY organisms are involved in the energy transfer. To

solve this, *ecologists* build a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_, which follows a specific pattern.