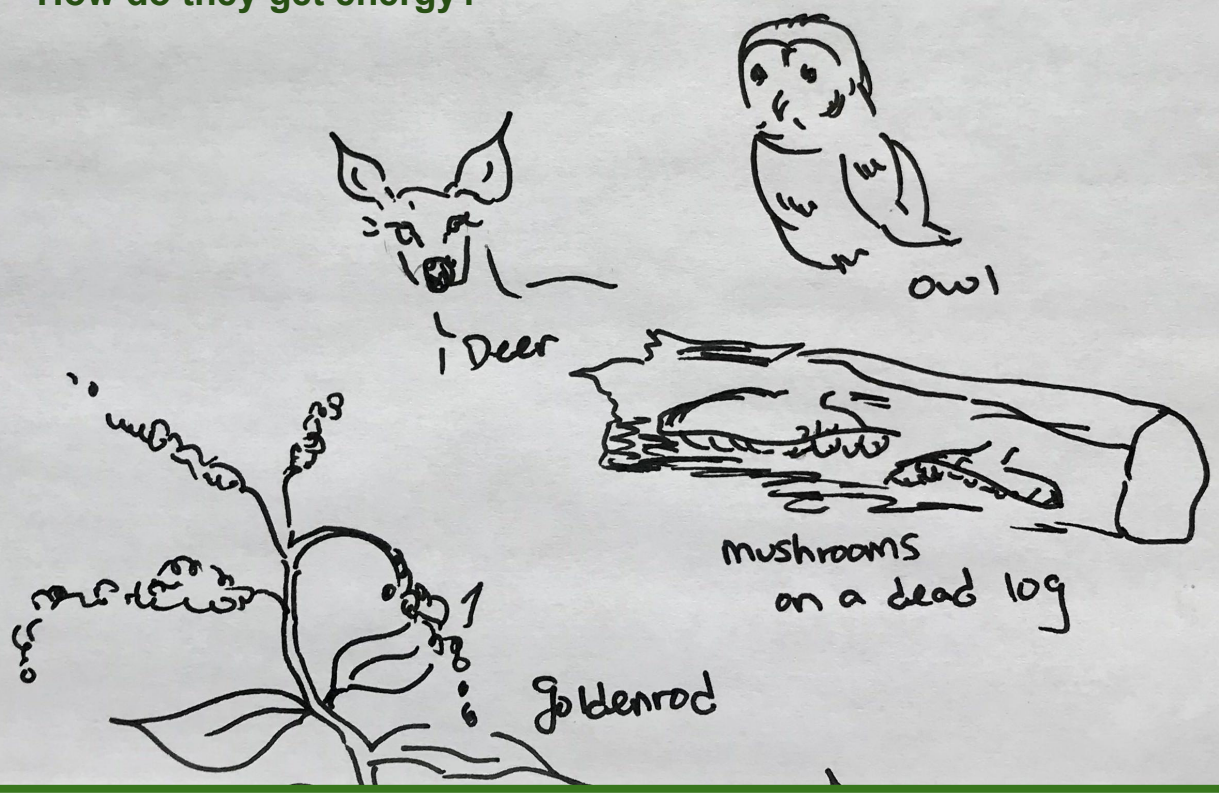
Puzzling Together an Ecosystem, Part One:

The Biotic (living) Elements! Name: _____

Just like a neighborhood, an **ecosystem** is a community of living and non-living things all interacting with one another. Ecosystems are always changing as living things eat one another, erosion shapes the land, and weather and the seasons change. In an ecosystem, all living things are competing for food. Scientists put all living things in different categories based on what they eat, and where they fall in the **food chain**. These groups include **producers**, **primary consumers** or herbivores, **secondary consumers** or predators, and **decomposers** which break down dead material. Below is a drawing of some common examples of each category found in the Hopkins Forest. Take a look and try it yourself on the back side!

Which category includes which forest inhabitant? Ask yourself, what do all these different creatures eat?
How do they get energy?



If you can, get outside to explore your yard, neighborhood, or a local park. You can even visit the Hopkins Forest if you are able! If you can't find a good space outdoors, searching online for different photos of ecosystems will also allow you to do this activity. This slideshow of the Tundra Ecosystem* provides great photographs for looking at different parts of the food chain. Use the internet, a classmate, or a dictionary, if you get stuck.

On another sheet, find and sketch an example of each different category below. The questions and hints will help you look!

Producers

How do trees make food? What do they "eat?"

Producers make their own food from non living things! How might they do that? Where does this energy come from?

Primary Consumers

Look carefully for nibbled leaves, or stashed nuts and acorns.

Listen for birdsong; where do they fit in?

Are there animal tracks in the snow? What kind?

Any animal scat? (aka *poop*!)

Secondary Consumers

Hint: You probably belong in this category!

If primary consumers eat producers, what might secondary consumers eat?

Decomposers

What is attracted to rotten fruit or human trash?

Notice any fungus?

Find a dead tree: when living material dies, it begins to decompose.

Evidence of Decomposition

What do you know about "compost?" Ask a friend!!

Decomposers move slowly, and can be very small...

Can you begin to picture these pieces as a chain or a cycle?

Next, try to draw a web of ecosystem relationships: what eats what? Can you put together a food chain using arrows between different categories? There are still important pieces missing: mainly the connections between decomposers and producers. The next worksheet will help us study the non-living, or abiotic, pieces.

*https://www.nps.gov/gis/storymaps/cascade/v1/index.html?appid=5ac493b8fa0748f284e955d94819abb4