

MAKE A HABITAT

GRADE LEVEL(S) 1

LESSON OBJECTIVE

In this lesson, students will learn about habitats, and the characteristics that separate one habitat from another. Students will be able to define habitat and recognize that all living things have basic survival needs. Students will create their own habitat by drawing a picture, based on a fictional animal. They will need to include the living and non-living components and have to explain why they are there and how they all relate.

BACKGROUND/PRIOR KNOWLEDGE NEEDED

Our world, both terrestrial and aquatic, is comprised of many different and unique habitats. A *habitat* is defined as the “physical conditions that surround a species, or species population, or assemblage of species, or community (Clements and Shelford, 1939),” or, more simply, where an animal lives. Every inch of planet Earth is a habitat. Habitats that are familiar to many of us include forests, deserts, swamps and grasslands. Each of these habitats is a home for a distinct set of animals and plants. Even our cities and houses have become habitats for certain animals. These habitats all have a characteristic set of physical factors such as temperature, moisture level, and what they are made of that will dictate what animals and plants can live there. Fishes live in water and have certain things about their bodies; adaptations that help them survive there. Their fins help propel them through the water, and their gills enable them to breathe underwater. These same fishes would not be able to survive in trees as their fins are useless for climbing and they would not be able to breathe. Conversely, a monkey that is very well suited to living in trees would never survive under water. Its hands and arms are suited to climb and swing in trees, not swimming, and it would not be able to breathe underwater as it has lungs, which do not function under water. Every habitat on earth is a bit different and therefore has different organisms living there.

The Los Angeles area has many different habitats within its limits. They range from the steel and cement buildings found downtown, to the sandy beaches of Santa Monica, and to the chaparral in the surrounding hills. Each of these habitats is home to a different group of plants and animals.

Some examples of habitats in the greater Los Angeles area, their characteristics and some typical inhabitants, include (see map for reference):

1-Sandy Shore (Inhabitant = Western Gull):

- Comprised of sand
- Adjacent to the ocean
- Always changing because of the tides and waves
- Heavily used by humans

- The Western Gull has webbed feet that help it swim as well as walk on the soft sand. It eats crabs, dead fish, mussels or any other debris that washes ashore.

2-Oak Woodland (Inhabitant = Deer):

- Big trees – Oak
- Trees are spread out and are surrounded by bushes and grasses
- Acorn, from the oak trees, are food for many animals
 - Deer eat grasses, leaves and acorns and use the trees for cover, but can run fast in the open to escape predators.

3-Downtown (Inhabitant = Pigeon):

- Tall buildings
- Lots of metal, concrete and wires
- Noisy
- Hot in the summer, cold and windy in winter
 - Pigeons have feet adapted to hold onto branches and wires, and roost on windowsills and rooftops. Their small beak is used for eating a variety of small seeds and bits of food.

4-Chaparral (Inhabitant = Ground Squirrel):

- Steep hills
- Very Dry
- Low bushes and grasses
 - The ground squirrel lives underground and has claws used for digging. They eat seeds, bugs and plants.

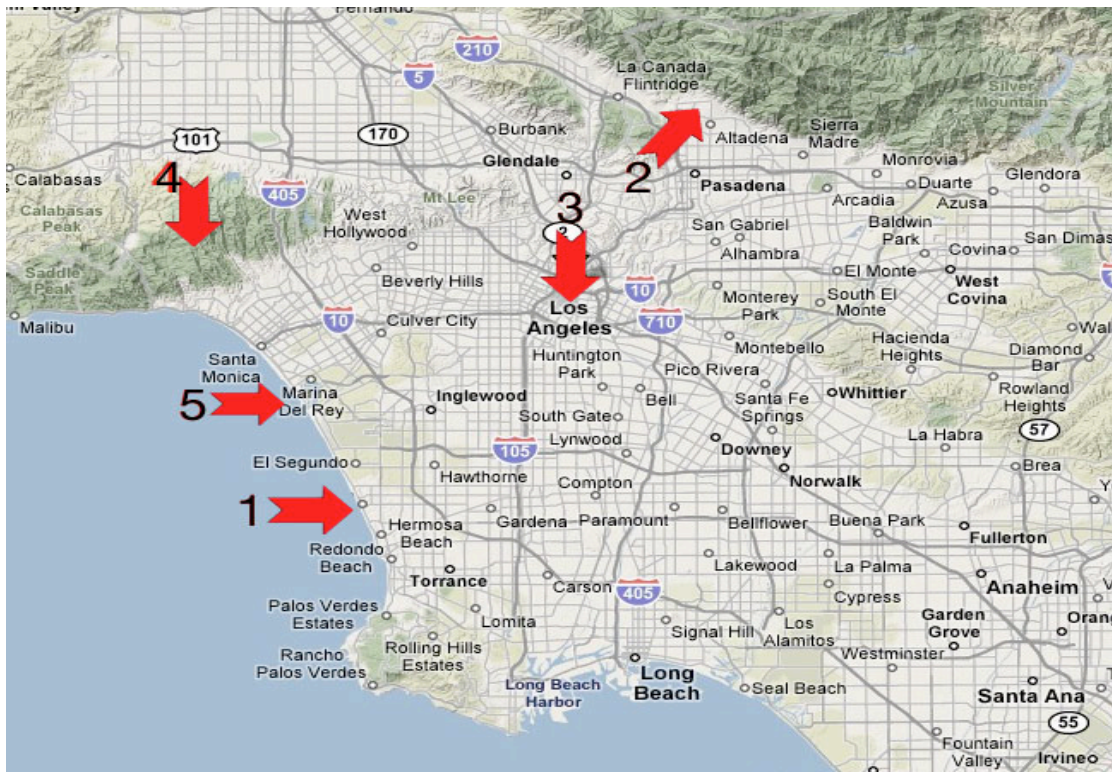
5-Salt Marsh (Inhabitant = Heron):

- Found by the coast
- Partly inundated by shallow salt water
- Covered by grasses
 - The heron has long legs for wading and a long pointy beak for catching small fish. The heron nests in the tall marsh grasses.

The animals that live in each of these habitats are generally suited to live in that habitat only (some exceptions apply). Their bodies, or their behaviors, would not allow them to survive in another habitat. Prior to the human population explosion and massive development that followed in the Los Angeles area, these habitats flourished and supported a wealth of life. As more and more humans arrived in Los Angeles, we have built houses, grocery stores, gas stations and stores. This development has destroyed the existing habitats, and therefore displaced the animals that lived there. Some habitats, like the sandy shore, marsh, and oak woodland were greatly impacted because they are areas desired most for development. Chaparral habitats were affected less because steep terrain was less suitable for building. We need to learn about and understand the many different habitats in the Los Angeles area, so that we may preserve the unique animals and plants that live there.

This education is crucial not just here in Los Angeles, but all over the world. Many habitats have been decimated, many organisms have become extinct, and many others are endangered. By understanding what is going on around our home, we will be better equipped to look beyond our local environment and make positive changes.

Clements, Frederic E., and Victor E. Shelford. 1939. *Bio-ecology*. John Wiley & Sons, New York. 425 pp.



EDUCATION STANDARD(S)

Grade 1: California Science Standards

Plants and animals meet their needs in different ways. As a basis for understanding this concept:

1. Students know different plants and animals inhabit different kinds of environments and have external features that help them thrive in different kinds of places.
2. Students know both plants and animals need water, animals need food, and plants need light.
3. Students know animals eat plants or other animals for food and may also use plants or even other animals for shelter and nesting.

Environmental Principles & Concepts (EEI) corresponding learning objectives:

- Recognize that natural systems (environments) provide the resources (goods and ecosystem services) for survival for plants and animals.
- Describe human activities that can influence the function of natural systems and the availability of resources for plants and animals.
- Explain that if there are significant changes to natural systems (environments) plants and animals may not be able to survive in those areas.
- Recognize that to survive, plants and animals (including humans) need resources including water, food, air and light.
- List the resources animals (including humans) need to survive.

- Provide examples of things that humans do that can influence the availability of resources needed by plants and animals (including humans).
- Provide examples of things that humans do that can influence the availability of materials animals (including humans) use for food, shelter and nesting.

MATERIALS NEEDED

Dry erase board and dry erase pens, fictional animal picture (sample provided), sheet of paper, assorted crayons.

DIRECT INSTRUCTION

- Ask the students what they need to stay alive? (Write answers on the board)
 - Target answers:
 - Food: Plants and animals are used for energy to live and grow
 - Water: Needed to help us live and grow
 - Clothes: To keep us warm and comfortable
 - A house/apartment (shelter): made out of wood, stone and metal to keep us warm, dry and safe.
- Ask them if they could survive with only one of these things? Or could they survive without one of these things?
 - Target answer:
 - No
- Have the students name one of their favorite animals. Where does it live and what is it like there (hot or cold, dry or wet, trees or sand, etc)? (Write them on the board)
- Ask them if this animal could live in a different place?
 - Cold instead of hot?
 - Dry instead of wet?
 - Sandy instead of trees?
 - Target answer:
 - No
- Explain that these animals all need a special set of things or conditions, in order to survive. These things and conditions are what make up their home, or what scientists call a HABITAT. The definition of a habitat is: the place or environment where a plant or animal naturally or normally lives and grows, or, more simply, where an organism lives.
- Everything a plant or animal needs to survive can be found in its habitat!
- Ask the students if any of them have a pet?
- What does their pet need to survive?
 - Some possible answers may include:
 - Dog: water, food, air, space to run...
 - Goldfish: clean water, food...
 - Hamster: water, food, wood chips for a nest...

- Explain that these are all things that help make up their pet's habitat. A habitat is made up of both living things (plants and animals) and non-living things (rocks and water). All living things on this planet live in a habitat. And all the living things in a habitat make that habitat work.
- Let's make our own habitat
- Ask the students:
 - What makes one habitat different from another? The things in it and what it is like there (hot, cold, wet, dry).
 - Do you find different animals in different habitats? Yes.
- Explain that different animals need different things in their habitat to survive.
 - Food: each habitat will have different plants and animals present that are food items
 - Cover: each habitat has different vegetation or types of places for animals to hide and live
- Let's meet an animal you have never seen before. Show the students a picture of one of the fictional animals. Walk the students through some of the animal's external features and what they might be good for.
 - Fins for swimming, big ears for good hearing, beaver tail for slapping as an alarm, long legs for wading, etc.
- Tell the students that they are going to make up a habitat for this fictional animal and draw it. They can make it however they like, but they must be able to explain why it is the way it is (i.e. the fictional animal is red and has big claws for climbing. The fruit bearing plants are red and tall, because red helps the animal camouflage, and the big claws help the animal climb the tall plants to eat the fruit). Make sure that the students add food, water and shelter into their habitat as well and can explain how their animals get their necessities.
- Give the students 10 – 15 minutes to draw their habitat. Make sure to walk about and prompt the students with questions (i.e. What would the animal eat?) Why are the plants red?)
- When time is up have students share their habitats and explain how their fictional animal lives there.
- When each student has explained their habitat, tell them that people have changed something about it (cut down trees, taken the fruit, removed an animal, etc), and ask them what would happen to their animal?
 - Target Answer: Their animal would have to move or it would not survive.
- Follow this with what we could do to help keep their animal in their habitat (plant more trees, not take all the fruit, leave all the animals, etc).

GROUP/INDEPENDENT WORK

Students can work independently or in varying groups depending on the level of ability, class size and/or teacher's preference.

ASSESSMENT/WRAP UP

Suggested Grading Rubric

	1	2	3	4
Picture	Picture not drawn.	Picture incomplete.	Picture of habitat is drawn with detail and in a neat manner.	Picture of habitat drawn with detail and in a neat manner, including color.
Food	Food not present in picture.		Food present in picture.	Multiple food sources present in picture.
Shelter	Shelter not present in picture.		Shelter present in picture.	Shelter present in picture with details, such as a place for sleeping and protection from the elements.
Water	Water not present in picture.		Water present in picture.	Water present in picture and placed in a location that is logical (in a lake, or river).

Sample Fictional Animal

