

Outdoor Science! Week 1

Day 5: My Home is Your Home!

Teacher/Parent Background:

- In this activity, students will engage in various “habitat scenarios” to describe how flora and fauna are positively and negatively impacted by natural and human-caused changes to their habitats. Through “tours” of the outdoors, students will actively explore the natural and human-caused impacts on the flora and fauna in their very own habitat!

Related Standards:

- Obtain, evaluate, and communicate evidence about how natural and human-caused changes to habitats or climate can impact populations.

Key Terms:

Populations - a group of the same living things in a habitat

Human-caused changes - changes that are caused by human actions

Natural-caused changes - changes that are caused by natural forces or by the actions of living things

Materials List:

- Internet access
- *My Home is Your Home! Pictures & Scenarios* - included in the *Activity Description* section
- Journal
- Pen/pencil
- Colored pencils/crayons
- Parental/adult supervision
- Safe, outdoor areas
 - Frontyard, backyard, neighborhood sidewalks, nearby field or park, etc.
- Computer/phone with audio - optional for *Extensions* section

Activity Description:

- Ask students to review examples of interdependence among flora, fauna and non-living things in journals from *Day 4: I Need You & You Need Me!*. Briefly recap the main ideas from Day 4's activity:
 - Why do living things rely on other living things and non-living things?
 - What were some of the interdependence examples among flora, fauna and non-living things we observed/discussed?
- As we have learned, flora and fauna depend on one another and on non-living things like air, water, rocks, sunlight, etc., in their habitats to help them survive! But as we saw in *Cactus Hotel*, sometimes outside things impact the flora and fauna living in the habitat, like a strong gust of wind!
 - In fact, there are many changes that occur in habitats that impact the *populations*, or groups of the same living things in a habitat. For example, in *Cactus Hotel* there was a population of Saguaro Cacti living in the same desert habitat and a gust of wind knocked one cactus down.
 - Sometimes, changes to a habitat are *human-caused*, or caused by human actions. For example, taking up space/building in habitats. Other times, changes to a habitat are *naturally-caused*, or caused by natural forces or by the actions of living things. For example, a strong rain/wind knocking down places of shelter for flora and fauna or a mouse carrying the seeds of trees on its whiskers and therefore, distributing the seeds in its habitat, growing the population of trees.
 - Not all human and natural-caused changes to habitats are negative!
 - What are some other examples of positive ways humans and natural-forces/actions change habitats? Ask students to discuss.
 - Possible examples may include humans planting trees, rainfall providing a large supply of water for flora and fauna, etc.
- Now that we have discussed some examples of human and natural-caused changes, let's explore how these changes directly impact populations of desert flora and fauna by engaging in a few "habitat scenarios", or possible situations that may occur in a habitat!
 - Tell students that we will be focusing on a few flora and fauna populations within a desert habitat. Show students the *My Home is Your Home! Pictures*.

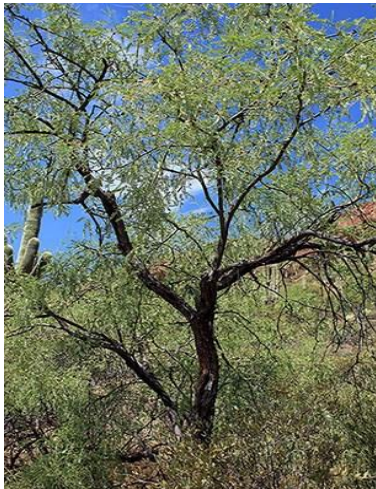
- Ask students to observe and record the following flora and fauna details in science journals, through the use of labeled drawings. Pictures are as follows:

- **Saguaro Cactus (with fruit)**



- Makes its food using sunlight.
- Uses roots for structure/support and to obtain water.
- Grows fruit/flowers.

- **Palo-verde Tree**



- Makes its food using sunlight.
- Uses roots for structure/support and to obtain water.
- Grows leaves.

- **Rock Pocket Mouse**



- - Lives in holes in the sandy desert, near cacti and trees.
 - Eats the fruit of cacti.
 - Drinks water from the leaves of trees.

■ **Gila Woodpecker**



- - Lives inside cacti.
 - Eats the fruit of cacti.
 - Eats insects that may bring diseases to cacti.

■ **Long-nosed Snake**



- - Lives in holes in the sandy desert, near cacti and trees.
 - Eats a variety of fauna, including rabbits, rodents and birds.
 - Can be a food source for coyotes and large birds.

■ **Coyote**



- - Lives in dens, near cacti and trees.
 - Eats a variety of fauna, including rabbits, rodents, snakes, and birds.
 - May also eat flora, like fruit and grass.
- Read aloud each “habitat scenario” statement below and prompt students to discuss and record in journals the cause of the change in the habitat and the impacts on the flora and fauna populations. Scenario statements are as follows:
 - “An earthquake shakes the desert surface, uprooting and knocking down trees and cacti.”
 - Negative, natural-caused change.
 - Direct impacts: A decline of the Saguaro Cactus and Palo-verde Tree populations, as they have been knocked down.
 - Additional impacts: Rock Pocket Mouse and Gila Woodpecker populations would decrease, as they rely on the Saguaro Cactus and Palo-verde Tree populations for food and shelter. If severe enough, this may also impact the Long-nosed Snake and Coyote populations, as they eat the Rock Pocket Mouse and Gila Woodpecker populations.
 - “Humans dump their garbage in the desert habitat, some of which leaks into underground water sources.”
 - Negative, human-caused change.
 - Direct impacts: A decline of the Saguaro Cactus and Palo-verde Tree populations, as the water would become polluted and impact the growth/health of the flora.
 - Additional impacts: Rock Pocket Mouse and Gila Woodpecker populations would decrease, as they rely on the Saguaro Cactus and Palo-verde Tree populations for food and shelter. If severe enough, this may also impact the Long-

- nosed Snake and Coyote populations, as they eat the Rock Pocket Mouse and Gila Woodpecker populations.
- “During a dry period, humans visit the desert habitat weekly to water the soil/sandy areas of the cacti and trees.”
 - Positive, human-caused change.
 - Direct impacts: An increase in the health and growth of the Saguaro Cactus and Palo-verde Tree populations, as the increase of water during a dry period will help the flora grow.
 - Additional impacts: Rock Pocket Mouse and Gila Woodpecker populations would increase, as they rely on the growth of healthy Saguaro Cactus and Palo-verde Tree populations for food and shelter. If severe enough, this may also impact the Long-nosed Snake and Coyote populations, as they eat the Rock Pocket Mouse and Gila Woodpecker populations.
 - “On a windy day, a strong wind carries many fruit seeds of the Saguaro Cactus all across the desert habitat.”
 - Positive, natural-caused change.
 - Direct impacts: An increase in the Saguaro Cactus populations, as the distribution of its seeds will cause more to grow.
 - Additional impacts: Rock Pocket Mouse and Gila Woodpecker populations would increase, as they rely on the growth of the Saguaro Cactus populations for food and shelter. If severe enough, this may also impact the Long-nosed Snake and Coyote populations, as they eat the Rock Pocket Mouse and Gila Woodpecker populations.

Closure:

- We have seen many examples of how human and natural-caused changes to habitats impact flora and fauna populations. Let's now explore the outdoors, in our very own urban/desert habitat, to see if we can find other examples of human and natural-caused changes in our habitat!
 - With adult/parental supervision, take a “tour” of the safe, easily accessible outdoor areas of your neighborhood. This may include:

your front and backyard, sidewalks around your neighborhood, a nearby field or park, etc.

- During the tour, ask students to discuss and record their observations of the human or natural-caused changes and how these changes have impacted/might impact the flora and fauna populations, through the use of drawings with labeled words/phrases.

Extensions:

- Watch!
 - Crash Course Kids - *Big Changes in the Big Apple*
 - Human-caused changes
 - Crash Course Kids - *Big Changes in the Big Forest*
 - Natural-caused changes