

Owls

Objective: To examine the niche and characteristics of Owls.

Tools to bring (optional):

- Owl pellets (anti-bacterial)
 - Owl feathers (& contrasting Eagle feathers)
 - Index cards: Food, water, shelter and space WITH corresponding representative cards appropriate for Owls.
 - Folklore book
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Performance tasks:

Students will understand how owls meet the four basic needs of all living things: food, water, shelter and space. If students do not participate you may provide the first or second example until they join and/or show picture cards or artifacts (ie. feathers, x-ray pictures) for visual aid. Students may say any of these answers in any topic.

To conclude lesson, students will be able to identify characteristics and niche of owls, and relate conservation concepts from Liberty (trash board).

Classroom management:

Explain necessity of being quiet for duration of lesson

Quiet students may draw cards depicting food, water, shelter and space.

Then draw corresponding cards that represent appropriate niche & characteristics of owls.

Topic: Food

- Insects, rodents, small mammals
 - Bird of prey
 - - Barn Owls can locate prey on sound alone, in total darkness, with pinpoint accuracy.
 - Strong feet like raptors (two forward facing claws, two backward facing claws)
 - Hooded bill
 - Disk face
 - Ear placement (triangulate sound)
 - Forward facing eyes
 - Silent Flyers
 - Owl pellets
 - Favorite food? Skunks
 - - Box arrives at Liberty & we think it's a skunk but it's really an owl!
- Animal in the city that looks like a skunk?

Topic: Water (in the desert)

- Insects
- Conserve:
- - Active at night when temperatures are lowest
- Gape open-mouth and flutter throat to cool off

Topic: Shelter

Discuss how/why animals are dependent on plants/other animals for shelter:

- Trees
- Saguaro Cactus in Sonoran Desert (animals need the cactus for food/shelter, cactus also needs animals to reproduce)
- - Elf Owls, Pygmy Owls, Barn Owls, Great Horned (also Harris, Red tail hawks, Kestrels & Woodpeckers)

Topic: Space

- Solitary
- Mostly nocturnal (active at night)
- Some Diurnal (Burrowing Owls)

Further discussion

Fun/Interesting:

- Many different vocalizations than hoot
- Cannot move eyes much so must move head (can turn head over 270 degrees to look directly behind)

Folklore:

Barn Owls indigenous to every continent in the world.

Generally, and owls hoot is considered bad luck (Halloween)

- Bird of sorcerers (Harry Potter?)

Celtic Mythology: Owl is guide to and through the underworld.

Symbolism: Swift and deadly hunter, precise, solitary with keen vision. Considered the Eagle of the night, Owls represent wisdom, and the ability to see deceit.

- Scientists can use folklore to study owls past and present behavior & niche.

Guess: How many owls of the Sonoran Desert?

1. Barn Owl
2. Western Screech Owl
3. Great Horned
4. Pygmy Owl
5. Elf Owl
6. Burrowing Owl

Topic: Conclusions and relate conservation concepts

- What did you learn today from our discussion about birds? Review similarities and differences broadly.

- Were the results what you expected? Why/why not?

What are some of the ways we (humans) get the things we need?

- get food from store
- water from tap
- live in houses for shelter

How do birds get what they need to live?

- forage/hunt for food- discuss dangers to birds (lead poisoning from bullets, pesticides, etc.)
- build own nest- discuss dangers to birds (tree trimming in spring, trash, etc.)
- find water- discuss dangers to birds (chemicals left out, chemicals dumped, scarcity)
- Discuss any other dangers to birds, emphasizing human responsibility of environment

Topic: Sustainable Solutions

Discuss conservation: preservation, protection, safeguarding

Prompt students to predict what they can do to conserve and help birds not become harmed by the human environment.

- - reduce, reuse and recycle
- - pick up after yourself when you're done camping/fishing, etc.
- - don't litter
- - trim trees in another time of year
- - make a bird house
- - make a bird feeder
- - plant more trees
- - put in a bird bath or pond for wildlife
- - preserve water by taking showers instead of baths and turning off water when brushing teeth
- - don't use chemicals for pesticides, or dump chemicals into ground
- - keep air quality clean by driving less, using less electricity, consuming less

First Grade

Arizona State Standards:

**Strands 1, 2 and 3 are designed to be explicitly taught and embedded within each of the content strands 4, 5 and 6, and are not intended to be taught in isolation. The processes, skills, and content of the first three strands are designed to “umbrella” and compliment the content of Life Science, Physical Science, and Earth and Space Science.

Strand 1: Inquiry process

Concept 2: Scientific Testing

P01: Demonstrate safe behavior and appropriate procedures in all science inquiry.

P02: Participate in guided investigations in life, physical, and Earth and Space sciences.

Concept 3: Analysis and conclusions

P01: Organize objects, organisms, and events, according to various characteristics.

Concept 4: Communication

P01: Communicate the results of an investigation using pictures, graphs, models, and/or words.

Strand 2: History and Nature of Science

Concept 2: Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations.

Strand 4: Life science

Concept 3: Organisms and Environments

P01: Identify some plants and animals that exist in the local environment.

P02: Compare the habitats in which plants and animals live.

P03: Describe how plants and animals within a habitat are dependent on each other.

Strand 5: Physical Sciences

Concept 1: Properties of objects and materials

P01: Classify objects by the following observable properties: shape, texture, size, color, weight.

Strand 6: Earth and space science

Concept 3: Changes in the earth and sky

P01: identify the following characteristics of seasonal weather patterns: temperature, type of precipitation, wind.

P02: Analyze how the weather affects daily activities.