

Life cycles

Objective: To compare and contrast human and bird life cycles, living and eating habits.

Tools:

- Pictures demonstrating human and bird life cycles (ie. Baby/hatchling, toddler/nestling, kids/fledglings, teenagers/juvenile, adults)
 - Different shape, size, color eggs.
 - Birdseed, fruit, picture of mouse/bird
 - Bird nest (or pictures) mud/twigs, picture of a house/apartment
 - Birdbath (or picture), picture of bathtub
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Performance Task:

Facilitate the students' predictions about similarities and differences between humans and birds; if they predict more or less similarities between humans and birds regarding: life stages, food, shelter, water, & space.

Classroom Management:

Explain necessity of remaining quiet for duration of presentation

If the classroom has a chalkboard and you can use it, list the topics and tally answers. This can be a great way to facilitate the behavior you want by rotating children who are participating and following directions, to mark the tallies on the board. This may be difficult however with large class sizes, or an especially rowdy room. If the classroom does not have a board to use, you may ask one child to keep score on separate piece of paper.

Conclude lesson with recap of what they learned and relating sustainable concepts.

Topic: Life stages

- Identify/Discuss life stages of birds (Hatchling, Nestling, Fledglings, Juvenile, Adult): 5 Stages
- Identify/Discuss life stages of humans (Baby, Toddler, Kid, Teenager, Adult): 5 stages

Discuss the similarities at different life cycles ie. Hatchling like babies depend on parents for everything, nestlings like toddlers are beginning to do thing on their own (feathers to regulate temperature, walking, etc.), fledglings are almost ready to fly and start clinging to branches while kids are starting to become more independent and go to school, juveniles start to leave the nest while teenagers also move out at about 18, and adults of both species take care of themselves, have jobs, and start to reproduce- starting the cycle all over again.

Are our life stages more or less similar?- tally

Topic: Food

Identify/discuss what humans eat

- Seeds
- Nuts
- Fruit
- Plants
- Animals

Identify/Discuss what birds eat

- Seeds
- Nuts
- Fruit
- Bugs
- Small mammal

Are our food choices more or less similar?- tally

Second Grade

Topic: Shelter

Identify shelter for humans

- Houses
- Apartments/Condo/Townhouse

Live with?

- Family
- Friends

Community: Housing complex,
Neighborhood, Town, City

Identify shelter for birds

- Trees
- Bird houses

- - Manmade

- - Birdmade

Live with?

- Family?
- Other birds/animals?

Community: Tree, River, Lake, Forest,
Town, City

Are we more or less similar?- tally

Topic: Water

Identify/Discuss ways in which humans use water

- Drink
- Bathe
- Cool off

Identify/Discuss ways in which birds use water

- Drink
- Bathe
- Cool off

Are our water habits more or less similar?- tally

Topic: Space

Social behavior: Interaction with others.

Discuss how people are a social animal

- Living in families/groups/cities
- Play
- Friendship
- Aggressive
- Eat

Discuss how some birds are social while others are not

- Explain/Discuss nocturnal vs. diurnal: what are we? Birds?
- Flocking birds vs. Birds of prey
- Living with, or without, family or others
- Play
- Grooming
- Friendship
- Aggressive
- Hunting (eat)

Are our spatial habits more or less similar?- tally

Second Grade

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

Second Grade

Possible Sustainable Projects

- Invite students to measure their water consumption for baths and showers. (Ask students to predict which uses more water: Showers or Baths. Invite them to take a bath and measure water height. The next day, have them plug the drain and take a shower, measure height and compare).
- Make a bird feeder! (Out of wood, pinecones, or oranges- for orange, peel half making a bowl, use knitting needle to stick through orange for perch).
- Invite students to make a poster about the ways to save water and encourage them to put it on their fridge to help their family conserve also.
- Invite students to create an experiment demonstrating energy conservation using a glass of warm water and a thermos of warm water. See which loses heat faster.
- Invite students to collect air pollution samples by covering an index card with petroleum jelly and leaving it somewhere for 48 hours. Take before and after pictures and compare results to different areas.
- Invite students to go on a scavenger hunt in a wildlife habitat.
- Have students imagine and draw a picture of their perfect wildlife habitat.
- Encourage students to plant trees/flowers for butterflies and birds.

Second 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 1: Observations, Questions and Hypotheses

P01: Formulate relevant questions about the properties of objects, organisms, and events in the environment.

P02: Predict the results of an investigation

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.

P04: Record data from guided investigations in an organized and appropriate format

Concept 3: Analysis and Conclusions

P01: Organize data using graphs, tables and journals

P02: Construct reasonable explanations of observations on the basis of data obtained

Concept 4: Communication

P01: Communicate the results and conclusions of an investigation

Strand 2: History and Nature of Science

Concept 2: Nature of scientific knowledge

P01: Identify components of familiar systems

Strand 4: Life science

Concept 1: Characteristics of organisms

P01: Identify animals structures that serve different functions

Concept 2: Life cycles

P03: Describe the life cycles of various organisms