



Raptor Resource Project Lesson Plans

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Compare and Contrast Eaglets and Baby Chicks

Grade/Level	Elementary
Time Allotment	2 class periods (observations will take place over many weeks)
Content Area(s)	Science and Language Arts

Objectives

- Observe and collect data to explain how eaglets and baby chicks are alike and different
- Use knowledge gained while learning about and observing eagles and eaglets.
- Use knowledge gained while learning about and observing chicks.

Curricular Connections

1-LS1-1

Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs

1-LS1-2

Read texts and use media to determine patterns of behavior in parents and offspring that help offspring survive.

1-LS3-1

Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

2-LS4-1

Make observations of plants and animals to compare the diversity of life in different habitats.

3-LS1-1

Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

3-LS3-1

Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

3-LS4-2

Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

Instructional Materials

- Raptor Resource Project educational chat to observe incubation, hatching, and eaglets, and learn from moderators. Link: <https://www.raptorresource.org/classroom/>. If you don't have a Raptor Resource Project classroom account, register here: <https://www.raptorresource.org/register/>.
- Journal or whole class chart for collecting information
- Fertile chicken eggs and an incubator in the classroom
- Venn Diagram to collect information

Resources

From Egg to Chick: <https://youtu.be/QtU4M3lhCTk>

Inside the Egg, Hatching Chicks:

<https://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=362>

(full of information to help with ideas for hatching chicks in the classroom)

What's Inside Those Eagle Eggs: <https://raptorresource.blogspot.com/2017/03/whats-inside-those-bald-eagle-eggs.html>

Teachers should read first. You might not be prepared to share some of the vocabulary with your class :)

More information about Bald Eagle eggs:

<https://raptorresource.blogspot.com/2015/02/eggs-eggs-eggs.html>

Preparatory Knowledge

All birds lay eggs and most people are familiar with chicken eggs because they are commonly found in our kitchens. Watching a fertile chicken egg develop is a great way to study embryology, learn how organisms change and develop over time, and increase excitement in the classroom.

Fertilized eggs will grow to be a chick. The egg provides much of what the developing embryo needs—food to grow (yolk and albumen), cushion from shock (albumen), and air to

breathe. The air pocket at the end of the egg is where the chick takes its first breath from, just before beginning the hatching process.

Candling eggs is a way to show students that there is life inside the eggshell. In a dark room, shining a bright light through the shell of a fertile egg will enable you to see the developing embryo. If the egg is fertilized and the embryo is growing, you will be able to observe the veins on the inside of the eggshell. You will also be able to see the chick developing and maybe even moving or kicking. When the chick begins to hatch, you can hear it peeping.

Opener

- Watch chick hatching video: <https://www.msichicago.org/experiment/videos/the-hatchery/>
- Watch video of an eaglet hatching from this season or a previous season: <https://youtu.be/fPhRz6gHac8>
- Review observations recorded in journals or on class charts about eaglets and baby chicks. Share in small groups or whole class.

Procedure/Method/Activity

- Begin by taking notes/collecting data about incubation of eagle eggs. This can be done in student journals or whole class chart. Be sure and have your kids ask the moderators questions in the Raptor Resource Project's educational chat. Ex: temperature incubated, how many days until hatch, why do parents roll eggs, and so on.
- Set up an incubator in classroom for chick eggs. Discuss how the incubator will be doing what the hen would normally do. Show them how it rolls the eggs. Discuss temperature and water for moisture. You can keep track and collect data on how many days it takes them to hatch.
- When the eaglets hatch, be sure and continue documenting what is being observed. Ex: how they get food, eyesight, natal down, thermal down, feathers coming in, poop shoot, egg tooth, ear holes, and how they move.
- When the baby chicks hatch, begin comparing them to the eaglets. Students will be able to observe and record many behaviors or traits that are the same and many that are different, too.
- Use information from journals or class notes to complete a Venn diagram comparing and contrasting eaglets with baby chicks.
- Use the information in the Venn diagram to complete a written piece of work.

Assessment

- Venn diagram comparing and contrasting eaglets and baby chicks.
- Written paragraphs about eaglets and baby chicks using the information from the Venn diagram. See photos below the lesson plan for examples/ideas. These photos are also included with the downloadable lesson plan package.

Some observations my students have made:

Alike

- Incubate right around 100 degrees
- Eggs need to be rolled
- Air sac in the egg
- Pip and begin working to get out of egg
- Instinct to crack egg around in a circle and then push out
- Rest while hatching
- 24-48 hours to hatch
- Wet when they hatch
- Egg tooth
- Natal down is fluffy when dry
- Make cute chirping noises
- Can't thermoregulate right away and need to be kept warm

Different

Chicks

- 21 days to hatch
- Walk around within hours
- Eat on their own - parent does not feed them
- Instinct to scratch at the ground to look for food
- Eat grains
- Drink water
- Poop wherever they want
- Messy
- Feathers begin coming in after a few days

Eaglets

- 35-39 days to hatch
- Parents have to feed
- Move around in nest cup but can't walk
- Poop shoot out of nest cup
- Eat meat

- Get water from the food they eat
- 10-13 weeks in nest and nest tree before fledging

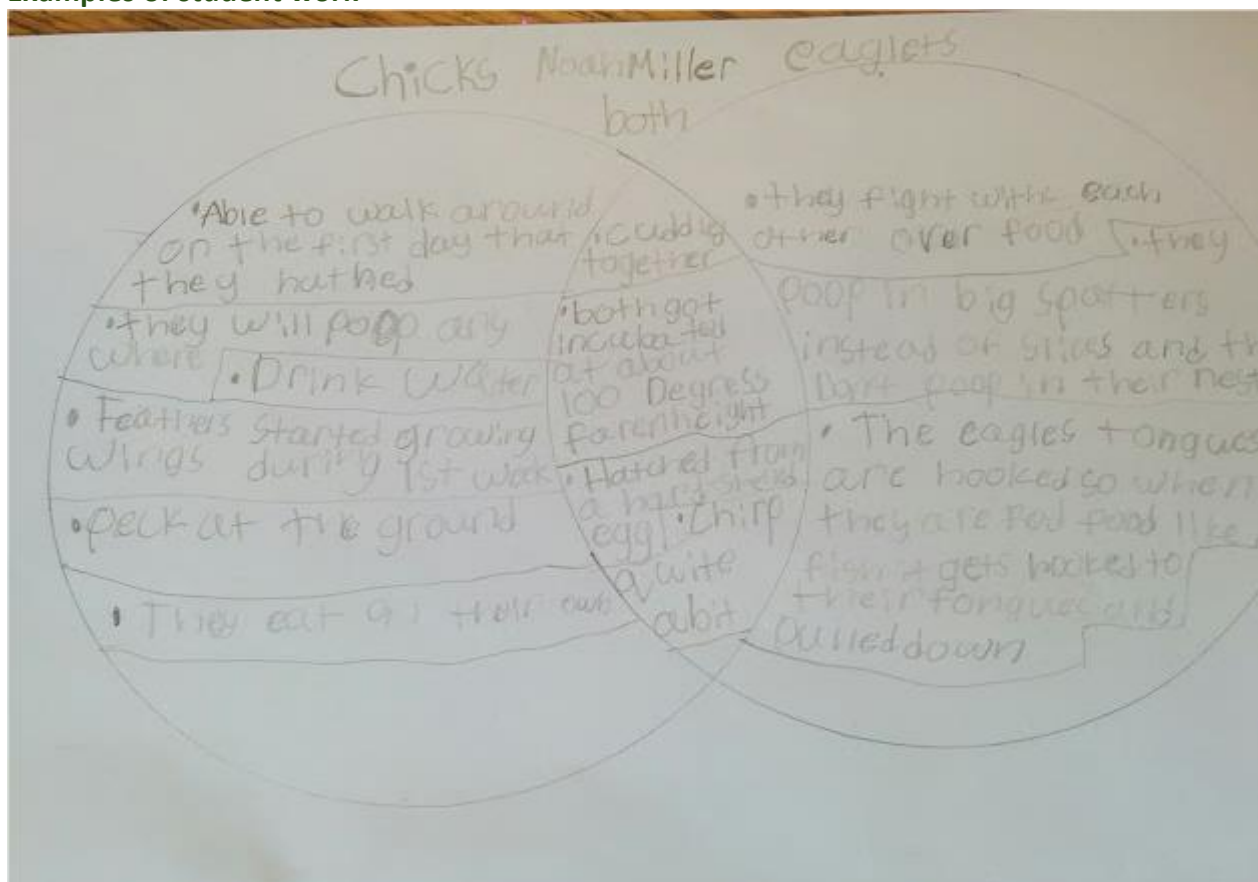
Extension

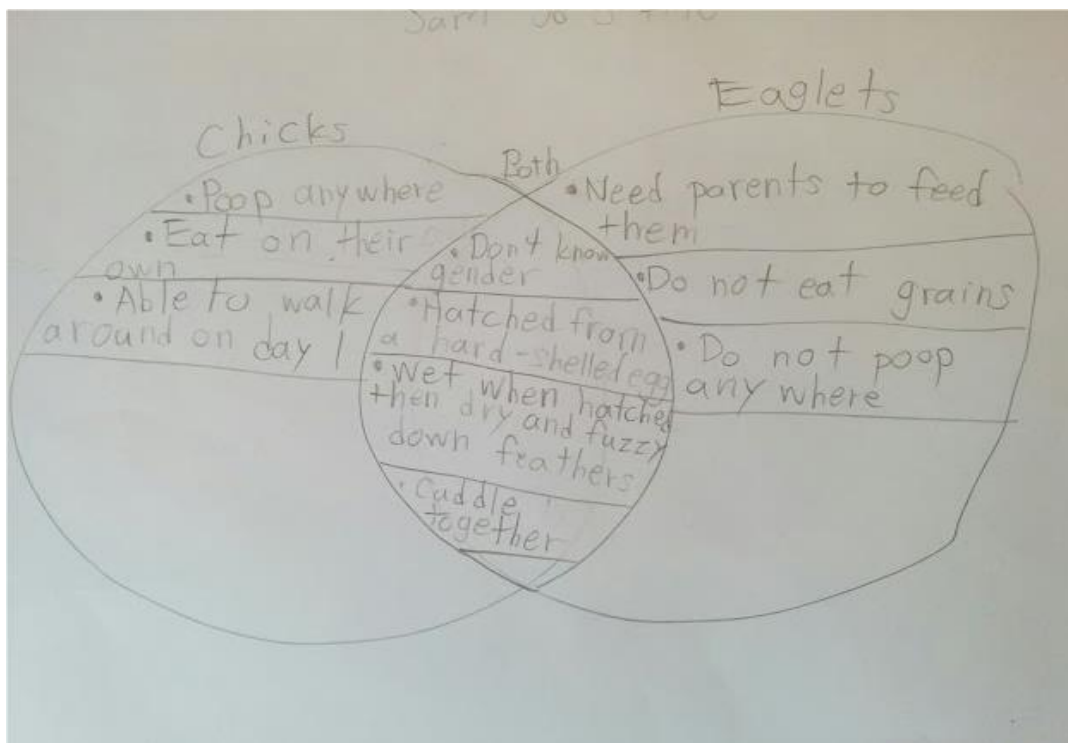
Read this blog on altricial and precocial birds:

<https://raptorresource.blogspot.com/2014/03/canada-geese-precocial-versus-altricial.html>.

Chickens are precocial and eagles are altricial. Classify other birds and discuss the advantages and disadvantages of each.

Examples of student work





How are the chicks and eaglets alike? In what ways are the baby chicks and eaglets different?

The chicks and eaglets have many similarities. For example, they both are wet when born and have dry and fuzzy down feathers. They also cuddle and sleep together with each other. My information from the venn diagram states that they are both hatched from hard shells and are obviously both birds. This is some information from my venn diagram that states how eaglets and chicks are alike.

Even though chicks and eaglets have similarities, they also have their differences. From my venn diagram it states that chicks can walk since day 1. But the eaglets cannot even walk properly in the first week. Chicks just poop anywhere and randomly poop outside of the nest. Their diet is also different. Eaglets enjoy fish and chicks enjoy grains. This is the information from my venn diagram that shows their differences.

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