

Fine Feathered Friends



Birds

Submitted By:

Patty Long, Charles C. Bell

Overview

Students will get the feel of what it means to concentrate and actively process information when they use a hand lens or 5x mag loupe to closely observe a feather. Following drawing and thinking by analogy, students will create some sort of written product to be determined by the student.

Grade Levels

4

Curriculum Correlation

NCCCS Literacy 4.5, NCCCS Literacy 4.10, NCES 4.L.1.2, NCES 4.P.1

Duration

Two to three 30 minute sessions

Location

Mostly indoors unless you decide to take your class on a feather hunt. We find crow and turkey feathers in abundance around our school. You could ask a friendly chickeneer to give you a few feathers or have the kiddos collect some from family or friends. Do not use craft store feathers - too clean!

Materials

- 5x mag hand lens or 5x mag jewelers' loupe - 1 per student - for whole class or small group
- Variety of feathers - 1 per student
- Paper with a 2" x 2" square drawn on and pencil
- 1:1 device for a quick evaluation

Fine Feathered Friends



Birds



Educators Information

I have adapted information gleaned from reading a book called *The Private Eye - Looking and Thinking by Analogy* by Kerry Ruef, ISBN 0-965434-1-4. I have included a web address in the resources section.

The gist of the book is this: a habit of mind - thinking by analogy is a natural part of the human brain. Ruef puts it succinctly this way, “The Private Eye is about the drama and wonder of looking closely at the world, thinking by analogy, changing scale and theorizing.”

The important part of this plan is to give kids time. Time to look closely, time to think, time to draw and time to write. It is a personal thing. It has worked well with critique groups, too.

Drawing requires looking closely!

Break up the procedure list in whatever time chunks work best for you.

Possible information students should have ahead of time: relate to **form and function** - read a Jack Tale about a bean tree and try to design a tree (form) with a better function from 10 pipe cleaners.



Procedure

PART 1 - The Artsy-Fartsy Part

1. LOOK: Each kiddo should take a loupe or hand lens to look closely at his or her feather.

As they explore the feather, ask them to ask the questions: “What does it (the feather) remind me of? What else does it look like? What else? What else?”

2. WRITE: Have kids list on a piece of paper or in their Science notebooks at least ten ideas for what else it looks like. This can be difficult for the first go round. Keep pressing them. Give innate examples of similes and metaphors.

Once they have had a good look, ask them to focus their attention on one particularly interesting place on the feather.

Fine Feathered Friends



Birds

3. DRAW: Draw what they see through the loupe on the paper with a frame drawn on it. The frame makes the drawing less daunting.

Alternate between looking through the loupe and putting their pencil on the paper. Look, draw, look, draw...

They should FILL the frame with the magnified section of the feather.

They should work slowly and deliberately.

It is best to keep this first effort in black and white with a pencil. As kids get more comfortable, a black ball point pen makes them COMMIT to the drawing of what they see.

4. Once they have completed their first draft of the drawing, kids should THEORIZE about what they now see in their drawing. Ask themselves “Why is it like that?” or “What’s going on here?”

Ruef “To create possible answers to the above questions, use the analogy list (from #3 above) ...it’s a set of clues to the function of whatever feature” on the feather is the focus. Since most of what is found in nature is functional, and, since form follows function, have them ask themselves: “If it reminds me of _____, I wonder if it might function or work like that -- *in some way* that helps the bird survive? or supports the reaction, condition, or force?”

They will get surprisingly close to the truth.

Students can go around this loop of Looking>>>Drawing>>>Asking>>>Theorizing>>>Looking several times over the feather to determine what each sections’ function might be.

5. WRITE: Students take the great analogies and ideas to write poetry, a news article, a great letter, a point of philosophy, etc. A third grader was quoted by Ruef :

Seahorses

Like spines on a blackberry bush,
cobwebs in a cave of bats,
like a swiggly lizard smoking a cigar,
like the skeleton of a giraffe.

Seahorses

Fine Feathered Friends



Birds

PART 2 - The Science-y Part

1. Get kids on the Project Beak site to learn more about the scientific parts of a feather!
2. Read, share, discuss - how close their artsy-fartsy ideas were to the science-y ones?
3. I included a little ditty from ixl that could serve as a quick evaluation



Resources

Loupes available: <https://www.theprivateeyestore.com/>

Quick evaluation: <https://www.ixl.com/science/grade-4/adaptations-in-animals-skins-and-body-coverings>

Project Beak Feather information: http://www.projectbeak.org/adaptations/feathers_parts.htm