

Comparison

Subject: Observing similarities and differences, identifying patterns

Duration: 1 hour

Setting: Inside; good activity on a day with bad weather

Materials: Journal, pencil, 2 "similar" items per student (see below), magnifying glass, ruler

National Standards – LS1.A, LS1.B, LS3.A, LS3.B, LS4.A

Guiding Themes: Identify patterns, structures, and functions. Observe similarities and identify unique details of their items.

Materials

You will need to provide each student with 2 items. The items should be two of something similar, i.e., 2 feathers, 2 shells, 2 cones, 2 mosses, 2 lichens, 2 flowers, etc. The items should vary student to student. Each student will need a magnifying glass and ruler. Note: In Seward, the ranger can help procure most of the objects needed.

Activity Instructions

1. The goal of this activity is to have students compare and contrast their items. Students can make a "T" chart, or a Venn diagram. They can also figure out their own way of organizing their comparisons.

If students have not made a Venn diagram before, walk them through the process.

Make 3 lists: Object 1; Both Objects; Object 2

When students are done writing their lists, draw two circles around the lists, one for each object. Where the circle overlaps, students should write down what both objects have in common.

2. Students should draw both of their object, taking up a whole page for each object. This will allow them to draw in detail.

Discussion Questions

Is there something very important about of the things they have in common? What does it do to help the object survive?

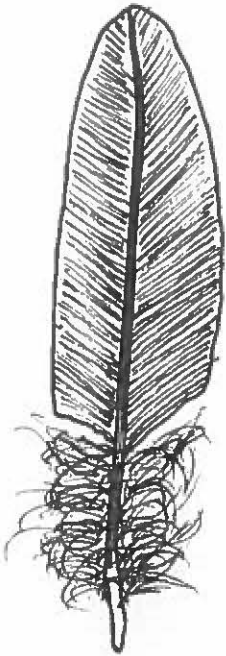
Look at the differences... what might have caused them?

Pick one "structure" on your object. Focus on how it differs from the other object (examples: edge of the leaf, color of the feather, size or shape of a tooth). Turn and talk to a partner and take turns talking about your items' differences, and how they might make your two items function differently.

COMPARISON

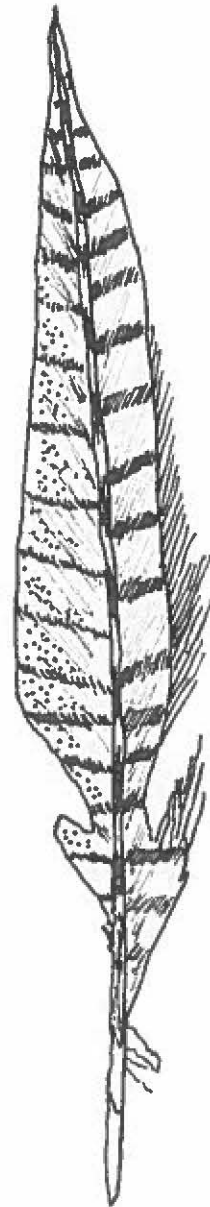
Feather 1

Shaft brown until bottom-white
 Fluffy feathers at bottom
 Feather transitions gray → brown → black
 Short - 19.05cm



Feather 2

Shaft brown and white pattern
 Feathers uniform from bottom to top
 Feather golden with black stripes
 Long and skinny - 34.29cm
 Some barbs damaged



Feather 1

Feather 2

Both

Shaft brown until bottom-white
 Fluffy barbs at bottom
 Feather transitions gray → brown → black
 Short
 19.05cm

Shaft curves to left
 Quill is white

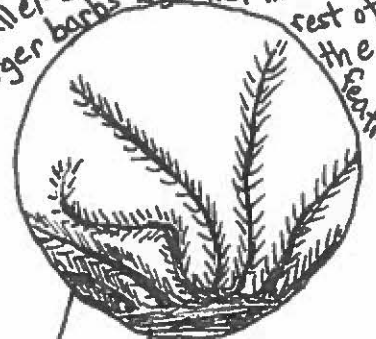
Shaft brown and white pattern
 Barbs uniform from bottom to top
 Golden with black stripes
 Long and skinny
 34.29cm
 Some barbs damaged

Example Journal Entry:

COMPARISON

🌀 I notice the shaft is shiny black, but white and nearly transparent at the bottom

🌀 I wonder why the smaller barbs aren't holding the larger barbs together like the rest of the feather

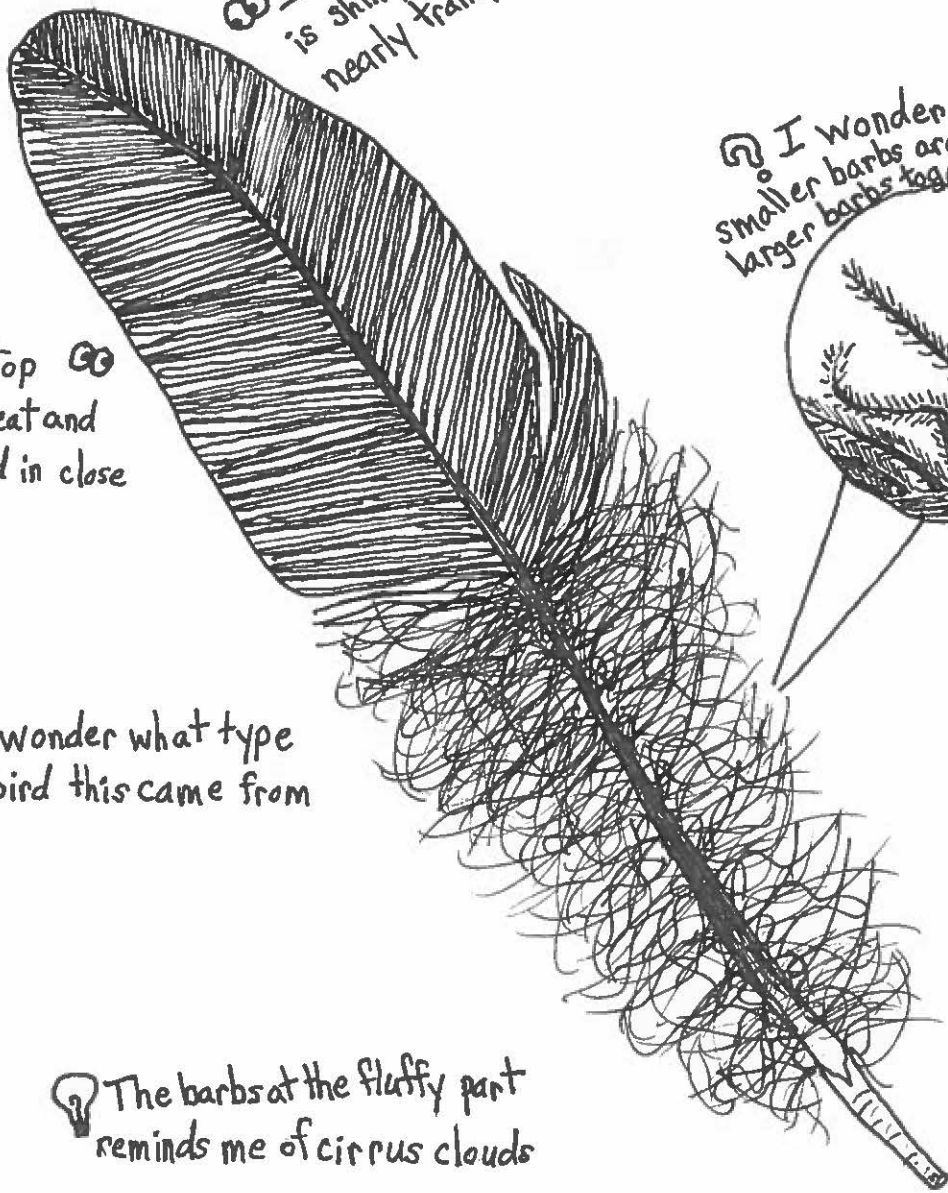


I notice the top 🌀 barbs are all neat and orderly tucked in close together

🌀 I wonder what type of bird this came from

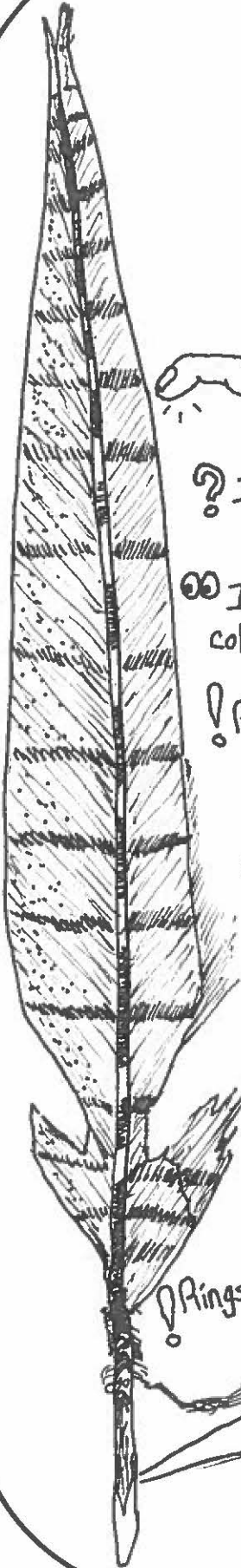
💡 The barbs at the fluffy part reminds me of cirrus clouds

💡 The white non-transparent part of the quill reminds me of cotton



Example Journal Entry:

COMPARISON



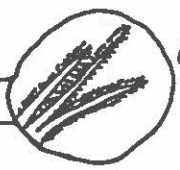
☞ Barbs are flexible when gently pulled, then spring back together

? I wonder what draws the barbs back together

☞ Intermittent dark and light coloring on shaft

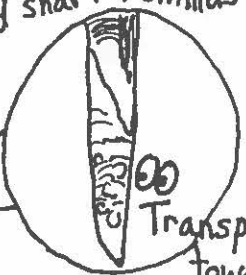
! Reminds me of porcupine quills

☞ Golden feather with black stripes and spots - shredded and damaged barbs faded to red



☞ Barbs have their own barbs
☞ Smaller barbs stick larger barbs together

? Rings around shaft reminds me of growth rings on trees



☞ Transparent toward bottom of quill
! Reminds me of trapped bubbles