

ELINOR'S TOWN
Feathers
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Elinor's Question: Why do birds have feathers?

Logline: The kids learn that birds' feathers help them fly, keep warm, and provide decoration.

Curriculum Goals:

- **LS2d:** Explore how different external features of an animal help it survive in its environment (The function of birds' feathers)
- **ND2:** Begin to understand that systems developed in our world often work in similar ways to systems found in the natural world (feathers and clothes work in similar ways)
- **SEP1a:** Demonstrate curiosity about the greater world outside of their local environment [why do birds have feathers?] **SEP2:** Distinguish between a model and the actual object, process, and/or events it represents [the sandcastle drawing vs actual sandcastle] **SEP4a:** a. Collect, describe, and record observations in greater detail and in various ways

1. EXT FOREST -- DAY

Open on Ari, who is walking in the forest on the way to school, wearing a knitted cap. He is happy, humming to himself and a bit self-absorbed. As he walks, he does some moves he thinks are cool: a loop-de-loop over a tree branch.

Suddenly, Ari hears something. It's a rustling up in the tree overhead. He looks up to see what's there, but just misses something fluttering away. Instead, a feather flutters down and sticks right into his cap! He looks at the feather more closely. He blows on it and it flutters off his cap - he watches it drift down. He fans himself with it. He tickles himself, giggling a bit. He picks it up and decides to keep it. He thinks it's pretty awesome and walks the rest of the way to school with something of a swagger.

2. EXT PLAYGROUND - DAY

Open on Elinor playing in the sandbox with Hazel. She is concentrating really hard and using a stick to shape part of her sandcastle. Off screen, we hear Hazel giving her encouraging comments. Pan out a bit to see that Hazel is comparing the sandcastle they are making to a crayon drawing of a sandcastle. The castle looks like a simpler version of their drawing, which was a bit ambitious, including flags and other details. They like their sandcastle but are not satisfied. Elinor says that the castle needs "one more thing" to make it look right, but she doesn't know what. Hazel and Elinor look around for something, each proposing a few silly things, like a pinecone or a big red bow.

While they were talking and discussing all of this, Ari entered the scene, wearing his cap with a feather. He walks by very fake-calm, miming "Hi Elinor, Hi Hazel, notice anything?" but they are busy looking at their drawing and talking about the sand castle. He tries walking back being more explicit in trying to get them to notice his new feather, but they seem too absorbed on their problem. From off-screen, he tries running in, then doing a dramatic landing just in front of them. "Ta-da!" They don't look up. Finally, he puts the hat and feather right in front of them and says "Ahem!"

Elinor and Hazel finally notice Arin and say hi. When they don't mention the feather, Ari brings it up. Notice anything... cool about me today? Elinor and Hazel finally notice and say it's really cool. They ask him about it, and he is happy to tell them the story of how he got it. They take turns putting on the feather and wearing it. Elinor puts it on the top of her two ears. Hazel puts it on the end of her trunk. They have some laughs.

Elinor exclaims how pretty it is and takes a closer look.

SCIENCE CU MOMENT: We zoom into the feather and see its intricate structure and shape and colors up close.

The kids think it's amazing. Elinor says it's SO INTERESTING! Ari says: "I wonder why it's so different from our hair and fur?" Elinor latches on to this and asks "Why do birds have feathers anyway?" The kids toss around a few silly ideas: Hazel thinks that feathers are ticklish: maybe birds have feathers to tickle each other? Ari has heard of a feather pillow: maybe birds have feathers to sleep on?

Elinor decides that they need MORE OBSERVATIONS to figure it out. They decide to all go watch some birds to try to figure it out.

3. EXT FOREST - DAY

The kids go look for birds in the nearby trees. We can see the playground in the background. Each kid goes in a slightly different direction, but they are within eyeshot of each other and the playground. We see them watching birds and singing a song:

The birds make us think and wonder
What are their feathers for?

Flying high and singing loud!
(See Ari flying with the birds,
Hazel and Elinor singing with them)
We find the answers all around!

We'll find some birds and take a look
And draw the answers in our book!

Ari sees some birds at the top of a tree. He's very excited to figure out what their feathers are for. He calls to them: "Hey birds: what are your feathers for?" They chirp at him and fly away to another tree. He follows them persistently, flying up to the tree to get closer: "Just give me a clue! Why do you have feathers?" They chirp back at him and fly away. He is a bit frustrated, saying to herself "I wish I could understand what they were saying before they flew away!" But he notices about how the birds spread their wings and how their feathers make their wings bigger. He flaps his own wings a bit and thinks about how his wings use skin to make a fan to push the air, but the birds use feathers. Birds have feathers to help them fly! He's very excited, saying "I figured it out! I can't wait to tell Elinor and Hazel!"

Meanwhile, Hazel has found two bluejays in a tree. They are preening themselves, cleaning and arranging their feathers. Hazel watches for a moment, wondering what they are doing. Why are the birds doing that? She notices that her ribbon has come partly undone, so she ties it back up to look just right. This gives her the idea: are the birds cleaning and arranging their feathers for decoration? She

notices another pair of colorful birds, and another, drawing each quickly in her book. Birds use their feathers for decoration! She's very excited, saying "I figured it out! I can't wait to tell Ari and Elinor!"

At the same time, Elinor sees two ducks on the shore of a nearby pond. She walks over to them to get a more careful look, and notices that the ducks have lots of different kinds of feathers. They have shiny colorful feathers on the top and fluffy cozier feathers underneath. She sees a duck family and the babies only have the cozy soft feathers. They look so adorable and are all cuddled up together to stay warm. Elinor thinks about how on cold nights she likes to snuggled with her parents to stay warm. She thinks: birds use their feathers to stay warm! She's very excited, saying "I figured it out! I can't wait to tell Ari and Hazel!"

4. EXT PLAYGROUND - DAY

Start with the playground with some other kids in the background and Ms. Mole to one side. Elinor, Ari and Hazel all run into the scene and at the same time say: "Hey guys, I figured it out!" They pause in surprise and then say, all together "you did?" they pause again and then say "Feathers are for flying/warmth/decoration". Elinor says: "Wait, one at a time!"

Ari speaks up and explains what he saw and why he thinks feathers are for flying. That makes sense to Hazel and Elinor. Hazel chimes in saying that she thinks that birds use their feathers for decoration. That makes sense to Ari and Elinor. Elinor talks about how she thinks feathers help the birds stay warm. That makes sense to Hazel and Ari.

But each kid feels like their answer is the right one. They can't all be right! There is a bit of confusion.

Ms. Mole comes to join the conversation. She asks Ari why he wore that particular jacket today. He looks a bit confused by the change in topic but tells her that he thinks it's a really cool color, and it matches his hat and it has lots and lots of great looking pockets - for snack! She asks him if it's like "decoration" and he nods. She asks Hazel why she is wearing her jacket today. Hazel says that it was a little bit chilly this morning when she left for school. Ms Mole asks her: "So you wear it to keep

yourself warm?" Then she asks Elinor why she is wearing her jacket. Elinor says that she saw it was wet today and didn't want any mud to fall on her dress.

Ms Mole nods and asks the kids: "So why do you wear jackets?" The kids answer: "For decoration", "To stay warm" "To stay dry!" Ms Mole asks them: "So, which is it?" The kids understand and at the same time say: "They are all the right answer!"

Ms Mole winks and walks away. Ari says: "So where were we?" Hazel replies that they were arguing about whether feathers were for flying, decoration or staying warm. Elinor says: "Of course, they are ALL the right answer." Feathers are good for LOTS of things and that's why birds have them. Ms. Mole takes a bow in the background and says to herself "My work here is done."

The kids are excited and dancing around to celebrate their moment of understanding. The feather flies out of Ari's cap and lands on his hands. Suddenly, he realizes something. He runs off screen, and Hazel and Elinor follow him.

We cut to a close up of the castle, and zoom out to see Ari putting the feather right smack on the top of Elinor and Hazel's sandcastle. It looks great! Feathers are also good as flags! Now the castle looks more like the drawing.

NOTE: Is it safe to pick up feathers? See this link:
<https://www.nytimes.com/2003/10/21/science/q-a-736937.html>