

# Fur and Feathers



by Janet Halfmann  
illustrated by Laurie Allen Klein

# Fur and Feathers



When Sophia dreams that howling winds whisk the fur and feathers right off her animal friends, she shares some of her clothes with them. But her clothing doesn't work well for the animals. Seeing their disappointment, she offers to sew each one the "right" coat. Animals line up to explain what they need and why. Polar Bear needs white fur to stay warm and hide in the snow. Fish needs scales, but with slime. Snake needs scales too, but dry ones. And how will Sophia make a prickly coat for Porcupine? The award-winning team of Halfmann and Klein (*Little Skink's Tail*) reunite to bring animal coverings (and classification) to life in an imaginative way.

Animals include:

Duck      Fish      Frog      Ladybug  
Polar Bear   Porcupine      Snail      Snake

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  - Skin Coverings
  - Animal Classification
- Teaching Activities:
  - Before and After
  - Reading Questions
  - Language Arts
  - Science
  - Math
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Thanks to Loran Wlodarski, Educator at SeaWorld Orlando, for verifying the accuracy of the information in this book.

**Janet Halfmann** is the award-winning author of over 30 children's books, both fiction and nonfiction. In addition to *Fur and Feathers* and *Little Skink's Tail* for Arbordale, her recent titles include *Narwhal: Unicorn of the Sea*; *Good Night, Little Sea Otter*; *Little Black Ant on Park Street*; and *Seven Miles to Freedom: The Robert Smalls Story*. Janet is a member of the Society of Children's Book Writers and Illustrators. Before becoming a children's author, Janet was a daily newspaper reporter, children's magazine editor, and a creator of coloring and activity books for Golden Books. She is the mother of four and grandmother of four. When Janet isn't writing, she enjoys gardening, exploring nature, visiting living-history museums, and spending time with her family. She grew up on a farm in Michigan and now lives in South Milwaukee, Wisconsin.

**Laurie Allen Klein** has been a freelance artist for nearly 20 years. Over the last several years, she has worked as the on-staff artist for a marine park, where she does everything from painting life-size sea animal murals to illustrating children's activity books. In addition to *Fur and Feathers* (Prismacolor pencil, acrylic paint, and gesso), Laurie also illustrated *Where Should Turtle Be?* (Prismacolor pencil and acrylic paint), the award-winning *Little Skink's Tail* (acrylic paint), and *If a Dolphin Were a Fish* (colored pencils) for Arbordale. Laurie lives in northern Florida.

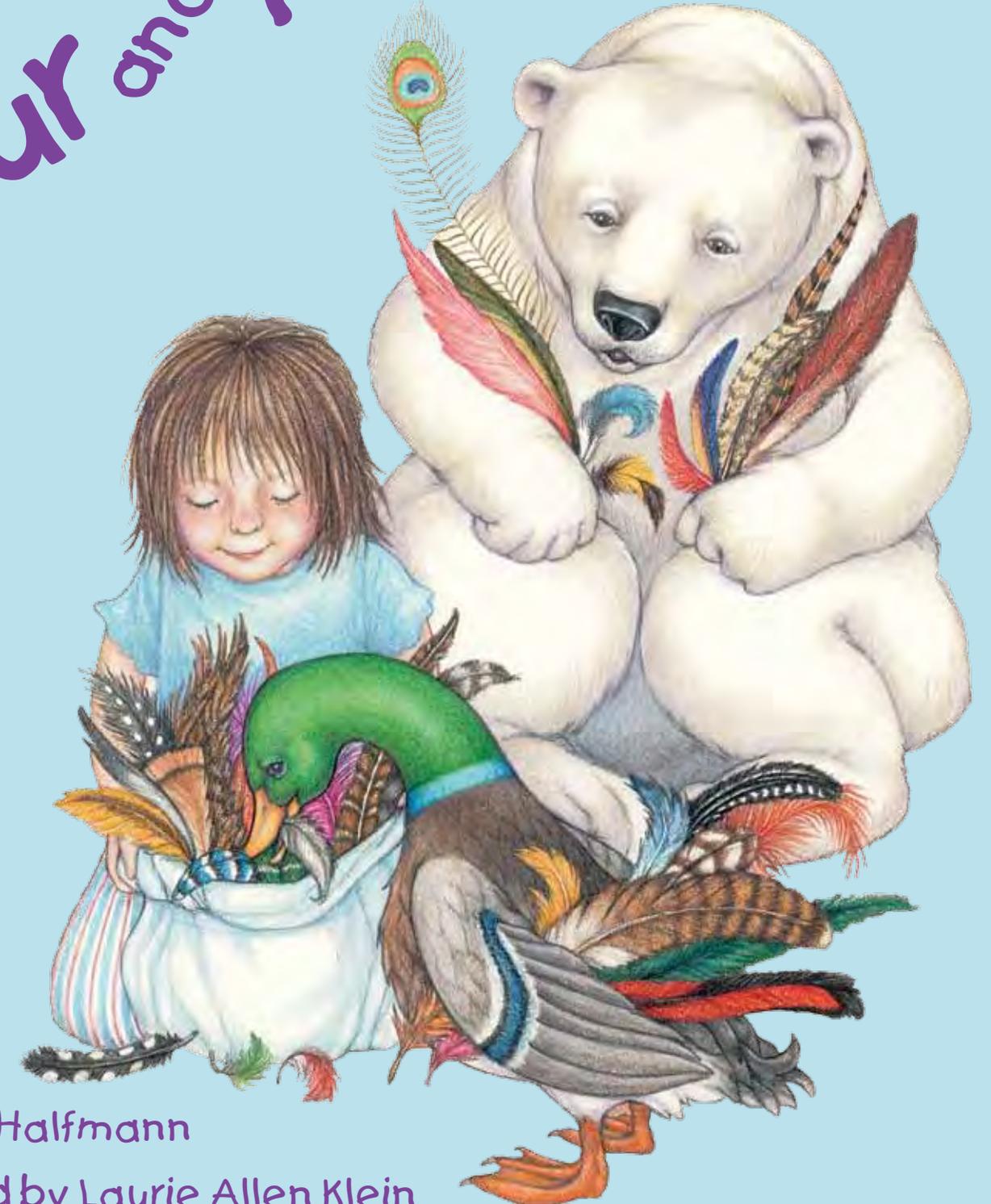


Janet Halfmann



Laurie Allen Klein

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The howling wind wakes Sophia. Her mother suggests that they count animals to help them forget about the noisy storm.

They count together: one polar bear, two ducks, three snakes . . . and then Sophia is sound asleep.



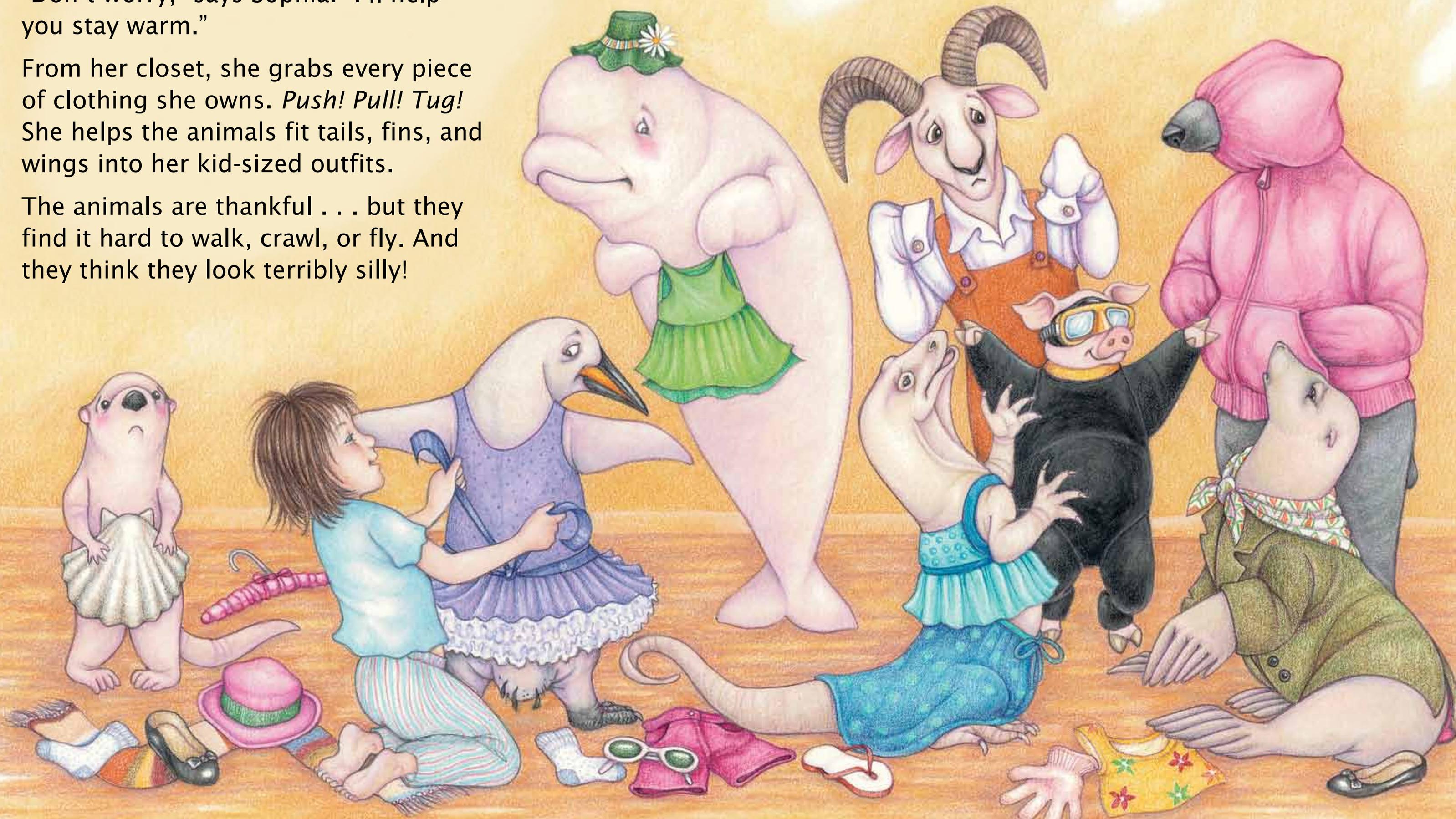
But in her dreams, the animals whirl with the whipping wind. Faster and faster they spin, till the wind blows them right out of their coats. Fur, shells, feathers, and scales fly everywhere. The animals shiver in their bare skin.



“Don’t worry,” says Sophia. “I’ll help you stay warm.”

From her closet, she grabs every piece of clothing she owns. *Push! Pull! Tug!* She helps the animals fit tails, fins, and wings into her kid-sized outfits.

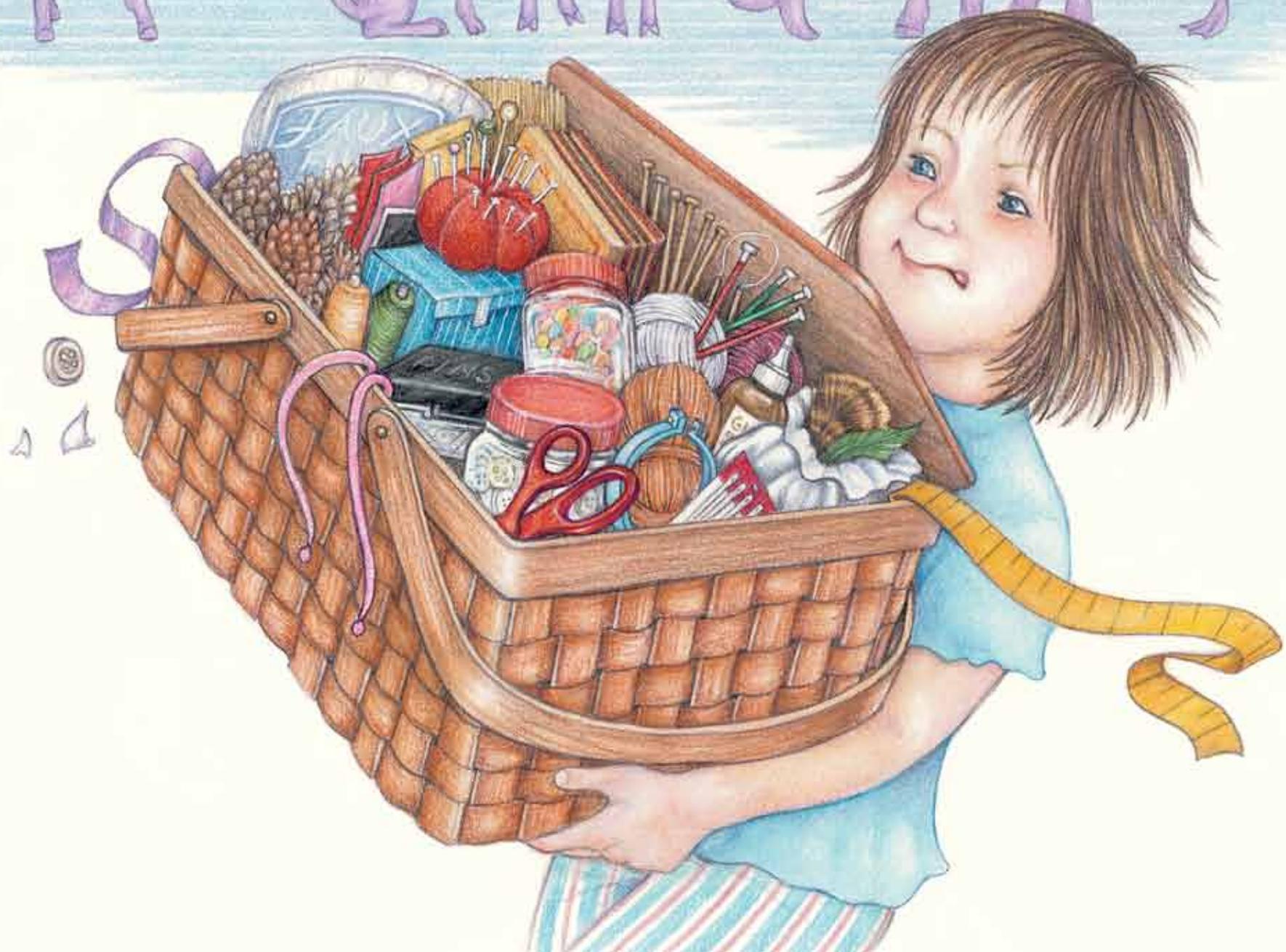
The animals are thankful . . . but they find it hard to walk, crawl, or fly. And they think they look terribly silly!





Sophia can tell by their expressions that the animals are not happy. But what can she do? Then she remembers her grandma's huge sewing box, bulging with furs, feathers, and sequins.

"I can make new coats for all of you, just like your old ones," she exclaims. "Form a line and tell me what you need."



# For Creative Minds

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## Scientific Classification

Just as we sort money or candy, scientists sort all living things into groups to help us understand and connect how things relate to each other. Scientists ask questions to help them sort or classify animals.

Based on the answers to the questions, scientists can sort the living organisms. The first sort is into a Kingdom. There are five commonly accepted Kingdoms: Monera, Protista, Fungi, Plantae, and Animalia. All of the living things in this book belong to Animalia or the Animal Kingdom.

The next big sort is into a Phylum. One of the first questions that a scientist will ask is whether the animal has (or had at some point in its life) a backbone. If the answer is "yes," the animal is a vertebrate. If the answer is "no," the animal is an invertebrate.

Each Phylum is broken down into Classes, like mammals, birds, reptiles, fish, insects, or gastropods (snails). Then each class can be broken down even further into orders, families, genus and species, getting more specific.

The scientific name is generally in Latin or Greek and is the living thing's genus and species. People all over the world use the scientific names, no matter what language they speak. Most living organisms also have a common name that we use in our own language.

### Questions scientists ask:

Does it have a backbone?

What type of skin covering does it have?

Does it have a skeleton? If so, is it inside (endoskeleton) or outside (exoskeleton) of the body?

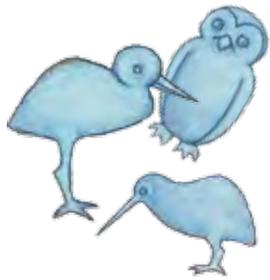
How many body parts does the animal have?

Does it get oxygen from the air through lungs or from the water through gills?

Are the babies born alive or do they hatch from eggs?

Does the baby drink milk from its mother?

Is it warm-blooded (endothermic: maintains a nearly constant body temperature), or cold-blooded (ectothermic: uses the heat of the sun or surrounding water to warm itself)?



### Mammals:

hair, fur, whiskers, or quills at some point during their lives

backbone (vertebrate)

inside skeleton (endoskeleton)

lungs to breathe

most give birth to live young

produce milk to feed young

warm-blooded



### Reptiles:

dry scales or plates

backbone (vertebrate)

inside skeleton (endoskeleton); most turtles also have a hard outer shell

lungs to breathe

most hatch from leathery eggs

cold-blooded



### Gastropods (Snails):

most have hard shells

no backbone (invertebrate)

outside skeleton (exoskeleton)

hatch from eggs

cold-blooded



### Birds:

feathers

backbone (vertebrate)

inside skeleton (endoskeleton)

lungs to breathe

hatch from eggs

warm-blooded



### Amphibians:

soft, moist skin

backbone (vertebrate)

inside skeleton (endoskeleton)

most hatchlings are called larvae or tadpoles and live in water, using gills to breathe

as they grow, they develop legs and lungs and move onto land

cold-blooded



### Insects:

hard outer covering

no backbone (invertebrate)

outside skeleton (exoskeleton)

adults have 3 body parts: head, thorax & abdomen

most hatch from eggs

cold-blooded



Kingdom  
Phylum  
Class  
Order  
Family  
Genus  
Species



## Skin Coverings

### Hair (Mammals):

comes in different colors or patterns  
 helps some animals camouflage  
 helps protect the skin  
 helps animals to stay warm  
 can be:  
 thin (like on our arms or legs)  
 thick fur  
 whiskers  
 eyelashes  
 quills

### Feathers (Birds):

come in different shapes, sizes, and colors  
 help keep birds warm (insulate)  
 are used to fly  
 are used for camouflage  
 are used to attract female's attention  
 are kept clean by preening  
 four different types of feathers:  
 long, stiff feathers for flight  
 tail feathers for balance and steering  
 short, soft under-feathers for warmth  
 longer feathers to smooth things out

### Hard Casing (Adult Insects):

protects body  
 wings attach to casing  
 sheds (molts) as animal grows  
 bright colors may warn of poison  
 some colors camouflage

### Wet Scales (Fish):

scales overlap from head to tail  
 for easy swimming  
 some scales are big and can be removed one by one, but some are so tiny they are barely visible  
 a slimy mucus over the scales helps protect the fish

### Shells (Snails):

shells are bones found on the outside of an animal's body (exoskeleton)  
 just as our bones grow with us, the shells grow with the animals  
 the hard shells protect the soft bodies

### Soft, Moist Skin (Amphibians):

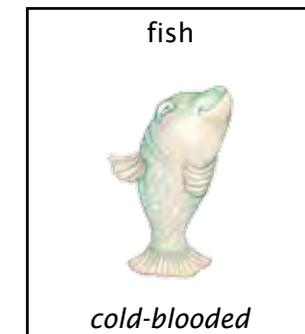
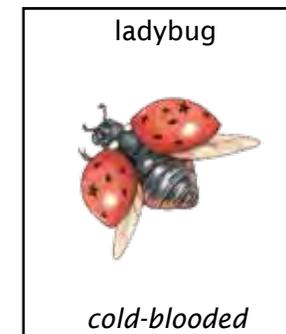
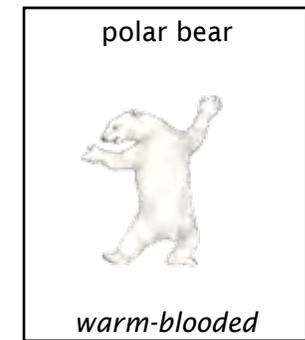
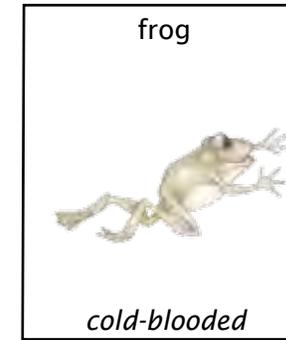
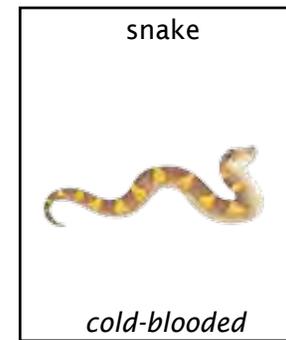
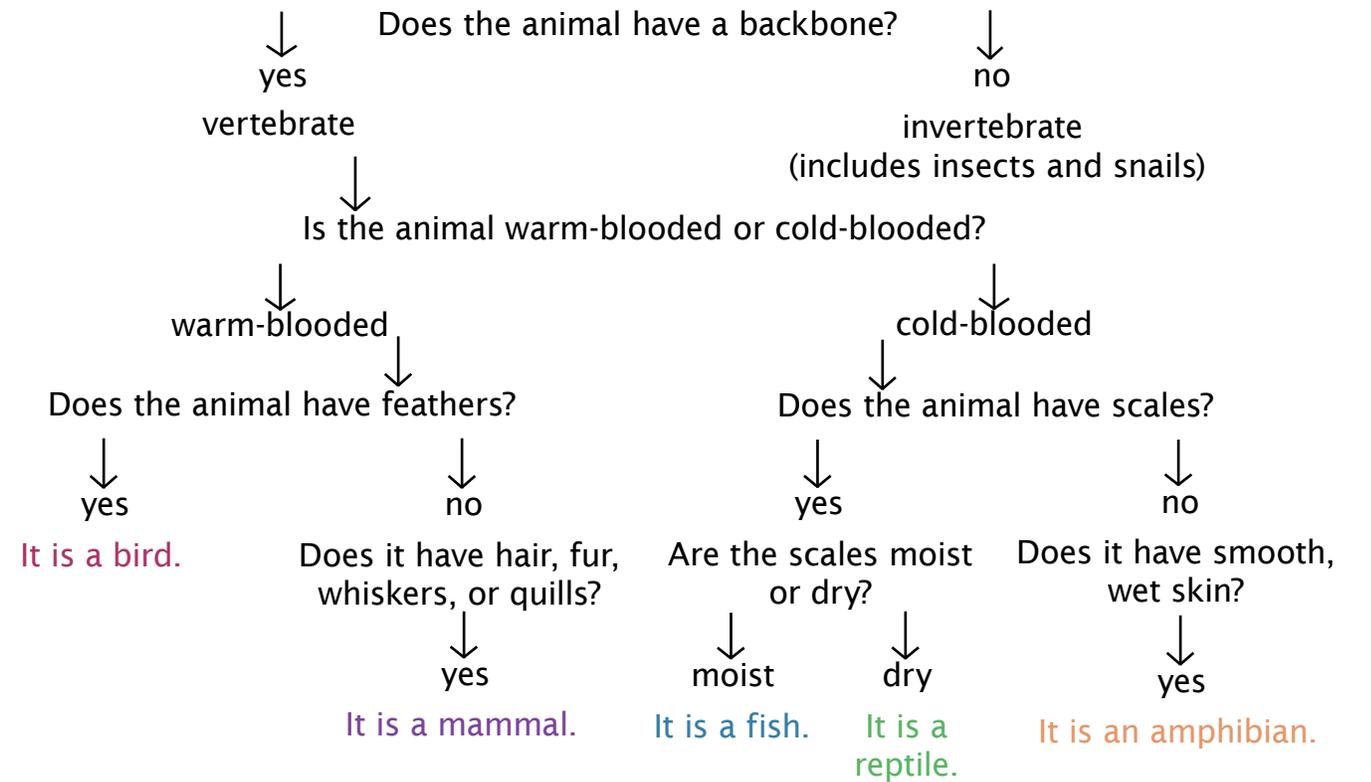
protects animals  
 adult skin secretes a slime (often poisonous as protection)  
 adult amphibians breathe oxygen through their skin

### Dry Scales or Plates (Reptiles):

protect the animal while crawling on the ground  
 waterproof to keep the animal's skin from drying out  
 snakes and lizards have overlapping scales  
 turtles have hard outer shells that grow with them (the scales on the shells are called scutes)  
 snakes shed (molt) their skin all at once as they grow  
 other reptiles shed (molt) their scaly skin in chunks as they grow

## Animal Classification

Use the information found in the book to match the animal to its classification.  
 Answers are upside down.



Invertebrates: snail, ladybug  
 Vertebrates: duck, Bird, Mammals: polar bear and porcupine;  
 Fish: fish; Reptile: snake; Amphibian: frog

With love to my grandkids, great-nieces, and great-nephews—JH  
All my thanks to my mom for her sewing inspiration, to Rafi S. for posing, to my friends for their constant encouragement, and forever to Bob & Jesse—my heart and inspiration—LAK  
Thanks to Loran Wlodarski, Educator at SeaWorld Orlando, for verifying the accuracy of the information in this book.

Publisher's Cataloging-In-Publication Data

Halfmann, Janet.  
Fur and feathers / by Janet Halfmann ; illustrated by Laurie Allen Klein.

p. : col. ill. ; cm.

Summary: A story of a young girl who dreams that howling winds whisk fur and feathers right off her animal friends. Trying to help, she sews each of them a new "coat." But what kind do they need?

Who needs fur, and what color? Who needs feathers, and why? Who needs scales, and should they be moist or dry? Includes "For Creative Minds" educational section.

ISBN: 978-1-60718-075-3 (hardcover)

ISBN: 978-1-60718-086-9 (paperback)

Also available as eBooks featuring auto-flip, auto-read, 3D-page-curling, and selectable English and Spanish text and audio

Interest level: 004-009

Grade level: P-4

ATOS™ Level: 3.4

Lexile Level: 750 Lexile Code: AD

1. Animals--Classification--Juvenile fiction. 2. Adaptation (Biology)--Juvenile fiction. 3. Animals--Classification--Fiction. 4. Adaptation (Biology)--Fiction. I. Klein, Laurie Allen. II. Title.

PZ10.3.H136 Fu 2010

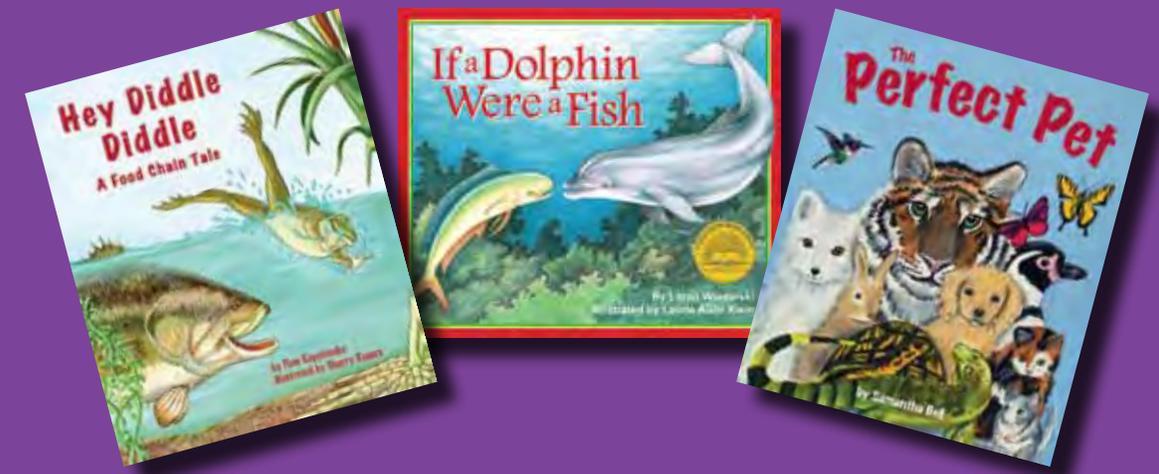
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Arbordale Publishing  
formerly Sylvan Dell Publishing  
Mt. Pleasant, SC 2946  
[www.ArbordalePublishing.com](http://www.ArbordalePublishing.com)



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