



FEATHERS!



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primaries

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central tail feathers

CENTRAL FEATHER: OUTER FEATHER: Unique Tail Feathers:

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RED & YELLOW

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SHAPES OF FEATHERS



big
+
rectangular



straight
+
brown



pointy
+
long



curved
+
patchy

wide
+
rounded



banded
+
small



spotted
+
narrow



short
+
blue



tiny
+
soft



fluffy
+
speckled

PARTS OF A FEATHER

vane (made up of barbs)

barbs
(tiny zippers)

zoom in.....

after feathers
(soft for warmth)

hollow shaft
(hard and light)

SUPER CLOSE-UP

hooks
(holds barbules together)

barbs

barbules (tiny barbs with hooks)

KERATIN

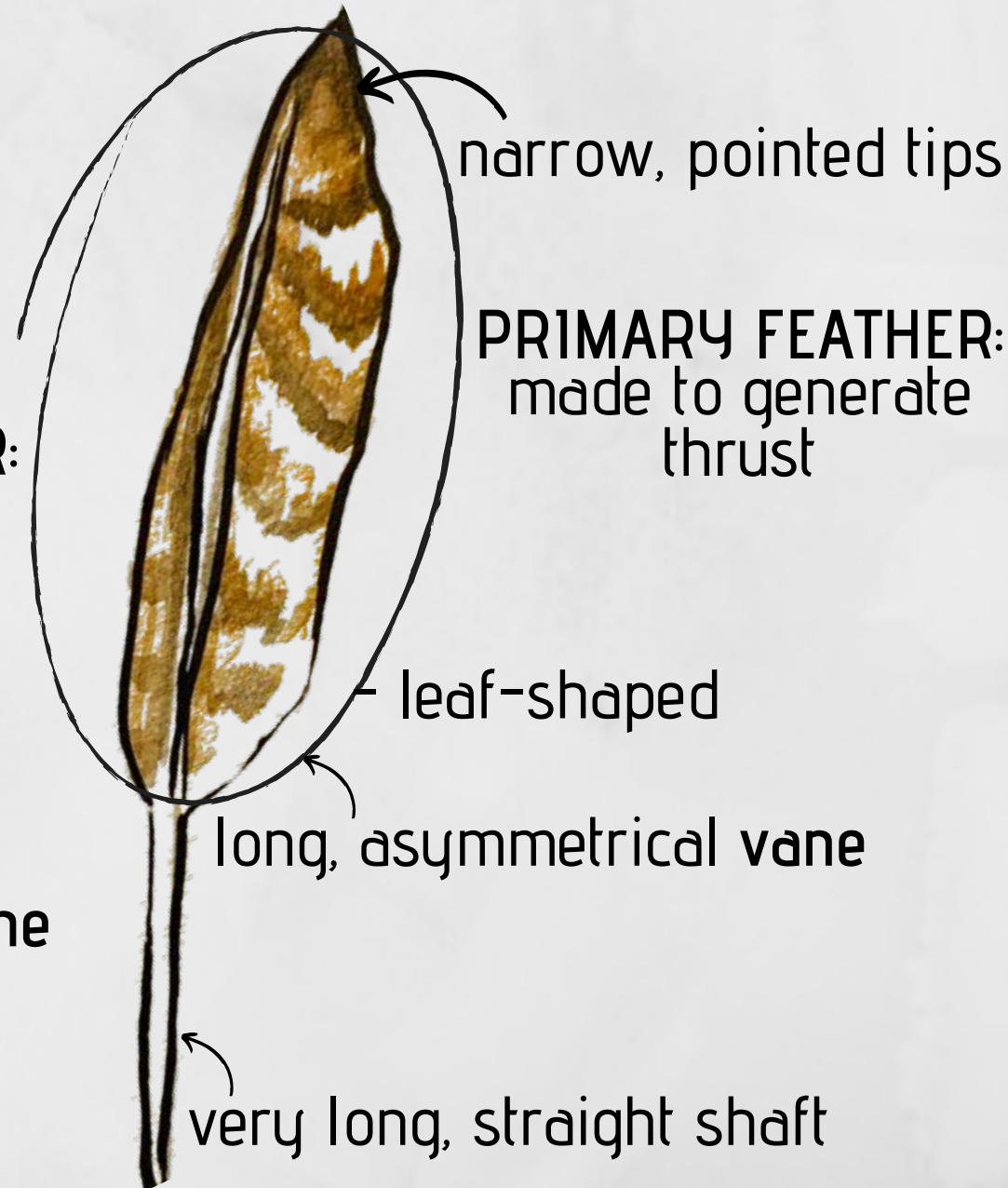
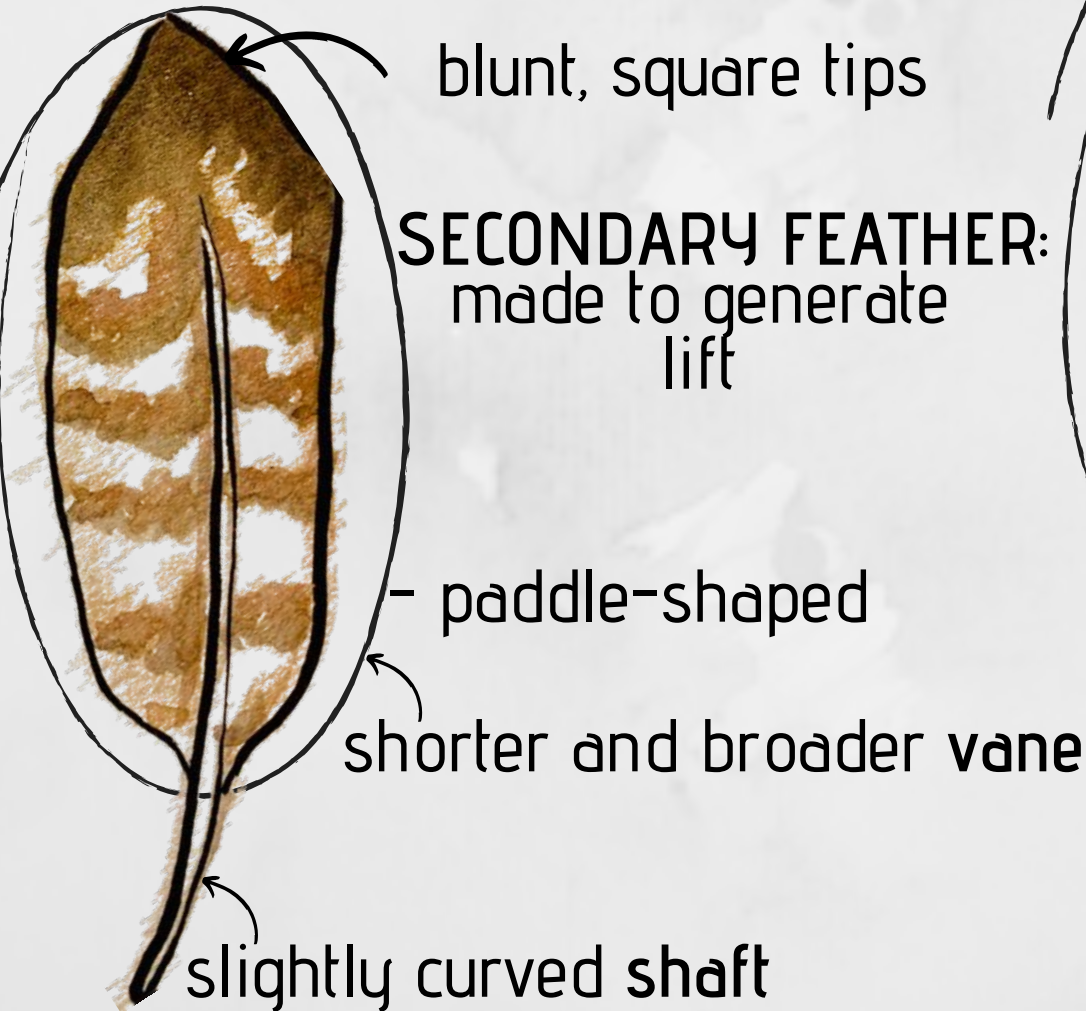
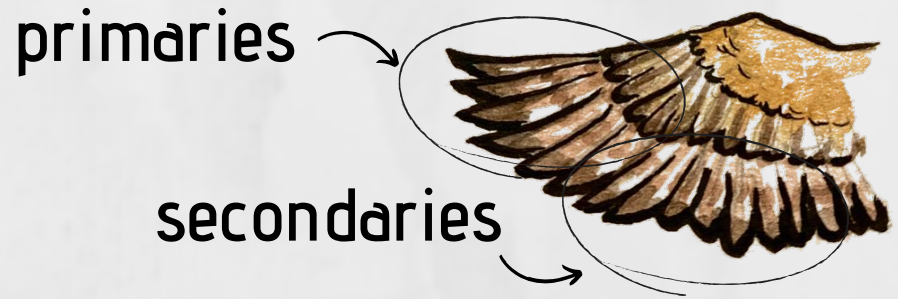
Feathers are made up of a protein called keratin. Just like our fingernails and hair!!!



WING FEATHERS

WING FEATHERS: made to create lift and thrust

Flight feathers have no after feathers



TAIL FEATHERS

TAIL FEATHERS: made to brake, steer, and balance

Flight feathers have no after feathers



CENTRAL FEATHER:

OUTER FEATHER:

Unique Tail Feathers:



BODY FEATHERS



layered like a roof



curved and points to tail

- rounded tips

- small, symmetrical vane

- half soft after feathers

- short, flexible shaft



Body feathers also create the shape of a birds body



Make comparisons to help ID birds!

DOWN FEATHERS

small, fluffy vane

all afterfeather

no hooks

loose barbs

underneath

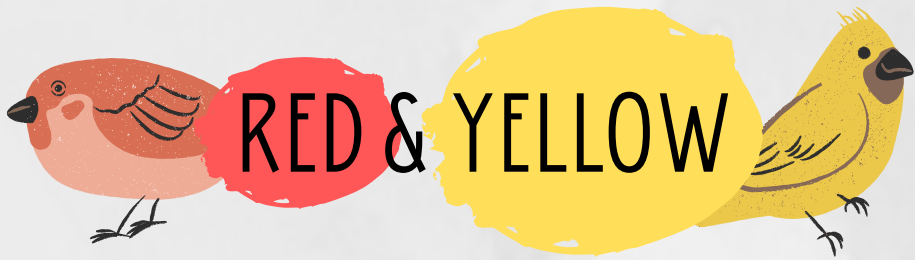
contour feathers



Down keeps baby birds warm.



COLOR

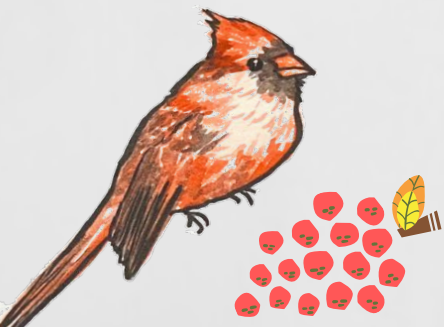


Red and yellow are created by chemicals in the feather called **pigments**. Birds get red and yellow pigments their diet!



YELLOW comes from eating SEEDS!

RED comes from eating BERRIES!



Other colors are created when light REFLECTS off the feather a certain way. Iridescent and blue feathers are produced this way!



BLUE comes from a trick of the light!



PREENING



- spreading oil
- zipping up barbs



- underneath tail
- produces oil

PREEN GLAND

This oil is spread evenly in bird feathers to keep them flexible and neat.

shakes feathers around



Birds will preen each other as a sign of friendship.

DUST BATH:
Dust removes excess oil and insects.



rolls in dust

dig a little dirt hole