# NATURE DETECTIVES

Spring 1999

# A Flight of Fantasy

Have you ever seen a hawk flying high above you in the sky and wondered what it would be like to soar like a hawk?

Imagine that you are a Red-tailed Hawk ...

You are a raptor, a bird that hunts using powerful feet and a strong beak. Your head and back are dark and your front is light. Your tail is rust colored on the back and lighter red underneath.

Today you are perched on a large tree limb waiting for the morning sun. As the sun rises, it warms the air near the ground. This warm air begins to rise in large thermal columns. You take off on broad outstretched wings. You soar into the rising thermals and let them lift you higher. You feel the wind in your face as you circle higher and higher. It's as if you are climbing an invisible spiral staircase up into the sky. You climb higher and higher until you are a mere speck in the sky. Then you lift and fold your wings, gliding back down towards the earth. You reach another thermal current and begin to soar and climb the spiral again. You soar, glide down and soar again in the clear blue sky. Over and over again.

You look down to the ground. You see things clearly even though they are far below you. Suddenly, something moves in the meadow below. You dive toward the ground, tearing and hurtling through the air. Your eyes focus clearly on the mouse and you drop upon it like a thunderbolt out of a clear sky.

You slowly carry your lunch to a nearby perch. As you eat, you feel the warm sun on your back. You finish eating and remain perched, for hours, watching the meadow for more movement...

### **Recipe For A Raptor**

What is it about a red-tailed hawk that allows it to make this fantasy flight?



#### 1. Start with wings and a tail

Birds that soar and glide have a rounded tail and large rounded wings. They use their tail to brake and to steer like a rudder on a boat. Their broad wings keep them up in the air.

#### 2. Add some muscle

To power their wings, hawks have very strong chest muscles. These are their largest muscles. If we attached bird wings to our bodies, do you think we could fly like a hawk? Well, if our chest muscles were as thick as we are tall, then maybe we could fly. But then, imagine looking like a cube!

#### 3. Stir in lots of air

Like all birds, hawks have hollow bones, which make their skeletons very light. They also have a better breathing system than we do. In addition to lungs, birds have air sacs all over their bodies, even in their bones!

#### 4. Top with large eyes

The red-tail can see its prey while soaring up high, or while sitting on a tall cottonwood. How? It has very large eyes and excellent eyesight. But a hawk cannot move its eyes. Imagine having softball-sized eyes in your head. Would there be a lot of room to move them? No. So it has a very flexible neck. A hawk can turn its head from one shoulder, past the other, to the midline in the back; and it can even turn its head upside-down!





#### 5. Add a powerful beak and feet

Once the hawk finds its prey, it has to catch, kill, and eat it. This is where its beak and feet come in. It has a curved pointed beak and powerful feet with sharp pointed nails called talons. The feet catch and sometimes even kill the prey. The beak is used for tearing it apart and eating.

So, large wings + a rounded tail + strong chest muscles + large eyes + powerful feet + a sharp beak = a very efficient hunter of the sky!

## Nomads in the Sky...

#### ... Some Stay

Red-tailed Hawks live in Colorado year round. Therefore they are called residents. But not all hawks stay in one place for the whole year. Some move south to warmer areas in winter where their prey is easier to find. Travelling between summer and winter homes is called migration.



**Red-Tailed Chick in Nest** 

#### ... Some Go

Swainson's Hawks like to eat grasshoppers. They spend the summer in Colorado when grasshoppers are plentiful. But in winter, grasshoppers are hard to find in Colorado. So before the grasshoppers disappear for the winter the Swainson's Hawks get together in small groups called flocks or kettles and head south. In the fall Swainson's Hawks look for warm air masses rising from the ground. These thermals help carry the hawks south. This style of flight is called thermal soaring. Their final destination is the eastern part of South America! They spend the winter down there where it is warm and there are plenty of grasshoppers to eat. And now in the spring you can see them coming back to the prairies and open spaces here in Colorado.

#### ... Some Come

Another migrant is the Rough-legged Hawk. They nest and breed on the arctic tundra. In the fall, they fly south to Colorado and stay here for the winter. It is warm here compared to the arctic! At night they roost in groups. During the day they hunt for prairie dogs, mice, and other small mammals, usually from low perches. As soon as it gets warm enough they take off for their northern home to nest again.

Each season Colorado is home to different species of hawks. This spring, look to the skies and see how many you can spot soaring above. They might be leaving, returning, or just passing through!



Swainson's Hawk







# **A Hawk Glider**

 Begin with an 81/2 x 11-inch piece of paper. Fold the long edge down about 2 inches. Now fold it in half widthwise.



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3. Open the paper back out so that it looks like figure 3a.

Fold along line A-B, bringing the paper towards the middle. Stop when Line A-C is on top of Line A-Z. The shaded rectangle area should now be standing up perpendicular to the paper. Fold paper out along line A-C so the shaded area is now lying flat on top of the right side of the glider. Repeat on the other side, folding along A-D and then folding the paper out along A-E. Press down the top triangle. It should now look like figure 3b.



 Turn the paper over. It should look like this. Crease upward along the dotted lines and bring the bottom point up as shown. The creased fold should invert-fold as the point is folded up. This is tricky so go slowly.



 Fold down the wings and fold up the stabilizer tips where shown. Now invert-fold the beak down and, with your finger inside, crease down.



2. Fold the topside back to the edge as shown. Repeat on the other side.



4. Fold up corner H along line F-G so it is even with the diagonal edge. Repeat with the other side. Tuck the corners under the flap of the top triangle. Now fold the top to the back side along the line as shown.



6. Fold the glider in half away from you.



8. Send it flying! You can try adding tabs at the back of the wings and experiment with them to make it glide or loop. Taken from: The World's Greatest Paper Airplanes and Toy Book by Keith R. Laux