NATURE KIDS

SCIENCE PROJECTS JUST FOR FUN.

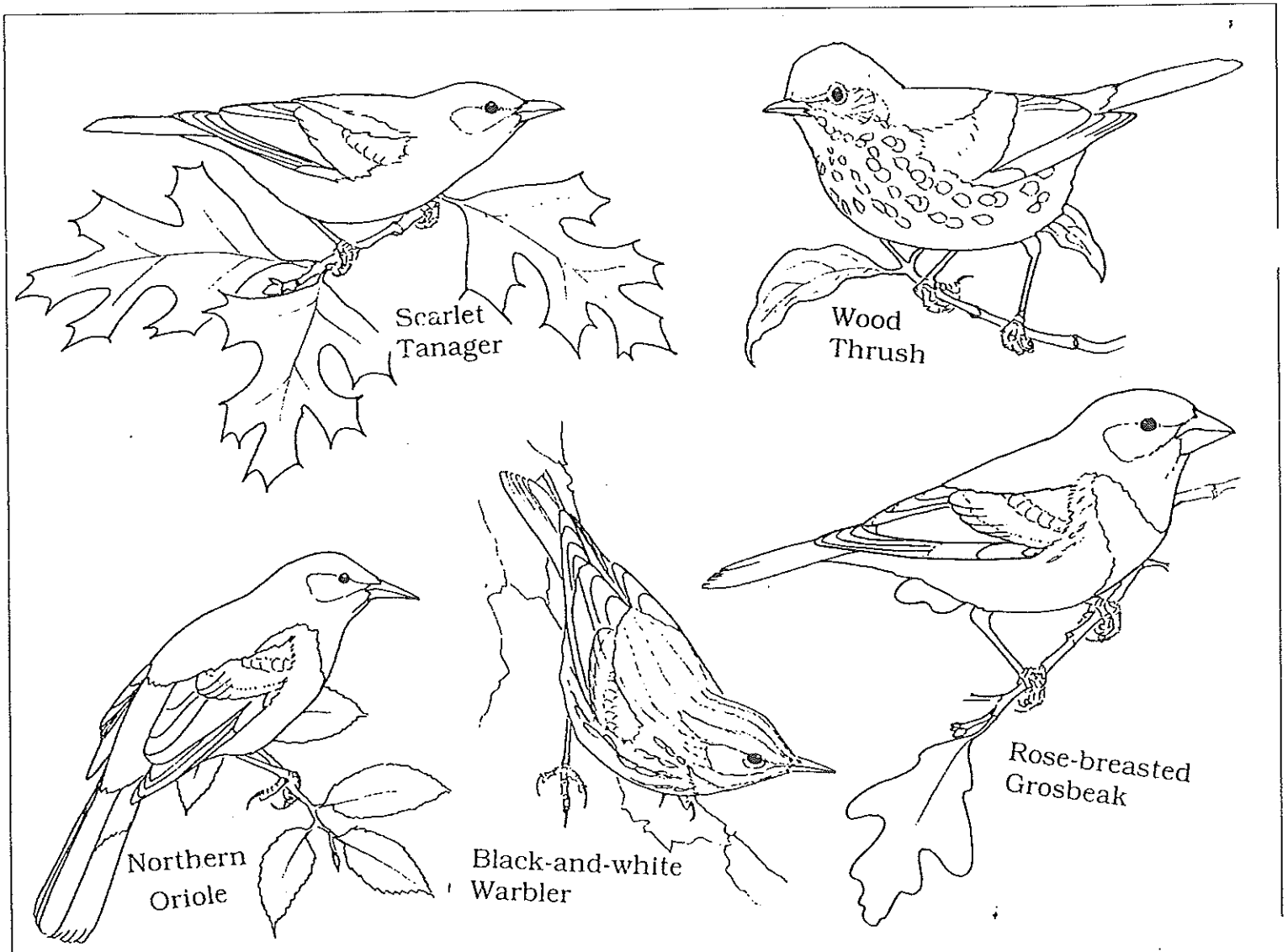
Have you seen me yet?

Be a Bird Watcher this month. Look out for new birds in your neighborhood. They may be migrating (flying) from Central or South America to the United States. Many stop in Houston to rest and eat. Then they fly to their summer homes.
Below are the names and pictures of some birds that migrate through Houston. You can find a picture of each bird in a bird book and color your picture to match . Then you can use this page as your own field guide. Mark this sheet for the number of times you see each of these birds. Happy Birding!

Wood Thrush ○○○○○○○○○○ Scarlet Tanager ○○○○○○○○○○

Rose-breasted Grosbeak ○○○○○○○○○○ Baltimore Oriole ○○○○○○○○○○

Black-and-white Warbler ○○○○○○○○○○



Want to know more? Come to the Nature Discover Center May 8, 1999 for International Migratory Bird Day!!

TEACHER'S CORNER

by Jenni Malone

"Which Way Did They Go?"- *Wonders of Bird Migration*

How and why birds migrate is one of the most fascinating yet mysterious events in nature. We see and hear them come through Houston each spring and fall on their way to their breeding or wintering grounds. But how do they know when to start, how do they navigate en route, and how do they find their way back to the same place, sometimes even the exact same bush or tree? These are still mysteries.

Scientists have uncovered some clues. Point-to-point navigation requires two components: a ***compass component*** that allows the bird to orient itself so that it can fly a straight line course in a particular direction, and a ***map component*** that allows the bird to relate its current location to its destination in order to select the appropriate direction.

What *has* been discovered through experimentation is that migrating birds seem to utilize several sets of data, sometimes overlapping or redundant. Various species of birds are known to use the position of the stars and/or the sun, ultraviolet light and the plane of polarized light from the sun to orient themselves (compass component). Some appear to use the magnetic field of the earth, and new research indicates that they may also hear and use ***infrasound.*** Infrasound is very low frequency sound, on the order of .05 hertz. That's 12 octaves below middle C! These very low sounds are generated by mountain ranges, jet streams, ocean waves, thunderstorms and other physical features. Topical land forms like mountain ranges produce consistent identifiable infrasound patterns. These low frequency sound waves can travel thousands of miles without breaking up and could serve as a beacon for birds. They might be part of the map component they need to orient themselves wherever they are and set a course for home. Infrasound waves may also be part of the explanation why birds that migrate over the Atlantic rarely take off when there is a storm out at sea. Warbler flocks migrating south from New England flew into storms only twice in 93 flights. Most flights were made with a cold front, which produces fair weather for the birds and provides a tail wind. The tail wind can be a crucial factor because these birds must fly continuously for two or three days before reaching a stopping place. A tailwind can reduce their energy output by 50% or more.

Pigeons have been found to be able to detect very small changes in barometric pressure (.07mm). This could be a factor in judging altitude, or in detecting oncoming weather fronts. There has even been research on the possibility that birds might utilize olfactory clues, that they might be able to "smell their way home" as it were.

Where does this leave sight? Do birds ever just look to see where they are? Pigeon research seems to indicate that "clear sight" is a factor just for "getting in the door". Pigeons fitted with frosted contact lenses could fly within a hundred yards of their home roost.

All in all, birds appear to have a lot of potential "senses" to help them find their way. So the final question might be, how do they know WHEN to leave? Many scientists think that hormones may play a part in triggering the urge to migrate. The southern flight in late summer or early fall could be triggered by shortening days. The northern flight? None of the articles I read mentioned that; perhaps mating urges or changes in food availability. A mystery left to solve.

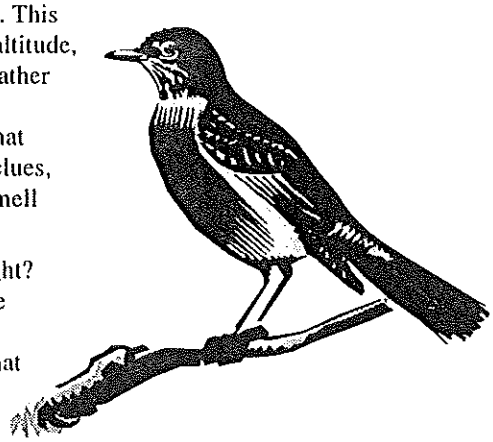
<u>Articles:</u>

"Bird Migration" World Book Encyclopedia

"Probing mysteries of how birds can navigate the skies" by David R. Zimmerman

"How Birds Migrate" by Paul Kerlinger

"Finding a Safe Place to Rest and Refuel" by Frank Moore



Check out the Kid's Page for birds that migrate to our area.