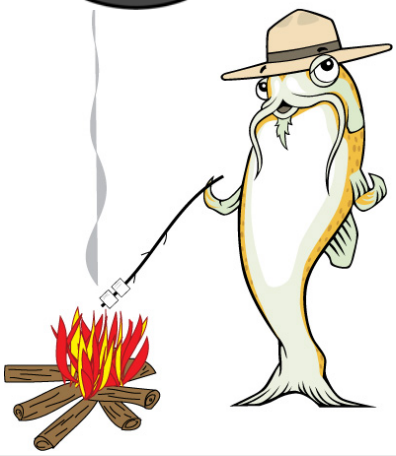
National Park Service
U.S. Department of the Interior
Mississippi National River and Recreation Area

Dear Junior Rangers,

I would like to thank everyone who participated in Junior Ranger events and activities for making this summer a great one! We were able to have several firsts with the new camping, canoeing and birding programs, as well as some time tested favorites like the fossil hunting and the barge ride. I would like to invite everyone to check out the new Junior Ranger Web site at www.nps.gov/miss/forkids/ where there is information on upcoming events and activities, a list of participating partners who have Junior Ranger booklets, and a catalog of past newsletters. This winter it would be great to get the Junior Rangers out and about in the Mississippi River corridor so we will see what the weather gives us to work with. Hope to see you all again soon!



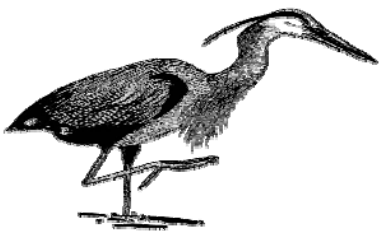
Ranger Rebecca

If you would like to be removed from this mailing please contact Ranger Rebecca at 651-290-3030 ext 229 or rebecca_lofgren@nps.gov.

Migrating Mississippi Birds

The Mississippi River is a very important bird migration flyway with up to 40% of North America's waterfowl following the river during spring and fall migration. See if you can find some the birds the use the Mississippi River to migrate below. *Be carefull:some words are backwards!*

Bald Eagle
Belted Kingfisher
Hooded Merganser
Downy Woodpecker
Great Blue Heron
Common Loon
Canada Goose
Bluebird
Cardinal
Egret
Osprey
Pelican
Cormorant



Peregrine Falcon
Trumpeter Swan
Turkey Vulture
Wood Duck

R	U	C	Y	U	V	U	X	Z	K	J	C	I	F	L	R	T	S	P	A
E	T	Z	A	X	N	M	P	C	E	A	C	A	B	E	Q	N	F	E	C
S	O	U	E	R	Y	O	U	M	N	C	Q	E	K	X	V	A	W	L	M
N	E	G	R	H	D	D	C	A	G	N	C	C	D	U	V	R	I	I	A
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G	O	B	G	O	E	A	N	S	A	P	W	U	F	B	I	M	H	A	O
R	B	O	O	A	G	Y	P	A	D	F	D	O	S	W	O	R	K	N	Y
E	U	W	B	O	E	R	V	O	L	J	E	S	X	X	R	O	T	T	C
M	K	W	O	B	E	D	O	U	Y	E	H	N	B	E	S	C	X	R	P
D	V	S	F	Y	E	W	L	B	L	U	E	B	I	R	D	Q	F	U	U
E	E	O	Q	J	Y	L	S	A	W	T	O	E	P	R	H	M	G	M	F
D	H	C	T	N	A	C	D	N	B	L	U	C	T	C	G	N	N	P	L
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S	W	L	A	A	X	A	R	G	X	T	K	T	M	C	L	L	A	S	T
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S	U	F	B	P	B	C	Q	A	L	E	V	L	J	X	N	G	D	A	G
V	W	H	I	K	A	H	D	T	S	E	Y	I	M	S	P	K	C	N	N

Junior Ranger Program
Mississippi National River and Recreation Area
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Autumn Awareness!

Every year the leaves on some trees change color. It can happen in one of two ways. Some trees have several pigments, or chemicals, in their leaves and in the summer the pigment that you can see the best is the green pigment called *chlorophyll*, which helps the trees make food. In the fall when the days get shorter and cooler the trees stop making chlorophyll because they do not need any more food and the other pigments called *carotenoids* are more easily seen. Carotenoids are usually yellow, orange, or brown. Other trees have pigments called *anthocyanins*, which are usually red or purple. These colors become visible when another chemical, phosphate, is no longer in the leaves.

Below are two easy ways to do experiments at home with leaves to see the different pigments the leaves have in them. Ask an adult to help you and have fun!

Autumn In the Refrigerator
Will a green leaf change color if you put it into a cold place? Put a green leaf into a plastic bag and into a refrigerator. Watch the color changes for a few days.

Easy Leaf Chromatography (separating the pigments)
Cut a 2-inch by 6-inch strip from a paper coffee filter. Mince several green leaves into a pulp, put them into a short glass or jar, and add just enough rubbing alcohol to cover. Tape one end of the filter strip to a pencil and place the pencil across the top of the glass so the bottom of the strip just touches the alcohol. After the alcohol has moved about halfway up the strip (at least an hour), remove the strip and let it dry. The various colors are the various pigments found in a fresh leaf.

Experiments from MN DNR www.dnr.state.mn.us/young_naturalists/color/index.html