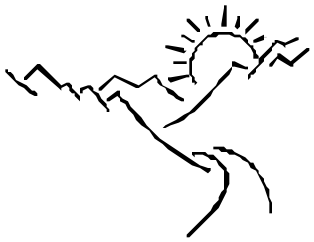
WHERE ARE YOU IN THE WATERSHED?

Objectives:

Using this activity adapted from *This Lake Alive!* and prior knowledge, students will:

- investigate a topographical map and explain how it shows watersheds,
- determine how their use of water has a larger impact,
- use knowledge of geography to trace water to the ocean.

Materials:



- Topographical map of Wind Cave National Park area
- Atlas or map of the United States
- Topographic map of local area

Procedure:

1. Begin by taking a local topographical (topo) map and going outdoors. Climb to the highest point and see if you can tell where your watershed is located. Where will the water drain? Compare this to your map and see if you can tell where the water is going after it leaves your immediate area.
2. With the topo map, take a dry-erase marker and connect the highest points with a line. This is the area watershed. Discuss how land use activity can affect the area (soil, fertilizer, pesticides, industry, etc).
3. Go back into the classroom and recall from the map where you traced the water. Where will the water go next? Into what river or stream does it flow? Where does that stream go? Where will it go next? Follow the path of the water until you get to the ocean.
4. Does the water go through any areas with which you are familiar? Any areas that you have visited? Any areas that you would like to visit? How would you feel about drinking the water there?
5. Does what happens to water in your hometown affect water elsewhere? Imagine if you lived in the city closest to the ocean, far down the water's path from your area. Would you be eager to drink the water after it has flowed through so many other places?
6. Identify the cities that your water trace passes. Look in the atlas to see their populations. Add each city's population together until you get to the ocean. How many people are being affected by your watershed?
7. How do these places at the end of the path clean their water? What water problems do they have to worry about? What happens when the water gets to the ocean?
8. Take out the map of Wind Cave. Look at the high contour lines and see where the water will go. Does it intersect anything in its path? Does the water near the Visitor Center area go directly to a river or stream? Where does it go? Do surface activities have anything to do with the water quality? Does all of the water go downstream?
9. What happens when water goes into a cave and not out to a stream? It is entering the groundwater supply. Many Americans get their water straight from the groundwater. What is groundwater? Where is it? What does water have to go through before it gets there? Do you get your water from a groundwater source such as a well? Does this water get cleaned? What goes on in the ground before the water gets to you? Will this have an effect on the contaminant level?