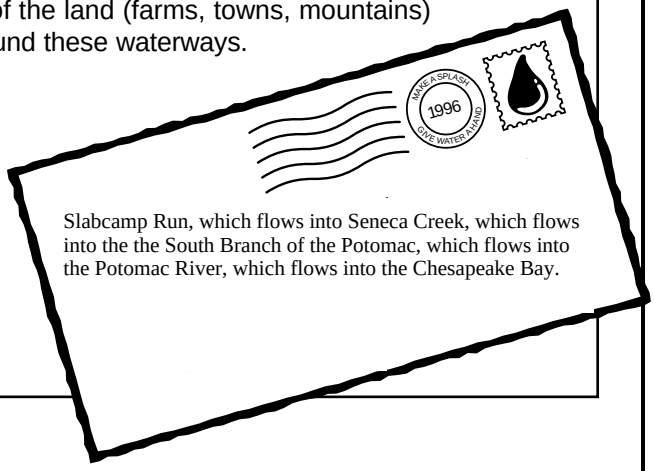
What to do

Collect the following materials:

- Topographic map or maps which include your site and any other maps you have collected of the area,
- a clear sheet of plastic as big as your topographic map (this plastic is called mylar or acetate and is available at art supply stores or office supply stores for a few dollars),
- a piece of cardboard as big as your map,
- thumb tacks,
- dry erase markers & tissues.

Find your ecological

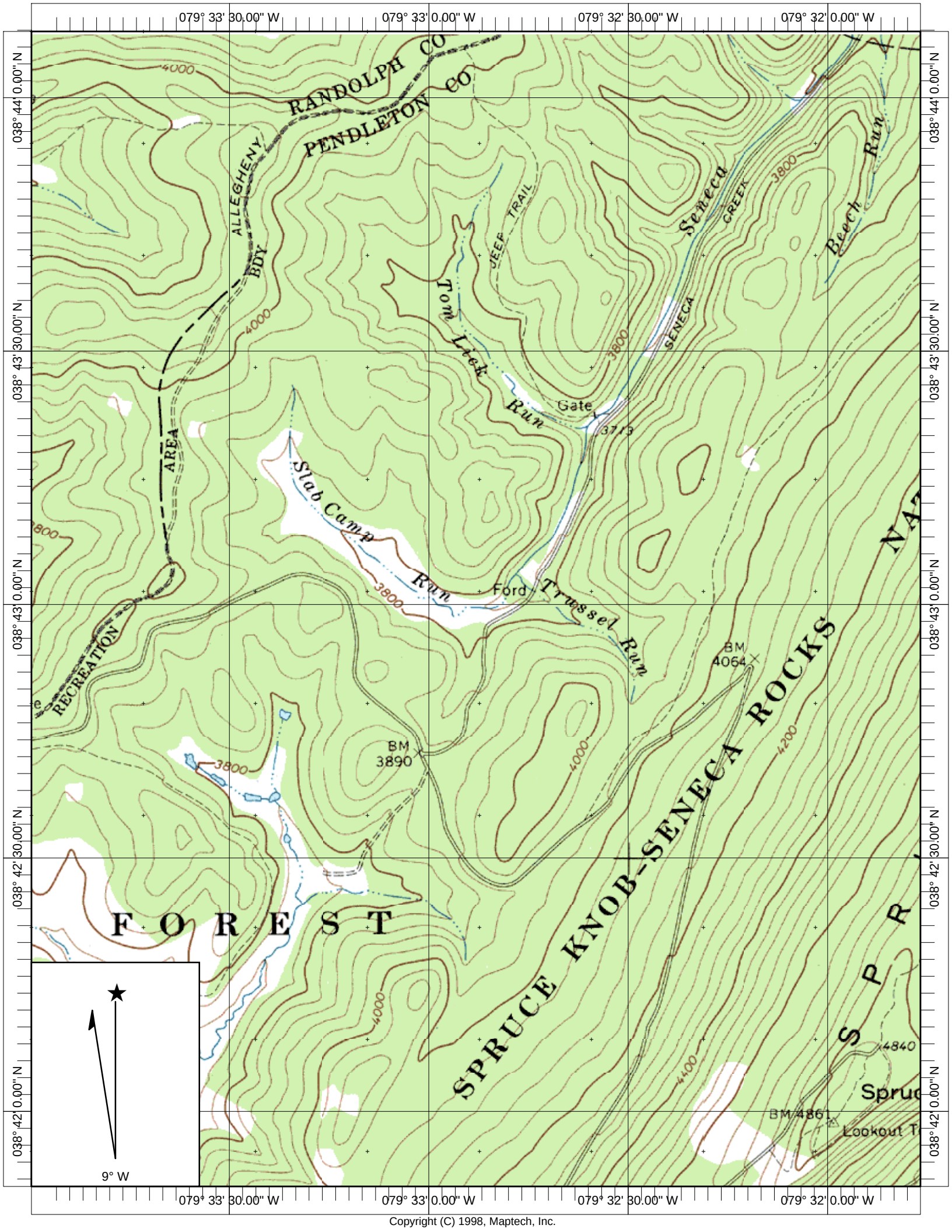
A mailing address helps the Post Office deliver letters to the right place. An "ecological address" can help you find rivers and streams in your community and help you find ways to work on water issues. Local streams empty into larger streams, rivers or lakes, which may empty into a larger river, which may empty into an ocean, estuary, bay or a lake. Your ecological address includes all of the land (farms, towns, mountains) around these waterways.



Slabcamp Run, which flows into Seneca Creek, which flows into the the South Branch of the Potomac, which flows into the Potomac River, which flows into the Chesapeake Bay.

What's a watershed?

You are part of a watershed. This means that everything you do can affect nearby surface water and ground-water, for better or worse. Your watershed is a geographical community that includes all the humans, plants and animals who live in it and all non-living parts, such as rocks and soil. As China's Emperor Yu understood long ago, whatever happens upstream in a watershed affects everything downstream. To improve the water quality of a stream, look at the whole area it drains. Anything dumped on the ground in the watershed can end up in its water bodies. And anything released to the air can come down again, nearby or thousands of miles away. What's more, we all live downstream, either in our own watershed, or downstream from someone else's.



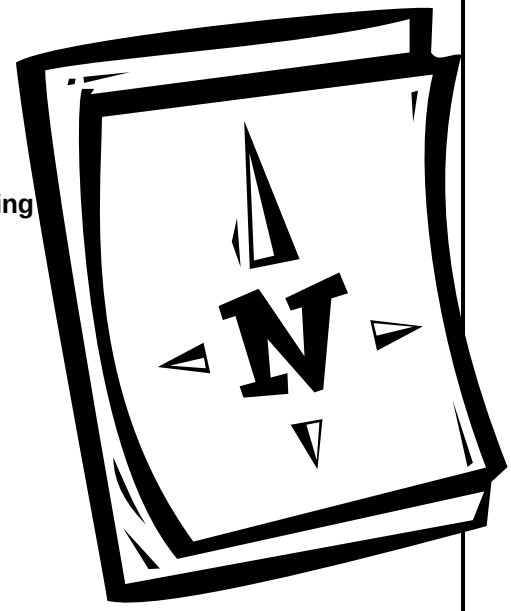
Map your watershed:

1. Place the clear sheet of plastic over the topographic map (topo map) of your site and tack both onto the cardboard. If you don't have plastic, make a photocopy of the map and draw on it in pencil.
2. On the topo map, find and mark your site. A road map can help you find things.
3. Find the streams, ditches, marshes, lakes, oceans or rivers closest to your site and mark them in blue on the map.
4. Use the contour lines and numbers on the topo map to find the highest and lowest points around your site. Can you find the high point you visited in the first activity? Mark all the hilltops with an "X."
5. From these "Xs", draw arrows on your map to show the flow of runoff. Which direction will rain or snow flow when it falls on your school? Where does runoff flow into waterbodies? Look at the Completed Watershed Map on page 45. It has the outlines of watersheds already drawn. Look at the arrows showing where water flows. The outline of each watershed is between waterbodies, mostly along the tops of ridges or hills.
6. On your own map, find the highest ground (the hills and ridges) between two waterbodies. Draw a line along the highest points (connecting the "Xs" on hill tops) completely around your stream, including its mouth — the bottom end where it drains into another body of water.

   You have now outlined your watershed. In what watershed is your site? The name usually comes from the main stream or river in the watershed. Two small streams can be part of a larger watershed. Write the name on your map.

Take map outside. What is the highest point of land you can see? Walk to that point. Is your site at the top or bottom of a hill? Where does water go when it rains or snows? Can you see the nearest waterbody? Can you see hills, mountains, buildings, airports, power lines, railroad tracks or other things that are on the map? Look at your map and find these features. Mark the features you noted in the first activity on your Watershed Map.

What else can you learn about your watershed? Work in teams... Ask questions and conduct research to help your team answer those questions. Report your findings to others who live in the watershed.



The map provided here is a small slice of the Spruce Knob topo. You can further develop this activity by deliniating and researching questions about watersheds in your area.

Learn more by visiting the websites below:

http://www.nh.nrcs.usda.gov/technical/Publications/Topowatershed.pdf

http://www.egr.msu.edu/~northco2/BE481/WshedChar.htm

http://www.wvca.us/envirothon/a5.html

http://courses.washington.edu/gis250/lessons/hydrology/index.html

http://www.dep.wv.gov/WWE/getinvolved/sos/Pages/Watersheds.aspx

http://creekconnections.allegheny.edu/Modules/On-LineActivities/TopographicMaps/Delineation.pdf

http://el.erdc.usace.army.mil/emrrp/emris/emrishelp2/delineating_watersheds_spatial_topics.htm

http://paulbolstad.cfans.umn.edu/Courses/FR3131/LecSupp/Delineating_Watersheds.pdf