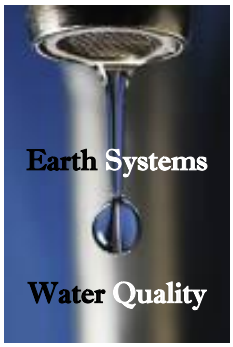

Name: _____

Important Note: All items with an asterisk (*) are REQUIRED!

C. Concepts Layer 4 Points Each Maximum 52 Points

Objective: To be able to identify parts of the groundwater system.

*Listen and take notes or look up brief information on the following concepts and take notes. Be able to do an oral or written quiz on each concept. (4 points for each concept):

___ Groundwater

___ Water Table

___ Confined Aquifer

___ Unconfined Aquifer

___ Permeable Layer/Impermeable Layer

___ Stratigraphy

___ Lithology

___ Cone of Depression

Objective: To be able to apply the above terms in a groundwater simulation.

___ Actively participate in the "Groundwater Picture" activity

Objective: To be able to identify parameters that affect drinking water quality.

*Listen and take notes or look up brief information on the following concepts and take notes. Be able to do an oral or written quiz on each parameter.

___ Nitrates

___ pH

___ Iron

___ Hardness

*Choose 1:

___ Research the difference in permeability between sand, gravel and clay soils

___ Design a simple experiment that shows the difference in permeability between sand, gravel and clay soils

B. Investigations Layer 4 Points Each Maximum 24 Points

Objective: Be able to conduct water quality tests on a well water sample and accurately evaluate the results.

___ *Bring in a water sample from your home well or another well water source. (Not bottled water!)

___ *Conduct water quality tests for pH, iron, hardness and nitrates

___ *Accurately evaluate the quality of the water according to your test results.

Objective: Be able to evaluate the potential for your well to become contaminated by looking at a scale drawing of its stratigraphy.

*Locate your family's well information on the County Well Index page (see link on Mrs. Schoeneck's web page). Put in your address on the left side of the page, making sure pop-up blockers are turned off. Click on your well in the map that pops up. Look at the lithology and create a scale drawing of your well (in your choice of format) with the information below. Evaluate potential sources of pollution and the likelihood the well could be contaminated by looking at the well's lithology. Post your well log in the room with others from the same township.

- Student's name
- A key for the lithology (the types of rock or soils in the layers)
- Land owner (Include this only if it is not your family's well.)
- Date of well completion
- Well Depth
- County
- Township (on aerial photo)
- Land Use (woods, farming, residential, etc.)

___ *Well log is accurately drawn and to scale

___ *All required information is on the well log

___ *Accurate evaluation is made of the well's potential to be contaminated, considering the type of soils or rock the well goes through

A. Critical Thinking Choose 1 Maximum 8 Points

Objective: To analyze a real-world topic related to the water quality.

Select a question below and read one of the articles available in the classroom on that topic. Get together with others that read the same article (limit 4 in a group) and use the whiteboard to report out the main points of the article and your opinion on the topic question below.

- Should the wastewater treatment facility be built in the Lake Miltona area?
- So…what if chemicals in the drinking water could change your sex?
- What's the likelihood of going to war over water?

___ *Whiteboard report out

___ *Opinion, backed up with reasons