

PLANNING RESEARCH

CHOOSING A RESEARCH TOPIC

Name _____ Date _____

How has the land use in my town changed over the past fifty years?

How does streamwater chemistry affect invertebrate populations?

Are the aquatic invertebrate communities upstream of a new highway bridge similar to communities downstream?

Do models help determine relationships between land use, rainfall, and streamflow? How do they compare with trends observed in my study streams?

Do changes in riparian habitats (e.g., from forest to farm) have immediate effects on aquatic invertebrate populations?

How does streamwater quality relate to watershed land use practices?

1. Make a list here of questions that you would be interested in investigating using *Watershed Dynamics* protocols.

Example: How does the benthic invertebrate community and stream quality differ upstream and downstream of a potential source of pollution (e.g., wastewater treatment plant, agricultural field, golf course)?

2. Of these questions, which seem the most important and interesting? Pick three:

- a.
- b.
- c.

3. For each of the three questions you have chosen, think of how you might design an experiment. Then fill out Table 3.1

TABLE 3.1
Potential Research Questions

Question	Brief description of an experiment you might do to address this question	What equipment and supplies would you need?	How long would it take to carry out this project?	Would fieldwork or travel to field sites be required?
<i>Example: Do stream invertebrate communities differ upstream vs. downstream of the school's parking lot?</i>	<i>Collect stream invertebrates several times, upstream and downstream of drainage from the parking lot.</i>	<i>Water, D-nets collecting pans, tweezers, magnifying glass, ID sheet.</i>	<i>3 double periods for collecting and identifying invertebrates on 3 different dates.</i>	<i>Fieldwork is required, and travel time would take 10 minutes each way for each trip.</i>
Question 1:				
Question 2:				
Question 3:				

SECTION 3. INTERACTIVE RESEARCH

4. Looking over Table 3.1, consider whether each project would be feasible for you to carry out. Are the equipment and supplies available? Do you have enough time? Will you be able to do whatever fieldwork is needed? Eliminate any questions that do not seem feasible based on logistics such as these.

	Would this project be feasible?	Why or why not?
Example Project	<u>Yes</u> No	<i>There is easy access to the stream that runs by our school. We will be able to sample both upstream and downstream of the parking lot.</i>
Project 1	Yes No	
Project 2	Yes No	
Project 3	Yes No	

5. Choose a project you have decided is feasible and interesting, then continue on to **Interactive Research Planning Form 1** or **2**.