Name _____ Student ID _____ Date _____

Salty, Salty Streams

Watch the video featuring Dr. Kaushal.

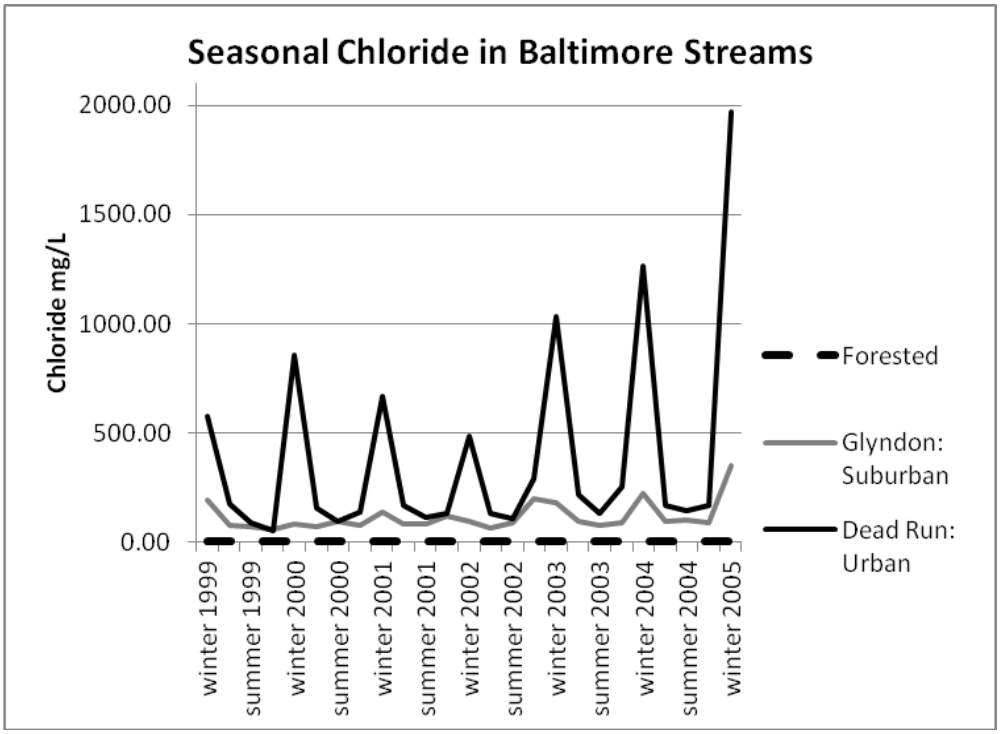
1. What do you notice about the streams in Baltimore? Why does Dr. Kaushal point out the old motorcycle?

2. Why is Dr. Kaushal studying streams?

3. How does road salt get into the streams?

4. During the winter months, which streams do you think will have the highest levels of salt: urban, or forested? Why?

5. Look at the graph below. It includes data about three types of streams: urban, suburban, and forested streams. The forested stream data is considered the "normal" stream. These data are seasonal averages; scientists in Baltimore collect chloride data every week throughout the year.



a. Which type of stream has the highest chloride levels? _____

b. When do chloride levels typically peak? _____

c. Draw a line at 250 mg/L, which is the maximum chloride content allowed in NYC drinking water. Are there streams that are always below the "safe" level? If so, which ones?

_____

d. Do these data support the claim you made in Question #4?

_____

_____

6. List the potential sources of variability in your investigation.

Real *– what might be some sources of variability that are due to the ecosystem?*	***Induced (experimental)*** *– variability due to human error, sampling error, tool error*

7. Based on the Baltimore information and what you know about land use in your area, make a prediction about how high the chloride levels in your area will be: _____

8. Your teacher will give you a handout with data (or you can download the data into Excel) collected by scientists from a local stream. Use those data to create a graph showing the amount of chloride in the stream. Put each data point on the graph.

9. Describe the changes you see in chloride concentration.

_____

_____

10. What might cause some of the differences between the data points?

_____

_____

11. If you used Excel to graph the chloride data, explain whether the change you see is significant. Explain what statistics you used.

_____

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12. Compare these data with the Baltimore urban stream data. In which place was the chloride level higher? Why do you think this is?

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13. Based on the graph you made only, predict what you think will happen to chloride in this stream next year. Explain your answer.

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