


Lesson Objective:

Students will analyze and interpret water temperature data collected during the summer months at their local stream.

Curriculum Standards:

- NGSS ESS3.C Human Impacts on Earths Systems
- MD E-Lit Standard 1 Topic A: Environmental Issue Investigation
 - Indicator 5: Use data and references to interpret finding to form conclusions.

Materials Needed:

- Internet access to Hood-CCWS temperature website (ccwsscience.org)
- Temperature logger data over a period of summer months, (readout from logger and uploaded to Hood-CCWS temperature data website (ccwsscience.org))
- Access to reference materials, such as the internet.

DIRECTIONS

Access the Hood-CCWS temperature data website. Go to <http://www.ccwsscience.org>, select the data tab.

Ensure data from the summer months have been uploaded to the site for your stream and its associated reference site by selecting the logger locations on the lefts side of the screen.

Narrow the time range of the graph to only the summer deployment months. Consult your teacher to confirm the dates of logger deployment. (Enter these dates below)

Complete the following table:

DATA SUMMARY

Logger Deployment Dates: _____

Logger #:		Temperature (°C)
	<ul style="list-style-type: none"> • Highest Temperature recorded in your school stream: 	
	<ul style="list-style-type: none"> • Average Temperature of your School Stream: 	
	<ul style="list-style-type: none"> • Average Temperature of a stream that serves as your “reference”: 	
	Calculate the difference between the average school stream temp and the average reference stream temp	

**INTERPRET YOUR FINDINGS**

Recall from Lesson 2, the state of Maryland designates each stream a “Use Class” with a maximum stream temperature.

Circle your stream’s Use Class on the table below:

Maryland State Designated Use Class	Temperature Criterion
I – Water contact recreation, and protection of Nontidal Warmwater Aquatic Life	May not exceed 90°F [32°C]
II – Support of Estuarine and Marine Aquatic Life and Shellfish Harvesting	Same as Class I (above)
III – Nontidal Cold Water (III-P, Nontidal Cold Water & Public water supply)	May not exceed 68°F [20°C]
IV – Recreational Trout Waters (IV-P, Recreational Trout Waters & Public water supply)	May not exceed 75°F [23.9°C]

Answer the following questions:

1. Does your stream temperature measurements exceed the Maryland Standards for your stream’s Use Class at any time? If so, when?

2. How could high stream temperatures impact an aquatic environment? With your teacher’s permission, you could research this question, and in doing so provide the source of your information.