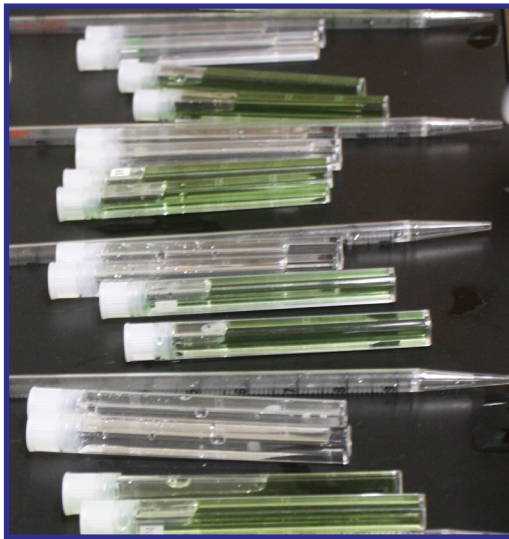
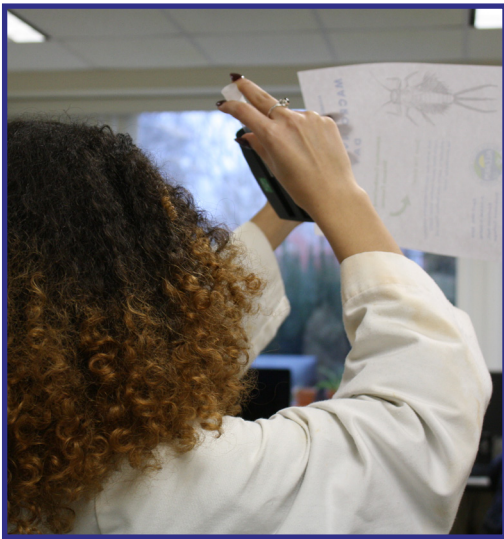


Stream Team Data Reminders

Best Practices for Data Collection



Dickinson

Acceptable Precision Ranges

What is a precision range?

All replicates must be within the acceptable precision range of each other, meaning **the values from two replicates must be within a certain range for them to be deemed precise.**

What are the acceptable precision ranges for each data parameter?

Refer to the table below for the range in which data for each parameter is acceptable as precise.

What happens if my two replicates are not within the proper range?

If your first two replicates are not within the precision range for that parameter, please complete another replicate. Continue replicates until two consecutive replicates are within the acceptable precision range of each other.

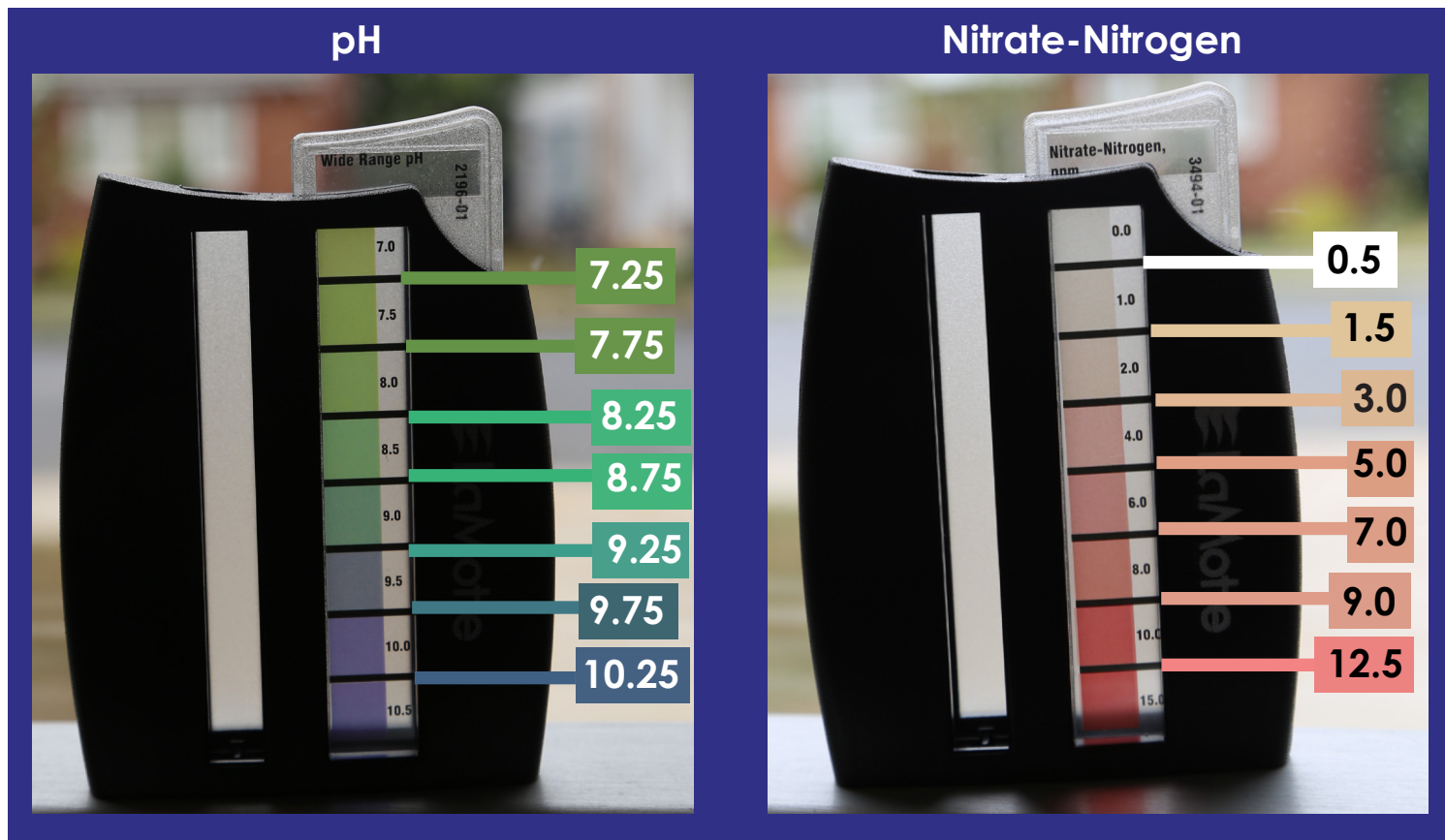
It looks like I have 3+ replicates at this point...which do I upload to the Chesapeake Data Explorer?

Once you have two replicates that are within the acceptable precision range, **record only these two replicates in the Chesapeake Data Explorer.**

Parameter	Unit	Precision Range
Water Temperature	°C	± 0.5 °C
pH	pH unit	± 1 pH unit
Conductivity	µS/cm	± 10 µS/cm
Nitrate-Nitrogen	mg/L	0 – 2 mg/L = ± 1 mg/L 2 – 10 mg/L = ± 2 mg/L 10 – 15 mg/L = ± 5 mg/L
Stage	feet	± 0.2 ft
Water Clarity	cm	± 10 cm

Averaging Replicates

When averaging, all values you record must match the precision ability of the equipment. Round up to the nearest feasible value or whole number.



When recording values for pH and nitrate-nitrogen **you can select the numbers shown on the LaMotte slide or the values directly in between, where the dark line indicates the change in value** (reference for those middle values above).

- **You should not be recording any number not listed in these graphics.**
- If the average of your two replicates is not one of these numbers, **round up to the next acceptable value** listed in this diagram.
- If you and a partner are determining the color of a pH or nitrate together, decide on a value each replicate and **only record the agreed upon value on the datasheet**. These will then be uploaded to the Data Explorer.

Averaging Replicates (Cont.)

A Note About Conductivity:

For values **under 200 $\mu\text{S}/\text{cm}$** , there is one decimal place.

For conductivity measurements **above 200 $\mu\text{S}/\text{cm}$** the Pocket tester reads whole numbers.

When averaging conductivity values:

- If your average has a decimal place and is above 200 $\mu\text{S}/\text{cm}$, round up to the nearest whole number.
- When averaging two numbers below 200 $\mu\text{S}/\text{cm}$, round to the first decimal place.

Examples of acceptable replicate values

Parameter	Replicate #1	Replicate #2	Averages	
			✓ Correct	✗ Incorrect
Water Temp.	13.1 °C 15.7 °C	13.4 °C 15.6 °C	13.3 °C 15.7 °C	13.25 °C 15.65 °C
Conductivity	256 $\mu\text{S}/\text{cm}$ 111.2 $\mu\text{S}/\text{cm}$	257 $\mu\text{S}/\text{cm}$ 111.3 $\mu\text{S}/\text{cm}$	257 $\mu\text{S}/\text{cm}$ 111.3 $\mu\text{S}/\text{cm}$	256.5 $\mu\text{S}/\text{cm}$ 111.25 $\mu\text{S}/\text{cm}$
pH	7.5 8.0	7.75 8.25	7.75 8.25	7.65 8.125
Nitrate-Nitrogen	1.0 mg/L 4.0 mg/L	1.5 mg/L 5.0 mg/L	1.5 mg/L 5.0 mg/L	1.25 mg/L 4.5 mg/L
Stage	3.2 ft 2.7 ft	3.3ft 2.6ft	3.3 ft 2.7 ft	3.25 ft 2.65 ft
Water Clarity*	25.6 cm 43.2 cm	25.8 cm 47.4 cm	25.8 cm 45.4 cm	25.7 cm 45.3 cm

*There are multiple turbidity tubes in circulation, round to the precision of your instrument. Example above is using a 60cm tube with tick marks every .2 cm.

For any further questions, please contact us at streamteam@dickinson.edu