



Water Quality

Science Olympiad 2019

- What to bring
- Test Format
- Topic breakdown
- Recommended Study tips
- Hands on time with macros and salinometer

OVERVIEW

What to expect, and how to prepare for the Water Quality portion of the Science Olympiad.

What each team should bring

- ❑ Salinometer, or Hydrometer
 - This should be calibrated

- ❑ Eye protection
 - One set per person

- ❑ 2 Calculators
 - Must be non-graphing/non-programmable

- ❑ A CHEAT SHEET!!!!
 - One 8.5”x11” sheet of paper with writing on both sides is allowed - PER TEAM

Test Format

Three Sections

- Freshwater Ecology
- Macroflora and Fauna Identification
- Water Monitoring Analysis

Question format includes:

- Fill in the blank
- Multiple choice
- True and False

Each section is timed for 15 minutes. There are two short answer tie-breaker questions to be completed during the testing time. No extra time is given for these, however there is no penalty for not completing them.

ALL test questions were sourced directly from the 2019 handouts provided on the Science Olympiad website.

Found here:

<https://www.soinc.org/water-quality-b>

HINT

Study the handouts!

Freshwater Ecology

This section includes freshwater ecosystems, aquatic chemistry, and waste water treatment.

Seven multiple choice, five true or false, and five fill in the blank questions will make up this portion of the test.

Macroflora and Fauna Identification

Requirements include:

- Identifying five immature or adult macroinvertebrates by observing preserved specimens.
- Labeling their class (1-5), and feeding type (predator, shredder etc.) .
- In addition there will be pictures of five aquatic nuisance plants or animals that will need identification.

Water Monitoring and Analysis

Salinometer/Hydrometer

- Calibration solutions of 0%, and 10% will be provided on site.
- Must measure within $\pm 1\%$ of actual solution for full credit.
- Points for this reading will account for five percent of the total test score.

Water Monitoring

- Four questions based on freshwater chemical monitoring will be included in this section.



Tie Breaker...

Two short answer questions will be used as tie breaker questions. They will offer an additional 7 points total with partial credit also being a possibility.

Recommended Study Tips



- Review the 2019 training handouts provided on the Science Olympiad Website.
<https://www.soinc.org/water-quality-b>
- Make flash cards
- Create a personalized study guide based on the handouts.
- Have team members design tests, and give them to each other-timed.
- Practice using the salinometer/hydrometer.

BEST OF LUCK TO ALL!!

Questions?

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We look forward to
seeing everyone.

Be proud of your hard work and
always have fun with science.

-Your friends at CRWC