

Science Olympiad Chem Lab, Division C

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Event Supervisor

What to Expect

Total time of Event: 50 minutes

Broken into different tasks that may include:

- Written Test
- Hands On Tasks
- Interpretation of Data
- Observations of an established and running experiment

What Students Can Bring

- Safety equipment: goggles, lab coat, apron, etc.
- Writing implements
- A calculator of any kind (one per teammate)
- One 8.5" x 11" sheet of paper
 - may be in a sheet protector sealed by tape or laminated
 - information on both sides in any form and from any source
 - Will not be provided by supervisor

What Supervisors will Provide

- Any required reagents
- Additional glassware
- References that are needed for the tasks
 - Periodic Table
 - Table of standard reduction potentials
 - Any constants needed

General Rules

- Cell phones are prohibited
 - Teams are automatically disqualified if a student is caught checking/using their phone during the event
- Students **CANNOT** return to the event if they leave, for any reason
 - Partner can remain to finish

General Safety Rules

- Students must wear: goggles, lab coat/apron, etc.
- Gloves are optional
- Skin must be covered from neck down to wrists and toes
- Pants should be loose fitting
- Shoulder length hair and longer must be tied up
- Penalizations will occur if any of these rules are not followed

Knowledge for Competition

- Need to know how to interpret graphs, charts and tables
- Know nomenclature, symbols, and charges of chemicals
- Understand acid-base reactions, properties and uses of them, and titrations of them

Knowledge for Competition

- For aqueous solutions, must know definitions, properties, terms and principles
- Calculate solution concentration and amount of material to achieve specific concentration
- Different concentration units and how to calculate each one

Possible Hands on Activities to Prepare For

- Titrations to determine percent composition, molarity, and/ or molar mass
- Given a pH indicator and the results of a test determine the pH of a solution
- Identify the pH indicator that should be used to monitor a given experiment
- Use freezing point depression to determine the molar mass of a solute
- Identify and explain factors that affect solution formation
- Determine whether a solution is saturated, unsaturated, or supersaturated

Scoring System

High score wins

- Written portion may be 20-50% of each team's score
- Hands on portion may be 50-80% of each team's score
- Ties: broken using pre-selected questions will be noted on the written test
 - A 10% penalty may be given if the area is not cleaned up as instructed
 - A 10% penalty may be given if a team brings prohibited lab equipment to the event

How are points awarded?

- Correct answers
- Correct measurements
- Correct calculations
- Correct data analysis

Event supervisors will provide a standard form for competitors to show measurements/calculations