



1. **DESCRIPTION:** This event will determine the participant's ability to design, conduct, and report the findings of an experiment entirely on-site.

A TEAM OF UP TO: 3

CALCULATOR: Class II

EYE PROTECTION: C

APPROXIMATE TIME: 50 minutes

2. **EVENT PARAMETERS:**

- a. Participants must bring goggles and writing utensils. Experiments will not require any other safety equipment.
- b. Teams may bring one timepiece, one linear measuring device, and one stand-alone non-programmable non-graphing calculator (Class II). Teams CANNOT use any of these as part of the experiment - they must only be used for their intended function.
- c. The Event Supervisor will provide each team with identical sets of materials either at a distribution center or in an individual container.
- d. The Event Supervisor **must provide the 2-part reporting packet** posted on the event page at soinc.org for teams to record their experimental information and data.

3. **THE COMPETITION:**

- a. The teams must design, conduct, and report the findings of an experiment conducted on site that addresses the assigned question/topic area provided by the Event Supervisor. The assigned question/topic area should be the same for all teams and allow the participants to conduct experiments involving relationships between independent and dependent variables (i.e., height vs. distance).
- b. During the first 20 minutes of the event, participants will receive the assigned question/topic area, materials, and Part I of the report packet. Participants will focus on designing and conducting their experiment.
- c. After the first 20 minutes, participants will receive Part II of the report packet and will focus on analyzing their experiment and reporting findings. Participants may continue experimenting throughout the entire event.
- d. Each team must use at least two of the provided materials to design and conduct an experiment. Teams failing to use at least two items will have their final score multiplied by 0.95. The materials will be listed on the board or placed on a card for each team. If provided, both the card and the container will be considered part of the materials. The identity of the materials will be unknown until the start of the event.
- e. When a team finishes, all materials must be returned to the Event Supervisor including both parts of the report packet.

4. **SCORING:**

- a. High score wins. Scoring will be done using the Experimental Design Checklist found on the Science Olympiad website (soinc.org).
- b. Points will be awarded depending upon the completeness of the response. Zero points will be given for no responses as well as illegible or inappropriate responses.
- c. Ties will be broken by comparing the point totals in the scoring areas of the checklist in the following order:
 - i. Analysis of Claim/Evidence/Reasoning
 - ii. Procedure and Set-Up Diagrams
 - iii. Variables
 - iv. Data Table
 - v. Graph
- d. Any participant not following proper safety procedures will be asked to leave the room and will be disqualified from the event.
- e. Any team not using at least 2 of the provided materials will have their final score multiplied by 0.95.
- f. Any team not following clean-up procedures will have their final score multiplied by 0.95.
- g. Any team not addressing the assigned question/topic area will have their final score multiplied by **up to 0.75** based on the extent to which the report deviates from the assigned topic.
- h. Any team not collecting data by conducting an experiment on-site **or falsifying/making up fake data** will have their final score multiplied by 0.25.

Recommended Resources: The Science Olympiad Store (store.soinc.org) carries a variety of resources to purchase; other resources are on the Event Pages at soinc.org.