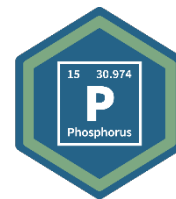


## **Periodic Table (30 Minutes - Based on Team Schedule)**

**Description:** This event tests participants' knowledge of atoms and the trends seen in the Periodic Table. This event has a written test and may/may not include "hands-on" stations.



**Participants per team:** 2

### **Spirit of the competition:**

- It is a rules violation if coaches, parents, mentors, or spectators enter the competition area or communicate with the team members at any time during the competition. Violation of this rule will place the team below all other teams.

**Teams need to bring:** Pencils. Optionally a four-function calculator. Teams ***may not*** bring notes or resources of any type.

**Safety Requirements:** None

### **The Competition:**

**Part 1** - Students will answer questions on a written test not limited to the topics listed below.

#### **Atomic Structure:**

Atoms, Protons, Neutrons, Electrons  
Atomic and Mass Numbers  
Isotopes  
Chemical Symbols

#### **Atomic Bonding:**

Ionic  
Covalent  
Metallic

#### **Periodic Table:**

Groups  
Periods  
Properties of Periodic table groups  
Trends

**Part 2 – Hands-On Station(s). This may or may not be run each year. Students should always prepare for hands-on to run.**

- Students will receive a set of materials to build a simple molecule or atom of elements on the periodic table.

### **Scoring:**

Teams will receive two weighted rankings. These rankings will be added to find the final placements. The team with the lowest sum will place first.

- 75% of team points will be awarded for each correct response on the written test.
- 25% of team points will be awarded for the team atom/molecule build.
- Ties will be broken by the accuracy or quality of answers to select questions on the written test chosen by the event leader prior to the competition.

### **Scoring Example:**

Equation: (written test ranking x 0.75) + (team build x 0.25) = final ranking

- Team A ranks 3rd on the written test. This scores 2.25 ranking points. The team also scores 5th on the team build report. This scores 1.25 ranking points. The team's final ranking score is 3.5.
- Team B ranks 2nd on the written test. This scores 1.5 ranking points. The team also scores 7th on the team build. This scores 1.75 ranking points. The team's final ranking score is 3.25.
- Team B is placed first in the rankings.

### **Possible Resources:**

- [The Periodic Table Lesson for Kids: Structure & Uses - Video & Lesson Transcript | Study.com](#)
- [Protein Modeling - Wiki - Scioly.org](#) – This resource may not help students with this event but has valuable information on how molecules may be represented.