

## Movers and Shakers

1. **DESCRIPTION:** Teams will be assessed on their knowledge of plate tectonics, earthquakes, volcanoes and related land formations.
2. **ESSENTIAL STANDARDS ALIGNMENT:** 3.E.2
3. **TEAM OF UP TO:** 2
4. **MAXIMUM TIME:** 60 min.
5. **TEAMS:** Each team must bring writing instruments. No other resources are allowed.
6. **EVENT LEADERS:** Will provide an event with all necessary items, objects, materials, questions, and response sheets for participants to complete exam.
7. **SAFETY REQUIREMENTS:** None.
8. **IMPOUND:** No
9. **THE COMPETITION:** The competition will consist of an exam that covers any or all of the following topics.
  - a. Features of earthquakes including what they are, where they can occur, why they occur (the underlying mechanism), and how they are measured.
    - i. Know how the following terms apply to earthquakes: tectonic plates, epicenter, fault, foreshock, aftershock, seismograph and seismogram, P waves, S waves.
  - b. Features of volcanoes including what they are, the parts of the world that have volcanoes, why they erupt (the underlying mechanism), and the impact of eruptions on both humans and the environment.
    - i. Know how the following terms apply to volcanoes: geysers, hot spots, hot springs, magma, lava, ash, mudslides, upper mantle, pyroclastic flow, pumice.
    - ii. Know the different stages and types of volcanoes
  - c. How volcanoes and earthquakes related
  - d. The types of landmasses and rocks that are formed from earthquakes and volcanic eruptions.
  - e. The theory of plate tectonics, how it works, how it affects earthquakes and volcanoes and what features are formed from the movement of tectonic plates.
  - f. Know the location and causes of the Pacific Ring of Fire, the Yellowstone Caldera, the Hawaiian hot spot and the San Andreas Fault.
10. **SCORING:** Points will be awarded for the accuracy of responses. Ties will be broken by the accuracy or quality of answers to pre-selected questions chosen by the event leader.
11. **EVENT RESOURCES:**  
See the Event Resources tab on our website for instructions, videos and more.