

## Helicopter Event

2011-2012 - Virginia Science Olympiad

Virginia Science Olympiad is augmenting the National SO Helicopter rules by adding a short written test to the Helicopter event. The purpose of the written test is to test the student's basic understanding of helicopters and their flight. The test will comprise of 20 points, which will be added to the score received for the flight portion of the helicopter event. The test will focus on questions related to helicopter ANATOMY and CAUSE & EFFECT. A team *must* have a helicopter for the flight portion in order to participate in the test.

Examples questions that could be included on the test are as follows:

1. Anatomy (10 points) - Understand the basic anatomy of a helicopter and how each component contributes to flying a helicopter.

Example 1: (Diagram) Label the designated parts of this helicopter.

Example 2: (Multiple Choice) How does the rotor blade contribute to flight?

2. Cause and Effect (10 points) - If a main component was modified, intentionally or unintentionally, what would happen to the helicopter while in flight?

Example 3: (Multiple choice and/or open-ended) If a helicopter were flying straight and level and the tail rotor unexpectedly broke off, would the helicopter continue to fly straight and level? If not, what would be the expected result?