WRITING TEAM CHALLENGE QUESTIONS FOR NOSB®

The following are important basic guidelines for writing high quality questions for the National Ocean Sciences Bowl. Questions that do not fall within these guidelines may be rejected by the Technical Advisory Panels (TAPs) that review all questions for the NOSB. Please read these carefully before you begin.

Team Challenge Questions (TCQs)
A TCQ is a critical thinking question to be answered cooperatively by a group of four students. The questions may include solving equations, interpreting graphs and applying scientific concepts. They should be challenging and NOT a recitation of facts. **TCQs are worth 20 points.** The points should be distributed so that students can earn partial credit (in whole numbers) and the answers should provide clear guidelines on points for the graders.

Factors to Consider When Writing a Team Challenge Question

- **Is the question worth 20 points?** *All TCQs are worth 20 points. Questions should not be too open-ended, but instead should have multiple parts that each has clear and unambiguous answers. For example, a BAD question would be "Explain the purpose of the EEZ. 20 points." A better question would break the broad question into parts, each worth a smaller number of points but totaling 20.*
- **Is there a clear breakdown for grading the question?** *There should be guidelines in the answer for how partial credit should be awarded and a list of all possible correct answers if there is more than one. Point values should all be whole integers. The graders will have to score a lot of questions in a short amount of time, so a very clear and specific scoring rubric is extremely necessary.*
- **Are the figures and diagrams in the question clearly labeled and readable?** *It is important for all figures be legible and identifiable. Axis should be labeled on graphs and the image should clear. Images should be high-resolution so they can be enlarged and still be legible.*
- **Does the question require students to infer information or connect different concepts and ideas together?** *Questions should not simply be a recitation of facts. They should encourage the students to think critically about the concepts being addressed. For TCQs, it is preferable that students have a chance to apply the science skills and concepts that they have learned.*
- **Is the question clearly related to ocean or freshwater science?** *Questions should not simply be about chemistry, geology, etc. They should be ocean chemistry, ocean geology, etc. questions.*
- **Is the question challenging?** *Although the students competing are in high school, the TCQ's should be written as if they are for an undergraduate level oceanography course. Although this may seem challenging for high school students, they have a knack for rising to the occasion.*
- **Is the time allowed appropriate for the students?** *Questions should take 2-5 minutes for students to complete. Make sure the time allowed is appropriate for 4 students to complete the question.*
- **Are the information, figures and diagrams cited?** *It is often important to check or clarify references during the review process, so it is necessary to have the citations and references for figures used in the questions. Questions without references will NOT be accepted*
- **And lastly, will the students learn something from the question?** *Be sure that the questions are not obscure facts. These should be questions that build their knowledge and challenge them.*

REMINDER: Questions based on Wikipedia content and questions that do not contain references <u>will NOT be accepted</u>.

If there are any questions on to how to write a TCQ, please feel free to contact the NOSB National office at 202-787-1686.