Group Scoring Rubric: Ocean Acidification Public Service Two-Minute Video

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| Criteria | Below Expectations | Approaches Expectations | Meets Expectations | Exceeds Expectations |
| Score |  |  |  |  |
| Students synthesize ocean acidification information from class. Video explains and shows one logical cause and effect sequence of ocean acidification: human carbon emissions to less seafood for human consumption/destruction of coral reef diving area/lost pharmacological opportunities (or any other related impact to people that would give them reason to care). | Students do not demonstrate an understanding of the ocean acidification information learned in class, and the cause and effect relationships. Students do not explain that global ocean acidification is caused by human carbon emissions. | Students demonstrate a partial understanding of the ocean acidification information learned in class, and the cause and effect relationships. | Students demonstrate an understanding of the ocean acidification information learned in class, and the cause and effect relationships. | Students demonstrate an in-depth understanding of the ocean acidification information learned in class, and the cause and effect relationships. They include additional information from their research. |
| Students show and explain their empirical evidence and argue that a physical change to the marine environment affects ecosystems and populations. Students understand that ocean acidification has a negative impact on marine organisms. | Students show their empirical evidence, but they do not explain that a physical change to the marine environment affects ecosystems and populations. Students do not demonstrate a clear understanding that ocean acidification has a negative impact on marine organisms. | Students show and explain their empirical evidence, but they do not present a clear argument that a physical change to the marine environment affects ecosystems and populations. It is not clear that students understand that ocean acidification has a negative impact on marine organisms. | Students clearly show and explain their empirical evidence, and effectively argue that a physical change to the marine environment affects ecosystems and populations. Students demonstrate a clear understanding that ocean acidification has a negative impact on marine organisms. | Students clearly show and explain their empirical evidence, and effectively argue that a physical change to the marine environment affects ecosystems and populations. Students demonstrate a clear understanding that ocean acidification has a negative impact on marine organisms. Students have included additional details from their research that support their empirical evidence. |
| Students evaluate a variety of actions people can take to reduce carbon emissions. Video emphasizes one of the most effective actions to reduce carbon emissions.  | Students do not demonstrate an understanding of one of the most effective actions people can take to reduce their carbon footprint. And/Or They do not show/explain how the action will work toward alleviating ocean acidification and the focal issue identified in this video.  | Students demonstrate a partial understanding of one of the most effective actions people can take to reduce their carbon footprint, or they focus on an inconsequential action. They show/explain how the action will work toward alleviating ocean acidification and the focal issue identified in this video. However the explanation is unclear or tenuous. | Students demonstrate an understanding of one of the most effective actions people can take to reduce their carbon footprint. They show/explain how the action will work toward alleviating ocean acidification and the focal issue identified in this video. | Students demonstrate an in-depth understanding of one of the most effective actions people can take to reduce their carbon footprint. They clearly show/explain how the action will work toward alleviating ocean acidification and the focal issue identified in this video. |
| Students create an engaging video that attracts and holds the public’s attention. | Video is lacking visually and auditorily. It may have a difficult time keeping the public’s attention. | Video is lacking visually or auditorily. It may have a difficult time keeping the public’s attention. | Video is engaging visually and auditorily. Middle school students to adults will be kept interested enough to hear the important message, and will think about their own carbon footprint. | Video is highly engaging visually and auditorily. Middle school students to adults will love it! They will be kept interested enough to hear the important message, and will want to take action! |
| Students create a persuasive video that would convince the public to be mindful of their carbon footprint and work to reduce their carbon emissions. | Video is not persuasive. It makes no/little attempt to convince middle school students to adults to recognize the concern about increasing ocean acidification and the validity of the action needed to slow down increasing ocean acidification. | Video is somewhat persuasive. It will have a difficult time convincing middle school students to adults to recognize the concern about increasing ocean acidification and the validity of the action needed to slow down increasing ocean acidification.  | Video is persuasive. It will convince middle school students to adults to recognize the concern about increasing ocean acidification and the validity of the action needed to slow down increasing ocean acidification. Viewers will begin thinking about their own carbon footprint. | Video is highly persuasive. It will convince middle school students to adults to recognize the concern about increasing ocean acidification and the validity of the action needed to slow down increasing ocean acidification. Viewers will want to begin taking action right away! |
| Students have uploaded their video onto the Internet (class website/YouTube/Vimeo/Twitter/Facebook/etc.) | Video is not on the Internet, but has been shared with classmates. | Video is on one Internet site, and has been shared with classmates.  | Video is on two Internet sites, and has been shared with classmates. It has a chance of going viral! | Video is on three Internet sites, and has been shared with classmates. It could go viral! |

Scoring Rubric: Ocean Acidification 7-Step Model and Written Argument

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| Criteria | Below Expectations | Approaches Expectations | Meets Expectations | Exceeds Expectations |
| Score |  |  |  |  |
| Student analyzes ocean acidification information from class and determines seven steps of the process in a logical cause and effect sequence: greatest causes of human carbon emissions to less seafood for human consumption. Student understands that ocean acidification has a negative impact on marine organisms. | Student does not demonstrate an understanding of the ocean acidification information learned in class, and the cause and effect relationships from one of the greatest causes of human carbon emissions creating ocean acidification to a decrease in the amount of seafood sold is stores. Student does not demonstrate a clear understanding that ocean acidification has a negative impact on marine organisms. | Student demonstrates a partial understanding of the ocean acidification information learned in class, and the cause and effect relationships from one of the greatest causes of human carbon emissions creating ocean acidification to a decrease in the amount of seafood sold is stores. Some crucial steps in the process are missing. It is not clear that student understands that ocean acidification has a negative impact on marine organisms. | Student demonstrates an understanding of the ocean acidification information learned in class, and the cause and effect relationships from one of the greatest causes of human carbon emissions creating ocean acidification to a decrease in the amount of seafood sold is stores. Student demonstrates a clear understanding that ocean acidification has a negative impact on marine organisms. | Student demonstrates a clear understanding of the ocean acidification information learned in class, and the cause and effect relationships from several of the greatest causes of human carbon emissions creating ocean acidification to a decrease in the amount of seafood sold is stores. Student demonstrates a clear understanding that ocean acidification has a negative impact on marine organisms. Student may also demonstrate knowledge of other effects of ocean acidification that impact people. |
| Each step in the cause-and-effect chain includes a graphic and a label. Arrows indicate the student understands the cause-and-effect relationship. | Model does not include all or most graphics or labels, and may also lack arrows to indicate cause-and-effect relationships. And/OrThe model does not present a logical order from one of the greatest causes of human carbon emissions creating ocean acidification to a decrease in the amount of seafood sold is stores. | Model has graphics and includes some labels and arrows to indicate cause-and-effect relationships. It presents a mostly logical order from one of the greatest causes of human carbon emissions creating ocean acidification to a decrease in the amount of seafood sold is stores. | Model has graphics and is labelled clearly. It includes arrows to indicate cause-and-effect relationships. It presents a logical order from one of the greatest causes of human carbon emissions creating ocean acidification to a decrease in the amount of seafood sold is stores. | Model has graphics and is labelled clearly. It includes arrows to indicate cause-and-effect relationships. It presents a clear, logical order from several of the greatest causes of human carbon emissions creating ocean acidification to a decrease in the amount of seafood sold is stores.Student may also indicate other effects of ocean acidification that impact people. |
| Model is neat and easy to read. | Model is very difficult to read and understand. Lack of neatness severely hampers its ability to communicate the information. | Model is somewhat difficult to read and understand. Lack of neatness hampers its ability to communicate the information. | Model is generally neat and easy to read. It effectively communicates the important information.  | Model is neat and easy to read. It effectively communicates the important information. It has eye-appeal that will call to others to read and learn from this model. |
| Student uses the model, and empirical evidence from the class investigations, to write a three-paragraph argument that explains how a physical change to the marine environment affects ecosystems and populations, and ends up impacting people. | Student writes one paragraph and attempts to explain the empirical evidence, but explanation does not link the class work to ocean acidification; or student has not included the empirical evidence. Student has made little or no attempt to argue that a physical change to the marine environment affects ecosystems and populations. | Student writes two-three paragraphs and attempts to explain the empirical evidence. Student has made an attempt to argue that a physical change to the marine environment affects ecosystems and populations, but explanation is unclear or incomplete. | Student writes three paragraphs and clearly explains the empirical evidence. Student effectively argues that a physical change to the marine environment affects ecosystems and populations. | Student writes three paragraphs and clearly explains the empirical evidence. Student effectively argues that a physical change to the marine environment affects ecosystems and populations. Student has included additional details from research that support the empirical evidence. |