Is the Sea Really Blue?

Name:

Date:

Period:

<http://www.bbc.com/earth/story/201505226-is-the-sea-really-blue>

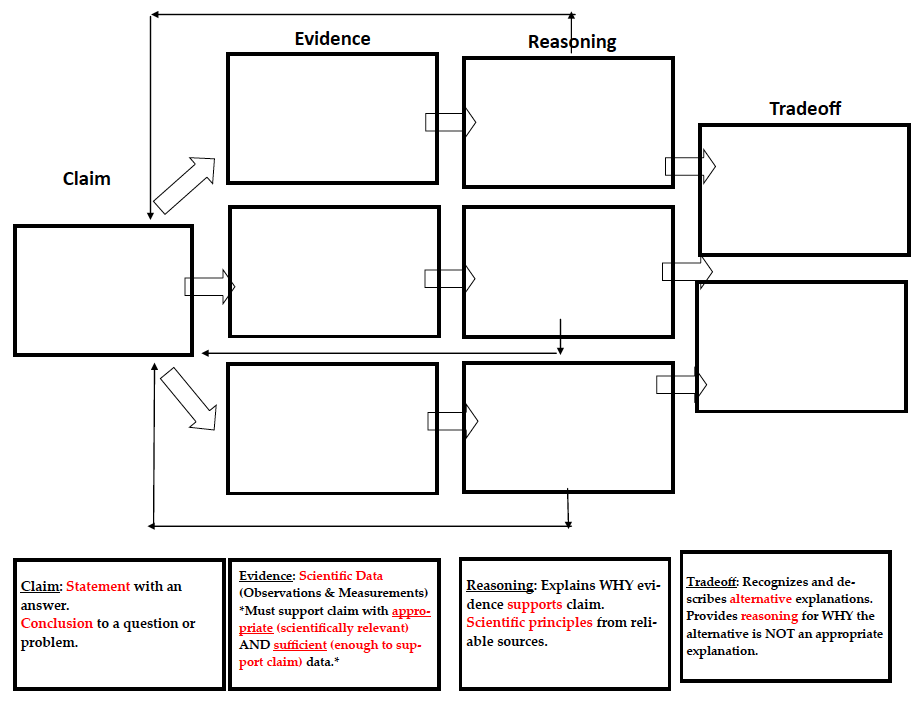


Before you make your claim, make a prediction:

1. What colors do you see of the coast of Tasmania?
2. What would account for such variation in color?

Make your claim:

1. Read the article linked above.
2. Use the claims, reasoning, evidence and tradeoffs flow chart to explain the possible variation of the ocean colors.



After your make your claim:

5) Is the sea really blue?

6) How has your thinking changed? Explain!

Engaging in Argument from Evidence: Proficiency Scale

“Engaging in argument from evidence by constructing a convincing argument that supports or refutes claims.”

* Construct, use and/or present an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem.

This is one of the science and engineering practices of the NGSS. This practice has many connections to the CCSS:

RST.6-8.1 Cite specific text evidence to support analysis of science and technical texts.

WHST.6-8.1 Write arguments focused on discipline specific content.

WHST.6-8.9 Draw evidence from informational texts to support analysis reflection and research.

Proficiency Scale for engaging in argument from evidence

3 is the STANDARD. This is the learning goal.

1-2 are the Learning Targets- the intended learning written in student friendly language.

|  |  |
| --- | --- |
| 4 |  |
| 3.5 | In addition to score 3.0 performance, partial success at 4.0 content. |
| 3 | I can write an argument using relevant evidence and scientific reasoning to support a claim.. |
| 2.5 | No errors at 2.0 and partial success at 3.0. |
| 2 |  |
| 1.5 | Partial success at 2.0. |
| 1 |  |

Resources:

1. Using Common Core Standards p. 48-49: This section explains how to break down the learning goal and gives a generic proficiency scale.
2. Using Common Core Standards p. 130-131: These pages give a proficiency scale for the ELA writing standard of argumentation.
3. Pages 35, 64 and 152 from the Supporting Grade 5-8 Students in Constructing Evidence in Science.

Credit to Katrina Alegado for rubric

**Claim, Evidence, Reasoning, Tradeoff Rubric**

|  |  |
| --- | --- |
| 4 | I can write an argument using relevant evidence and scientific reasoning to support a claim:  -Position/Claim: Writes a statement that answers a question/responds to the problem in a complete complex sentence.  -Evidence: Three pieces of relevant and sufficient scientific data that fully supports the claim.  -Reasoning: Justifies why the evidence supports the claim using 3 scientific principles and higher level thinking.  -Tradeoff: Student fully describes trade-off of his/her decision with a concluding sentence. |
| 3.5 | In addition to score 3.0 performance, partial success at 4.0 content. |
| 3 | I can write an argument using relevant evidence and scientific reasoning to support a claim:  -Position/Claim: Writes a statement that answers a question/responds to the problem.  -Evidence: Two pieces of relevant and sufficient scientific data that supports the claim.  -Reasoning: Justifies why the evidence supports the claim using 2 scientific principles.  -Tradeoff: Student describes a trade-off of his/her decision. |
| 2.5 | No errors at 2.0 and partial success at 3.0 |
| 2 | I can write an argument using evidence and reasoning to support a claim.  -Position/Claim: Writes a statement that partially answers a question/responds to the problem.  -Evidence: Data only partially supports the claim.  -Reasoning: Explanation provides partial scientific evidence to support the claim.  -Tradeoff: Student does not fully describe the tradeoff of his/her decision. |
| 1.5 | Partial success at 2.0. |
| 1 | I can write an argument using evidence and reasoning to support a claim.  -Position/Claim: Claim does not answer the question/respond to the problem.  -Evidence: No scientific data to support the claim.  -Reasoning: Evidence does not use scientific principles to support the claim.  -Tradeoff: No tradeoff is explained. |