

## Multiple Views: Earthquake 1A/B: Joe

Score	Description	Example Student Response
3	Student provides a strong critique of a provided or implied alternative claim.	<p><b>Provides a critique that explains why an alternative claim is wrong, does not matter, or is irrelevant:</b></p> <ul style="list-style-type: none"> <li>D2 T2 V4 S35: “The level at which it started, and the hardness of the rock that it travelled through. Because, in each of the trials, the earthquake was stronger when the rock was soft, and when the level was shallower. Because all the other claims have no pattern in the data.”  <i>[Claim: depth and rock type. Implies an alternative claim: island location and air temperature. Provides a strong critique: Because all the other claims have no pattern in the data.]</i></li> </ul> <p><b>Provides a critique and example that explains why an alternative claim is wrong, does not matter, or is irrelevant:</b></p> <ul style="list-style-type: none"> <li>d3t3vis05: “The strength of the earthquake relates to how close the earthquake is to the surface of the earth and the rock type. This is because the strongest earthquake was the closest to the earth's surface but had the softest rock. The weakest earthquake was the opposite. One claim that's wrong is that the air temperature relates to the strength. This is wrong because the air temperatures are mixed. For example, the coldest air temperature was during the middle intensity.”  <i>[Claim: depth and rock type. States an alternative claim: air temperature. Provides a strong critique: This is wrong because the air temperatures are mixed. For example, the coldest air temperature was during the middle intensity.]</i></li> <li>D3 T3 V2 S15: “Earthquake strength is related to the depth and the type of rock strength where it began. If the waves have to go through stronger types of rock, it will take more energy. When the quake reaches the surface, the surface's shaking may not be quite as intense as it started as. Well, the temperature is completely varying. For a soft quake, it could be from 14 degrees Celsius to 31 degrees Celsius, and for a hard quake it could be 26 degrees Celsius, or very hard it could be 68 degrees Celsius. So the temperature isn't a huge part of the earthquake's power.”  <i>[Claim: depth and rock type. States an alternative claim: air temperature. Provides a strong critique: For a soft quake, it could be from 14 degrees Celsius to 31 degrees Celsius, and for a hard quake it could be 26 degrees Celsius, or very hard it could be 68 degrees Celsius. So the temperature isn't a huge part of the earthquake's power.]</i></li> </ul> <p><b>Provides a critique and example that explains why 2 alternative claims are wrong, do not matter, or are irrelevant:</b></p>
2	Student provides a vague critique of a provided or implied alternative claim.	<p><b>The alternative claim is wrong <i>because</i> it does not matter or it is irrelevant:</b></p> <ul style="list-style-type: none"> <li>D6 T6 V1 S12: “The way earthquakes are close to the earth's surface and whether they can happen on islands. This is true because the more depth where the earthquake started the way earthquakes happen</li> </ul>

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and its the strongest. because it does not say that earthquakes start by the air temperature.”  
*[Claim: depth and island location. Implies an alternative claim: air temperature. Provides a vague critique: because it does not say that earthquakes start by the air temperature.]*

- D3 T3 V1 S16: “the depth and the type of rock they travel through. Because the farther down the earthquake is the more power it gets and the softer the rock the stronger the quake is. because it does not matter whether it is on an island or not.”  
*[Claim: depth and rock type. Implies an alternative claim: island location. Provides a vague critique: because it does not matter whether it is on an island or not.]*
- D3 T3 V1 S02: “how close they are to the Earth's surface & the type of rock they travel through. because of the already listed facts this claim is well supported. wether they happen on islands or not will not affect the power of the earthquake, because it does not matter.”  
*[Claim: depth and rock type. States an alternative claim: island location. Provides a vague critique: wether they happen on islands or not will not affect the power of the earthquake, because it does not matter.]*
- d3 t3 v2 s19: “how close they are to the Earth's surface. Dr. Schmidt said so. he never said so.”  
*[Claim: depth. Implies alternative claims: island location, rock type, and air temperature. Provides a vague critique: because he [Dr. Schmidt] never said so.]*

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**States alternative claim:**

- D2 T2 V3 S19: “ The rock type. Because if the rock type is softer it will travel through faster, as appose to a hard rock type where it will travel through slower. The air temp wouldn't affect the strength of the earthquake.”  
*[Claim: rock type. Alternative claim: The air temp wouldn't affect the strength of the earthquake.]*

**States the alternative claim is wrong:**

- D2 T2 V5 S08: “ Schmidt the related to on of the strength of this earthquake is how close they are to the Earth surface is and how big the rocks is becuae they bigger the rocks the worst it is the smaller the rocks the smaller the earth quake. because the earth rocks and crust under us is how to make a huge earth quake. another clame that is rong is the climate.”  
*[Claim: depth and rock type. Alternative claim: climate]*
- D2 T2 V5 S36: “ The strength of an earthquake is related to how close they are to the Earths surface. this claim is true because. the other claim is wroung because.”  
*[Claim: depth. Implied alternative claim: air temperature, island location, and rock type.]*

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Student implies or provides an alternative claim.

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Student does not provide an alternative claim.

**No claim and/or alternative claim:**

- D3 T3 V1 S01: “To the depth because the first one was only 22km down and has a 12. It is the same idea for soft rock and the low air temperature. It is the lowest temperature and distance and softest rock that generated the 12 earthquake. See above.” *[Claim: depth, rock type, and temperature. No alternative claim.]*
  - D3 T3 V2 S13: “ the type of rock they travel through. It is true because the softer the rock the stronger the earthquake. The earth quake is going through the rock and the rock is what is effected the most.”  
*[Claim: rock type. No alternative claim.]*
  - D2 T2 V4 S13: “how close they are to the Earth's surface. The type of rock it travels through also relates to the strength. The air temperature affects the strength as well. This is true because the closer the epicenter is to the surface the less ground it has to go through to reach the surface so it wears down at a lesser rate. The rock type is true because the softer the rock the easier it breaks making the Earth move drastically as the rock breaks. Harder rocks are harder to break through lessening the force of the quake. The air temperature affects the strength by either heating the earth making it softer or by cooling it making it harder. Another claim isn't wrong just has different ideas.”  
*[Claim: depth, rock type, and air temperature. No alternative claim.]*
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## Multiple Views: Earthquake 2A/B: Nan

Score	Description	Example Student Response
3	Student provides a strong critique of a provided or implied alternative claim.	<p><b>Provides a critique that explains why an alternative claim is wrong, does not matter, or is irrelevant:</b></p> <ul style="list-style-type: none"> <li data-bbox="800 367 1915 605">• D10 T10 V1 S15: “ the amount of energy that is released and the amount of time the earthquake lasts is what is related to. because well ( it says it in the passage) and if the earthquake lasts longer its going to have more time to destroy everything in its path or at least try to so if its longer than it could take down a whole parking garaage and severel people could be killed. And aslo if more energy is released than it has a more power to DESTROY!!!!!!!!!! Because it doent matter if the earthquake happends in city because anywear it happends it going to hurt or destroy something.” <i>[Claim: energy and duration. Implies an alternative claim: city location. Provides a strong critique: anywear it happends it going to hurt or destroy something.]</i></li> <li data-bbox="800 643 1915 821">• d6t6v1so7: “ how long they last and how much energy they release. This is true because the amount of energy released is part of how powerful the quake is. a,lso the length of the quake is another part of powerful the quake is. Another claim is wrong because if it is in a big city or a small city it might do the same damage.” <i>[Claim: duration and energy. Implies an alternative claim: city location. Provides a strong critique: if it is in a big city or a small city it might do the same damage.]</i></li> </ul> <p><b>Provides a critique and example that explains why an alternative claim is wrong, does not matter, or is irrelevant:</b></p> <ul style="list-style-type: none"> <li data-bbox="800 919 1915 1157">• D3 T3 V1 S06: “how long the earthquake lasted and how much energy the earthquakes release. This is true because in the table, it shows the higher amount of energy earthquakes are stronger. It also shows that the stronger earthquakeslast longer than the weaker ones. The type of fault where earthquakes begin does not matter because it shows in the table that the most powerful one is reverse and the weakest one is also reverse. All of the ones in between were normal.” <i>[Claim: duration and energy. States an alternative claim: fault type. Provides a strong critique: because it shows in the table that the most powerful one is reverse and the weakest one is also reverse. All of the ones in between were normal.]</i></li> </ul> <p><b>Provides a critique and example that explains why 2 alternative claims are wrong, do not matter, or are irrelevant:</b></p> <ul style="list-style-type: none"> <li data-bbox="800 1255 1915 1403">• D6 T6 V1 S22: “how long they last, and how much energy they release. This claim is true because, both the article and the chart say so. Both the claims: whether they happen in cities and what type of fault they begin in affects the strength of the earthquake are wrong because, in the chart two earthquakes happen in a reverse fault and those two were the highest and lowest strength. Also, an earthquake is tested on how strong it is not on how much destruction it makes. So, even though in a</li> </ul>

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big city it could make more destruction it doesn't mean it's stronger.”  
[Claim: duration and energy. States alternative claims: city location and fault type. Provides a strong critique for fault type: in the chart two earthquakes happen in a reverse fault and those two were the highest and lowest strength. Provides a strong critique for city location: Also, an earthquake is tested on how strong it is not on how much destruction it makes. So, even though in a big city it could make more destruction it doesn't mean it's stronger.]

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2 Student provides a vague critique of a provided or implied alternative claim.

**The alternative claim is wrong because it does not matter or it is irrelevant:**

- d10t10viso2: “ how much energy they release. because if you want to know how strong an earthquakes are you have to know how much energy they realease. they all dont make sence with how strong an earthquake is.”  
[Claim: energy released. Implies an alternative claim: location, duration, and fault type. Provides a vague critique: They all don't make sense with how strong an earthquake is.]
- d1d0t10v1s11: “how much energy they release. i think how much energy that the earthquake matters / because if it had not energy it would barly do anything. / and if it had lots of energy it would bve a big eartyhquake. i dont think its matters on the type of fault where they begin, / or how long they last. / and does it really matter whether they happen in cities.”  
[Claim: energy. States alternative claims: fault type, duration, city location. Provides a vague critique of city location: and does it really matter whether they happen in cities.]
- D6 T6 V1 S06: “how long they last. this is true because if it has high strength it lasts longer so more damage can happen. claim 1 is wrong because it doesn't matter if it happens in cities.  
[Claim: duration. States an alternative claim: cities (claim 1). Provides a vague critique: because it doesn't matter.]

1 Student implies or provides an alternative claim.

**States alternative claim:**

- D6 T6 V2 S25: “The strength of earthquakes is related to how much the earthquake energy is released. On paragraph 2 it says "the amount of energy is release." anthor claim is how many people have died doing those earthquakes.”  
[Claim: energy. Alternative claim: how many people have died doing those earthquakes.]

**States the alternative claim is wrong:**

- D6 T6 S10: “HOW MUCH ENERGY THEY RELEASE , AND THE TYPE OF FAULT WHERE THEY BEGIN. IT IS TRUE BYY HOW BIG IS THE ENPACK ON THE CITIE WILL IT HAVE. ONE CLAIM TAHT IS WRONG IS HOW LONG WILL THE EARTH QWAKE.”  
[Claim: energy, fault type, and city location. Alternative claim: duration.]
  - D6 T6 V2 S08: “How much energy they release and the type of fault where they begin. This is true because scentists need to know where the earthquakes begin and how much energy that they release.
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One other claim that is wrong is the first one "Whether they happen in cities."  
*[Claim: energy and fault type. Alternative claim: city location.]*

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**No claim and/or alternative claim:**

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Student does not provide an alternative claim.

- D10 T10 V1 S18: " the cities it damages. Because it was said from Dr.Chow and because she studies them. Because it's already been proven by her."  
*[Claim: city location. No alternative claim.]*
  - d10t10viso4: " very large. because its the amout of energy. because energy is strong"  
*[Claim: energy. No alternative claim.]*
  - D6T6V1S11: "The strength is related to how long they last,and how much energy they release. This is true because he had a graph with information to make this claim. Another claim could be wrong if there was no information to back the claim up."  
*[Claim: duration and energy. No alternative claim.]*
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**Multiple Views: Volcano 1A/B: Aisha**

Score	Description	Example Student Response
3	Student provides a strong critique of a provided or implied alternative claim.	<p><b>Provides a critique that explains why an alternative claim is wrong, does not matter, or is irrelevant:</b></p> <ul style="list-style-type: none"> <li data-bbox="806 367 1919 578">D10 T10 V1 S19: “ How thick the magma is and the number of gas bubbkes are in the magma. At the end of paragraph 2 it states that the power from a volcano eruption is based on how thick the magma is and how many bubbles there are. The size of the volcano doesn't matter because it does not effect how thick the magma is or how many gas bubbles in the magma.” <i>[Claim: thickness and number of gas bubbles. States an alternative claim: volcano size. Provides a strong critique: The size of the volcano doesn't matter because it does not effect how thick the magma is or how many gas bubbles in the magma.]</i></li> <li data-bbox="806 610 1919 943">D2 T2 V1 S08: “The power of a volcano's eruption is related to the thickness of the magma and the number of gas bubbles in the magma. This is true because, in the table it showed that volcano A's magma was sticky, there were many gas bubbles, and the power of eruption on a scale of 0-8 was a 6. Also volcano B's magma was sticky, there were many gas bubbles, and the power of eruption was a 5. Another claim is wrong because the average surface temperature at the eruption site, according to the table, had no effect on how sticky the magma was or how many gas bubbles there were in the magma.” <i>[Claim: thickness and number of gas bubbles. Implies an alternative claim: surface temperature. Provides a strong critique: because the average surface temperature at the eruption site, according to the table, had no effect on how sticky the magma was or how many gas bubbles there were in the magma.]</i></li> </ul> <p><b>Provides a critique and example that explains why an alternative claim is wrong, does not matter, or is irrelevant:</b></p> <ul style="list-style-type: none"> <li data-bbox="806 1040 1919 1252">D2 T2 V1 S10: “the number of gas bubbles in the magma and the thickness of the magma to. if the magma was thicker there was more gas production according to the table and when it was not as thick there were less bubbles. average surface temperature because volcano A as colder then volcano D on the surface but the eruption was bigger because there was more ass production.” <i>[Claim: number of gas bubbles and thickness. States an alternative claim: average surface temperature. Provides a strong critique because volcano A as colder then volcano D on the surface but the eruption was bigger because there was more ass production.]</i></li> </ul> <p><b>Provides a critique and example that explains why 2 alternative claims are wrong, do not matter, or are irrelevant:</b></p>

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Student provides a vague critique of a provided or implied alternative claim.

**The alternative claim is wrong because it does not matter or it is irrelevant:**

- D10 T10 V1 S08: “THE THICKNESS OF THE MAGMA IN THE VOLCANO. because the pressure in the bubbles in the magma. because those answers have nothing to do with the question it is asking there.”  
*[Claim: thickness. Implies an alternative claim: size and surface temperature. Provides a vague critique: because those answers have nothing to do with the question it is asking there.]*
- d10t10v1s11: “ the temperature of the surface, and also the thickness of the magma. / because if the magma was not thick the eruption of the volcano might be small. / and if it was thick it would be big and the size of the volcano matters because if it was small it could not hold that much lava. because i think it matters on the size and temperature and the thickness. / but i really dont know why i just think that. i dont think it matters on the number of gas bubbles in the magma.”  
*[Claim: surface temperature, thickness, and volcano size. Implies alternative claims: number of gas bubbles. Provides a vague critique: i dont think it matters on the number of gas bubbles in the magma.]*
- 1064804: “average surface temperature at the site of eruption. Because the temperature of the of the volcanoes is important for the eruption. because the the size of the volcano is not important.”  
*[Claim: surface temperatures. Implies an alternative claim: volcano size. Provides a vague critique: because the the size of the volcano is not important.]*

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1

Student implies or provides an alternative claim.

**States alternative claim:**

- D2 T2 V1 S21: “the power of an eruption is related to the amount of pressure built up by the magma inside the volcano. The thickness of the magma and the number of gas bubbles in the magma affect how explosive the volcanic eruption is. average surface temperature at the site of eruption average surface temperature at the site.”  
*[Claim: pressure, thickness, and number of gas bubbles. Alternative claim: average surface temperature at the site of eruption average surface temperature at the site.]*
- 11001286: “how many gas bubbles in the magma. it dose not mater of the size of the mountain its how much magma and gas bubbles. it dosint mater of the size.”  
*[Claim: number of gas bubbles. Alternative claim: it dosint mater of the size.]*

**States the alternative claim is wrong:**

- 11201607: “ the tsunami because they both push the same amount of force. it is true because they are most likely the same. another claim that is wrong is that volcano's push out lava and tsunami's push out water.”  
*[Claim: tsunami. Alternative claim: another claim that is wrong is that volcano's push out lava and tsunami's push out water.]*
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0 Student does not provide an alternative claim.

**No claim and/or alternative claim:**

- D10 T10 V1 S18: “ The thickness of the magma and the number of gas bubbles in the magma. Because a guy that study volcanos said that it is. Because this claim has already been proven.”  
*[Claim: thickness and number of gas bubbles. No alternative claim.]*
  - D10 T10 V1 S21: “thickness of magma. because it determans the type of erouption level. because the thckness of magma dosen't realate to anything els.”  
*[Claim: thickness. No alternative claim.]*
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**Multiple Views: Volcano 2A/B: Veronica**

Score	Description	Example Student Response
3	Student provides a strong critique of a provided or implied alternative claim.	<p><b>Provides a critique that explains why an alternative claim is wrong, does not matter, or is irrelevant:</b></p> <ul style="list-style-type: none"> <li>D4T4V2S12: “The temperature because if it is really hot then the lava or magma will shoot out of the volcano faster. because if the magma or lava is really cold then the lava or magma will become solid rock and wouldn't come out of the volcano and if it did come out of the volcano then it wouldn't go very far. I don't think it really matters whether it happens on an island or not because it is going to be on land and it will destroy things whether or not it's on an island or on the main land.”  <i>[Claim: temperature. States an alternative claim: island location. Provides a strong critique: because it is going to be on land and it will destroy things whether or not it's on an island or on the main land.]</i></li> </ul>
		<p><b>Provides a critique and example that explains why an alternative claim is wrong, does not matter, or is irrelevant:</b></p> <ul style="list-style-type: none"> <li>D4T4V4S12: “the thickness and the temperature of the magma. This is true because according to the chart if the magma is very runny and has a very hot temperature it is not as powerful as a volcano that has sticky magma and a less hot magma temperature. Another claim is wrong if they say the power of a volcano's eruption is related to the average annual rainfall where volcano is located because volcano A has the most powerful eruption and volcano E has the least powerful eruption. Volcano A gets 63 inches of annual rainfall and volcano E gets 12 inches of annual rainfall. If this pattern continues that means the more annual rainfall the more the power of the volcano's eruption will be. If you look at volcano C and volcano D volcano C has a more powerful eruption but has less annual rainfall.”  <i>[Claim: thickness and temperature. States an alternative claim: average surface temperature. Provides a strong critique: Another claim is wrong if they say the power of a volcano's eruption is related to the average annual rainfall where volcano is located because volcano A has the most powerful eruption and volcano E has the least powerful eruption. Volcano A gets 63 inches of annual rainfall and volcano E gets 12 inches of annual rainfall. If this pattern continues that means the more annual rainfall the more the power of the volcano's eruption will be. If you look at volcano C and volcano D volcano C has a more powerful eruption but has less annual rainfall.]</i></li> </ul>
		<p><b>Provides a critique (and example) that explains why 2 alternative claims are wrong, do not matter, or are irrelevant:</b></p>
2	Student provides a vague critique of a provided or implied alternative claim.	<p><b>The alternative claim is wrong because it does not matter or it is irrelevant:</b></p> <ul style="list-style-type: none"> <li>D10T10V2S03: “The thickness of the magma and also the temperature of the magma. Because every time on the chart that the magma thickness was very runny, also the temperature would</li> </ul>

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increase. Because it doesn't matter if the explosion was on an island or not and it doesn't matter how much rainfall it gets.”

*[Claim: thickness and temperature. Implies an alternative claim: island location and rainfall amount. Provides a vague critique: Because it doesn't matter if the explosion was on an island or not and it doesn't matter how much rainfall it gets.]*

- D10V10V2S04: “the temperature of the magma. because, that is the only one where each different power of magma's averages are least to greatest. whether they happen on islands is wrong because, that has nothing to do on what is on the chart.”  
*[Claim: temperature. Provides alternative claim: island locations. Provides a vague critique: because, that has nothing to do on what is on the chart.]*
- D10T10V2S14: “the power of the volcano is related to the thickness of the magma because if its thick it will have more power to it. it will have more power to it. it doesn't matter if it happens on islands it will be the same.”  
*[Claim: thickness. Implies an alternative claim: island location. Provides a vague critique: it doesn't matter if it happens on islands it will be the same.]*

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**States alternative claim:**

- D3 T3 V2 S14: “the thickness of the magma, the temperature of the magma and the amount of rain where the volcano is located. The magma has to do with the power of eruption because it is what the volcano erupts. The amount of rain also influences the power of eruption. Plus, they are on the chart. Whether it happens on islands or not has nothing to do with the power of a volcano's eruption.”

*[Claim: thickness and temperature. Alternative claim: Whether it happens on islands or not has nothing to do with the power of a volcano's eruption.]*

1

Student implies or provides an alternative claim.

- D3 T3 V2 S06: “the thickness of the magma, the temperature of the magma, and the amount of rain that happens on the place it is located. This is because of the table that Veronica found and also what the doctor said. It doesn't matter where happened or if was on an island or a normal connected landforms.”

*[Claim: thickness, temperature, and rain amount. Alternative claim: It doesn't matter where happened or if was on an island or a normal connected landforms.]*

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**States the alternative claim is wrong:**

**No claim and/or alternative claim:**

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Student does not provide an alternative claim.

- D4T4V3S21: “the thickness of the magma and the temperature of the magma. This is true because the thickness of magma affects the force of it when it comes out of the volcano. The temperature also affects the force because the more magma is lively and bubbling, the hotter it probably is. The force of magma affects the eruption because of how the magma comes out of the volcano and how much. I think the eruption of a volcano on an island and on the mainlands could
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vary because of the bodies of water surrounding the land. The amount of rain fall around a volcano could effecet its eruption because it could possibly change the temperature and consistency of the magma. All of these factors work together to form the outcome that is made. It wouldn't be thesame without a certain element. I don't think any of the claims are wrong because different weather, location, temeratures, and consistencies will all change how the magma is in those areas.”  
*[Claim: thickness and temperature. No alternative claim.]*

- D4T4V4SO4: “ Magma. Because if you have a lot of magma in a volcano the power goes upof how it erupts. Because the power of magma is impotent.”  
*[Claim: magma. No alternative claim.]*
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