**Evaluating Arguments as a Class**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Question:** How does exercise affect your pulse rate? | **Answer Yes or No in each column** | | | | | | | | | | | | |  |
| **Student Argument #1**  Your pulse rate increases. In class we did a lab where I measured my pulse rate before and after I exercised. I did jumping jacks for 30 seconds. Before I exercised my pulse rate was 70 and after I exercised it was 95. My pulse went up because I was moving my arms and legs and sweating. I was breathing more and my heart was beating faster. If I was just sitting down my pulse wouldn’t go up as much. | **Does Claim answer THE question asked?** | **Does Claim explain the cause and effect of an event (e.g.\_\_because\_\_\_)?** | **Is this Claim a complete sentence?** | | **Does Evidence include TREND or pattern over multiple trials, samples, or observations without inferences?**  e.g. mean, median, mode, frequency, Range | | **Are multiple trials, tests or observations reported and analyzed? (RELIABILITY)** | **Is the Evidence ACCURATE and/or APPROPRIATE for the data and question given?** | **Is there more than one piece of appropriate Evidence?** (ENOUGH evidence) | **Includes appropriate science vocabulary** | | **Explains the science facts (big ideas) behind the Evidence and Claim correctly** | **Answers why or how the Evidence supports claim** (Connects E & C) | **Total Score**  (add # Yes in all columns) |
| C1 | C2 | C3 | | E1 | | E 2 | E3 | E4 | R1 | | R2 | R3 | Total |
| Underlined Sentences | | | | Numbered Sentences | | | | | Circled sentences | | | | Score |
|  |  | |  | |  |  |  |  | |  |  |  |  |
|  |  | |  | |  |  |  |  | |  |  |  |  |
|  |  | |  | |  |  |  |  | |  |  |  |  |
|  |  | |  | |  |  |  |  | |  |  |  |  |
|  |  | |  | |  |  |  |  | |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Question:** How does exercise affect your pulse rate? | **Answer Yes or No in each column** | | | | | | | | | | | | |  |
| **Student Argument #2**  Our pulse rates increased after exercising because we were using energy. Our group completed five trials where one student measured their pulse rate before and after exercising and did jumping jacks for 30 seconds. The mean pulse rate before exercise was 62 beats a minute and after exercise increased to 94 beats a minute. We learned in science class that when you exercise, your muscles burn stored energy and need more oxygen. Your blood brings the oxygen to your muscles. The harder you exercise, the faster your heart beats to deliver the oxygen. | **Does Claim answer THE question asked?** | **Does Claim explain the cause and effect of an event (e.g.\_\_because\_\_\_)?** | **Is this Claim a complete sentence?** | **Does Evidence include TREND or pattern over multiple trials, samples, or observations without inferences?**  e.g. mean, median, mode, frequency, Range | **Are multiple trials, tests or observations reported and analyzed? (RELIABILITY)** | **Is the Evidence ACCURATE and/or APPROPRIATE for the data and question given?** | | | **Is there more than one piece of appropriate evidence?** (ENOUGH evidence) | **Includes appropriate science vocabulary** | **Explains the science facts (big ideas) behind the Evidence and Claim correctly** | | **Answers why or how the Evidence supports claim** (Connects E & C) | **Total Score**  (add Yes in all columns not shaded) |
| C1 | C2 | C3 | E1 | E 2 | E3 | | | E4 | R1 | R2 | | R3 | Total |
| Underlined Sentences | | | Numbered Sentences | | | | | | Circled sentences | | | | Score |
|  |  |  |  |  | |  |  | |  |  |  | |  |
|  |  |  |  |  | |  |  | |  |  |  | |  |
|  |  |  |  |  | |  |  | |  |  |  | |  |
|  |  |  |  |  | |  |  | |  |  |  | |  |
|  |  |  |  |  | |  |  | |  |  |  | |  |

**Answer the following questions**:

Which argument, Argument #1 or Argument #2, is the strongest?

Why?