

Evaluate an Experiment Conclusion

Name _____

Date _____

Class _____

(Unit 1 Chapter 1, Activity 5)

Step 1 Fair Test

Determine whether or not the experiment is a fair test. Respond to the following with a “yes” if it is, and “no” if it is not.

The experiment *is* a fair test. (See How To Analyze an Experimental Design and Determine if the Experiment is a Fair Test.)

- If “yes,” then continue to Step 2.
- If “no,” then the conclusion is *not valid*. Stop here and write:

“The conclusion is not valid because the experiment is not a fair test.”

Step 2 Supporting Reasons

If the design of the experiment is a fair test, then evaluate the reasons supporting the conclusion. Read the reasons. Answer “yes” or “no” to indicate whether each of the following criteria is met.

Each supporting reason is based on *evidence*, not opinion.

The supporting reasons use *all the available evidence* (data), not just part of the evidence.

- If you answered “yes” for both criteria, then the supporting reasons are *good* and the conclusion is *valid*. To justify your evaluation, write a statement similar to the following:

“The conclusion is valid because the supporting reasons are *not opinion*, and use *all* of the evidence.”

- If you answered “no” for either or both criteria, then the supporting reasons are poor, and the conclusion is *not valid*. To justify your evaluation, describe what is poor about the supporting reasons. The following are examples of statements you could make:

“The conclusion is not valid because the supporting reason _____ (*write the reason*) is based on opinion, not evidence from the experiment.”

“The conclusion is not valid because the supporting reason _____ (*write the reason*) uses only part of the available evidence, instead of all the evidence.”