Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Homeroom: \_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_ **1.4**

**MORE Homework on Avoiding Faulty Conclusions (INQ. 5)**

1. Randy was performing an experiment where he wanted to know if coffee makes you smarter. He decided to drink a large Starbucks coffee before his writing quiz, and he got an 85%. The next day, he drank a small McDonald’s coffee before his social studies quiz, and he got a 65%. His friends also told him that Starbucks was better than McDonald’s coffee. He concluded that Starbucks coffee makes you smarter than McDonald’s coffee.

a) What is the independent variable in his experiment?

b) What are three mistakes with his conclusion? You should include an example of a bias, and two examples of where his experiment was uncontrolled.

*Bias: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

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*2 examples of uncontrolled: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

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2. Julie and Cathy wanted to know if eating the gummy bears could help you earn a higher score on their science quiz. Julie ate 10 gummy bears and Cathy at 30 gummy bears. Julie earned a perfect score of 100% on a science test, while Cathy earned a 90% on the quiz. They conclude that eating less gummy bears will help you do better on the quiz.

Do they have a good conclusion? Why or why not?

3. When Mr. Shute fed his dog Cheerios as a treat in addition to his normal dog food, his dog was healthy. Mr. Shute ran out of dog food, so he fed his dog Special K and pasta. His dog became sick after the meal of Special K and pasta, and Mr. Shute concluded that Special K cereal must not be good for his dog. What is wrong with his conclusion?

4. Mr. Norris wants to know if mechanical pencils help his scholars write more legibly than regular pencils. Mr. Norris loved mechanical pencils as a student, and he thinks they're cooler than regular pencils. During his experiment, Mr. Norris provides section 805 with mechanical pencils and has them write a 5 paragraph essay on their favorite vacation. Later in the day, Mr. Norris provides section 803 with regular pencils and has them write a 5 paragraph essay on their opinion of President Obama. After comparing the handwriting, Mr. Norris concludes that mechanical pencils produce neater handwriting. Name 3 things Mr. Norris could have done better to have a valid experiment.

Go on Back! 🡪

5. Write an ad or commercial that is biased. You can base your ad off of one we’ve seen on TV.

**Magical Beads**

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| --- |
| What do you think might be magical about these beads? |
| Write a hypothesis to test to see if you are correct about your beads. |
| What will the independent variable be in your experiment? |
| What will the dependent variable be in your experiment? |
| What will be in the control group? |
| What will be in the experimental group? |