

# Draw Conclusions

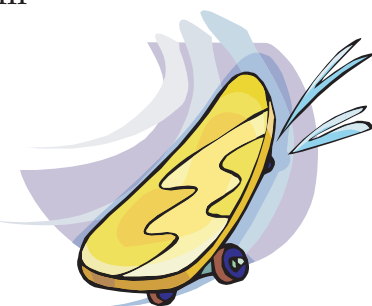
Name \_\_\_\_\_ Date \_\_\_\_\_

**Directions:** A good conclusion statement includes: a *summary* of the results of an experiment, an explanation of the how the results *compare to the hypothesis*, an analysis of *how well the experiment worked*, how it can be *improved*, and *questions* for future experiments. Read about two science experiments and then practice drawing a conclusion for each one. Be sure to include all the parts of a good conclusion in your work.

**1. Question:** How fast does an empty skateboard roll down hills with different slopes?

**Hypothesis:** The skateboard will roll faster down the steepest hill than the hills with gentler slopes because the gravity will be much stronger than the friction.

**Experiment:** Find three hills that are about the same length but have different slopes—gradual, medium slope, and very steep. Release the skateboard at the top of each hill and have a friend use a stopwatch to time how long it takes to reach the bottom. Repeat each roll three times and find the average for each hill.



**Results:**

Hill Slope	Roll 1	Roll 2	Roll 3	Average
Gradual	24 sec.	25 sec.	26 sec.	25 sec.
Medium Slope	10 sec.	11 sec.	9 sec.	10 sec.
Very Steep	5 sec.	5 sec.	5 sec.	5 sec.

**Draw a Conclusion:**

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Name \_\_\_\_\_ Date \_\_\_\_\_

2. **Question:** Which of my two dogs will drink more water: the one that weighs 70 pounds or the one that weighs 40 pounds?

**Hypothesis:** My 70-pound dog will drink more water than my 40-pound dog because bigger dogs need more water to cool off their bigger bodies.

**Experiment:** Place each dog in a separate space with access to 8 cups of water. After 4 hours, measure how much water remains in each bowl.

**Results:** There were 5 cups of water left in the bowl for the 70-pound dog. There were 4 cups of water left in the bowl for the 40-pound dog.

**Draw a Conclusion:**

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# Draw Conclusions Answer Sheet

*Responses will vary but should include all elements of a conclusion described in the directions. Samples are provided.*

## 1. Draw a Conclusion:

*My skateboard rolled faster down the steepest hill than the other two hills. It took an average of only 5 seconds to roll down the steepest hill, 10 seconds to roll down the middle-sloped hill, and 25 seconds to roll down the gradual hill. My hypothesis was supported by the data. The skateboard did roll fastest down the steepest hill, so that hill probably had the least amount of friction. But I didn't measure the length of the track on each hill, so part of the results might have been due to uneven distances. Next time, I would measure an equal distance on each hill. Otherwise, the experiment worked well. I repeated the tests and took an average to increase the sample size. Next, I will test more surfaces, such as wooden ramps and cement. Also, I might compare a skateboard with a wagon, which has bigger wheels.*

## 2. Draw a Conclusion:

*My 70-pound dog drank a total of 3 cups of water, while my smaller dog drank 4 cups of water. My hypothesis was not supported by the data. The larger dog actually drank less water than the smaller dog did. This might have been because the smaller dog has thicker fur than the big dog, so it was hot and thirsty. The amount of water a dog drinks could depend on a lot of factors, such as how clean the bowl is, how much food or what kind of food it has recently eaten, how much exercise it had on the day of the experiment, the dog's breed, and the dog's personality. I could improve my experiment by using two dogs of the same breed with similar personalities, such as siblings. I could also design my experiment to control variables by feeding them the same kind and amount of food and by giving them the same amount of exercise before the test. I would also like to compare the drinking habits of different breeds of dogs.*