



## A Tale of Two Kittens....



Jane and Larry are interested in performing an experiment about cats. They already know that humans often enhance their diet with vitamins to improve their health. They want to know if this would work for cats too...



## QUESTION:

Will adding vitamins to cats' food help to improve their health?

## HYPOTHESIS:

Jane and Larry both believe that adding vitamins to their cats' food will improve their health, because adding vitamins to peoples' diets improves their health.

To test their hypothesis, Jane and Larry perform multiple tests...

# Test #1:



Cat A eats the vitamin enhanced cat food



Cat B eats the vitamin enhanced cat food.



(after TEST 1...)

RESULTS:

Both of the cats' health improves!

Cat A



Cat B



# CONCLUSION:

According to the results, adding vitamins to cats' food does improve their health!!



Wait a minute...

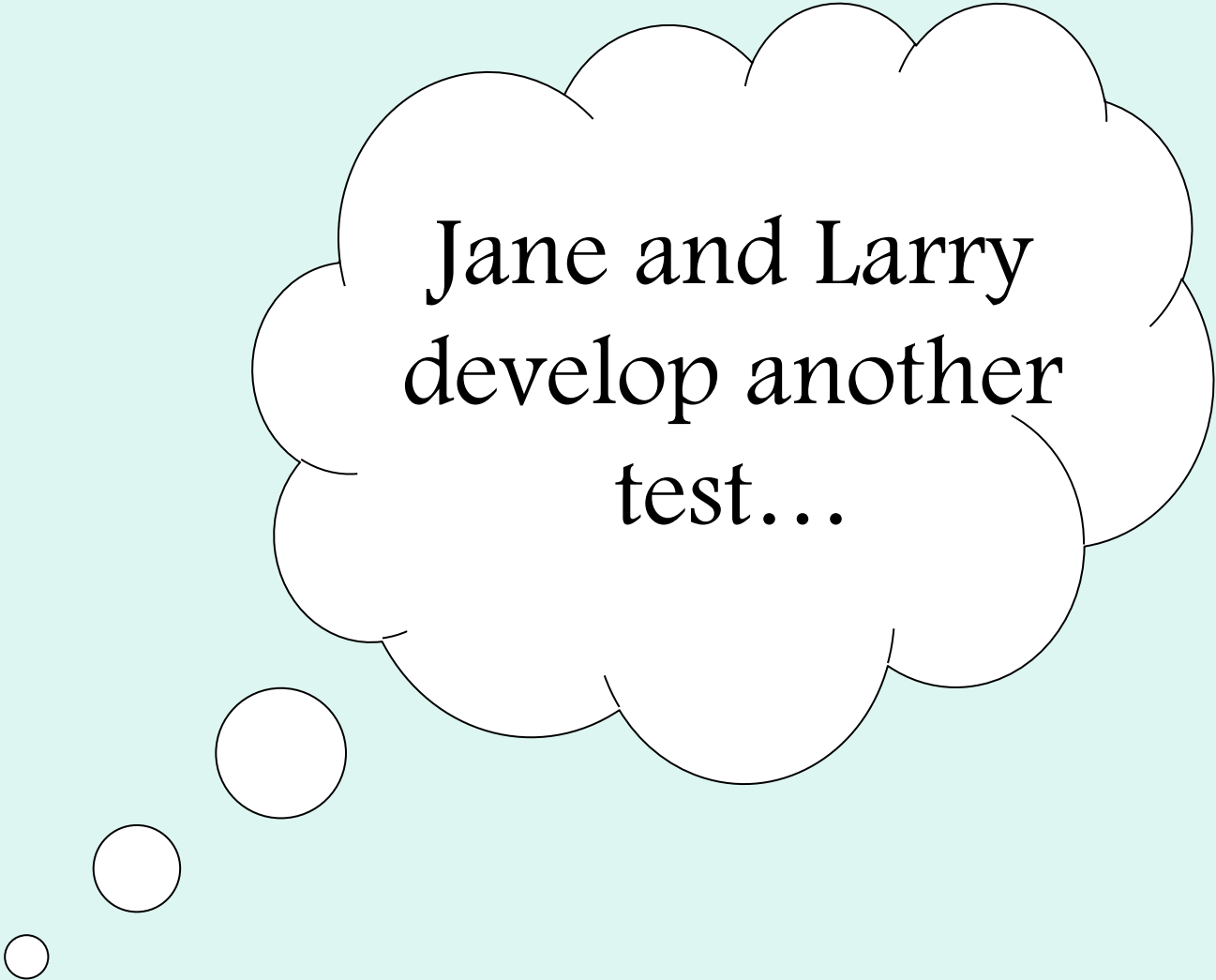
Wu Feng asks Jane and Larry a great question....Do you remember what it was?

“How can you be sure that your special cat food made the cat’s healthier? How do you know that would not have happened with ordinary cat food?”

What are some possible errors that could have affected the results here?



Back to the drawing board...



Jane and Larry  
develop another  
test...

# Test #2:



**Kitten A** eats just cat food.



**Kitten B** eats the vitamin enhanced cat food



+



(after TEST 2...)

**RESULTS:**

Kitten A  
didn't grow  
quite as large

Kitten A



Kitten B  
grew larger

Kitten B



# CONCLUSION:

According to the results, the Persian grew bigger and the Siamese did not grow very much. Therefore, the vitamins **MUST** have worked!



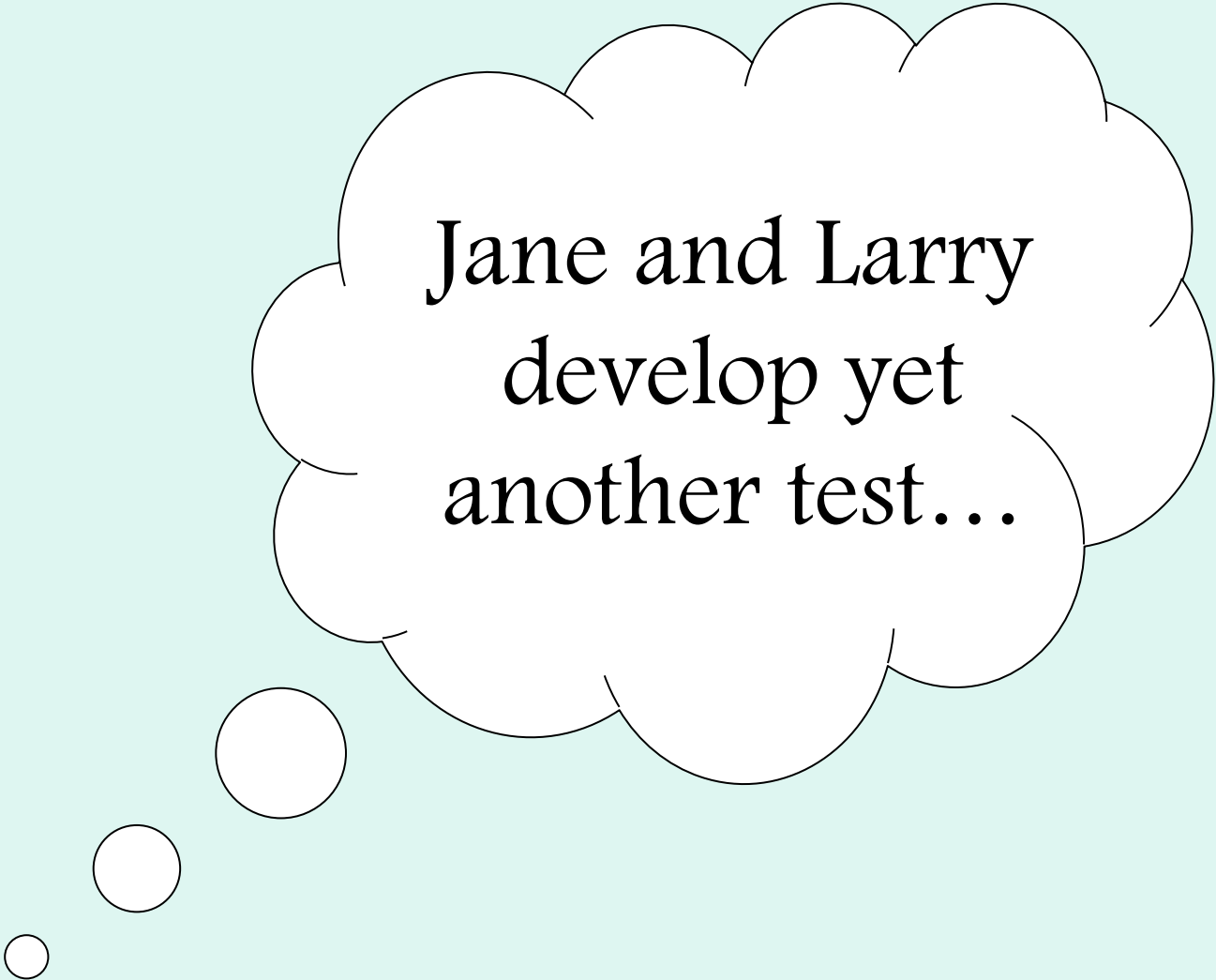
Wait a minute...

Wu Feng points out an important fact to Jane and Larry...Do you remember what it was?

“Your results prove nothing! Even if you hadn’t used your vitamins, the Persian would have been larger; Siamese cats don’t grow as large as other cats.”

What is the error that could have affected the results here?

**Back to the drawing board...AGAIN!**



Jane and Larry  
develop yet  
another test...

# Test #3:



**Kitten A** eats just cat food.



**Kitten B** eats the vitamin enhanced cat food



+



(after TEST 3...)

RESULTS:

Kitten A is not quite as healthy

Kitten A



Kitten B is healthier

Kitten B





## CONCLUSION:

According to the results, the kitten that received the vitamins grew to be healthier. Therefore, the vitamins do in fact help make kittens healthier!

# CONTROL GROUP

The group in an experiment that does NOT get the treatment



# EXPERIMENTAL GROUP

The group in an experiment that gets the treatment



+



# VARIABLE

The one difference between the 2 groups in an experiment



+



# CONSTANTS

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The factors (things) in an experiment that are kept the SAME between the 2 groups



+

