MythBusters: Toothbrushes and your Toilet

Our dynamic duo heard rumors that toothbrushes sitting out in a bathroom collect bacteria that fly through the air when the toilet is flushed. They designed a simple yet fair experiment. They placed a toothbrush in an exposed area on the sink in a bathroom. In addition to the exposed toothbrush, these eager investigators kept another identical toothbrush in a closed container. One person only removed it to brush his teeth each morning. After he was finished, he returned the second toothbrush to the sealed container. He was sure to brush his teeth the same amount of time with each toothbrush.

During the day, the toilet in the bathroom was used as normal. After two weeks of normal bathroom and toothbrush usage, a microbiologist was called in to measure the amount of coliform bacteria on the exposed and unexposed toothbrushes.
MythBusters: Toothbrushes and your Toilet

In this experiment, identify the following:

A. the observation they wanted to explain:

B. the hypothesis:

C. the independent variable:

D. the dependent variable:

E. 2 controlled variables (aka "constants"):

F. a source of error
MythBusters: Toothbrushes and your Toilet

In this experiment, identify the following:
A. the observation they wanted to explain:
   To see if toothbrushes left in the bathroom would result in bacteria depositing on them when a toilet is flushed.
B. the hypothesis:
   If a toothbrush is left exposed in a bathroom, then it will collect bacteria as a toilet is flushed.
C. the independent variable:
   IV= toothbrush left out in bathroom
D. the dependent variable:
   DV= amount of bacteria on toothbrush
E. 2 controlled variables (aka "constants"):
   1. number of flushes
   2. time of entire experiment
   3. location of toothbrush
   4. type of toothbrush
   5. size of toothbrush
   6. amt of time using t.b.
F. Source of error:
   where was storage container kept, human error, etc