Name Date

**HW: Variables and Controls**

(1) A group of college students were given a short course in speed-reading. The instructor was curious if a monetary incentive would influence performance on a reading test taken at the end of the course. Half the students were offered $5 for obtaining a certain level of performance on the test, the other half were not offered money.

Independent variable:

Dependent variable:

List 3 variables that are constant or should be controlled (held constant):

(2) A researcher is curious to find out what effect music has on people’s level of relaxation. He suspects that listening to classical music will make people feel more calm and relaxed. He allows one group to listen to classical music for one hour, a second group listens to heavy metal music, and third group sit in a quiet room for one hour. Over a period of one hour, he monitors the heart rate of each participant in order to measure his or her level of relaxation.

Independent variable:

Dependent variable:

List 3 variables that are constant or should be controlled (held constant):

Which group of people is in the control group?

(3) An experimenter wanted to test which brand of cleaner would make his shirts look whiter. He bought three new white T-shirts and put dirt on them. He washed the first shirt for 1 minute in brand A cleaner, the second for 2 minutes in brand B cleaner, and the third shirt for 2 minutes in brand C cleaner. Brand C was the regular cleaner he has always been using. After washing them he let the shirts dry in the sun and one shirt was put in the dryer. He then looked to see which shirt looked the most white.

Independent variable(s):

Dependent variable:

What’s wrong with this experiment? Describe three things that could make this a better experiment.

(4) Dr. Smith wants to examine whether a new drug increases the maze running performance of older rats. Just like aging humans, older rats show signs of poorer memory for new things. Dr. Smith teaches two groups of older rats to find a piece of tasty rat chow in the maze. One group of rats is given the new drug while they are learning the maze. The second group is not given the drug. One week after having learned the maze he retests the rats and records how long it takes them to find the rat chow.

Independent variable:

Dependent variable:

List 3 variables that are constant or should be controlled (held constant):

Which group of rats is in the control group?

Create a data table that could be used to organize and collect this scientist’s data:

Read each hypothesis and list the independent and dependent variable.

1. The more I study for the next exam the better my score will be.

* IV =
* DV =

1. Two objects dropped from the same height will reach the ground at the same time.

* IV =
* DV =

1. Adding more sugar to my recipe will make the cookies taste sweeter.

* IV =
* DV =

1. Most people are in prison because of a lack of education and job skills

* IV =
* DV =