

## 7.2 Observational and Experimental Studies

See handout on website.

In an **observational study** what is happening, or what has happened, is observed.

In an **experimental study** one of the variables is changed and the effect on other variables is measured.

Two variables are called **confounding variables** when their effects on another variable cannot be distinguished from one another.

1. Students in the morning section of Math 191 are doing much better than students in the afternoon section of Math 191. The instructor wonders if the time of day could be affecting how students are performing on tests. Give an example of a possible confounding variable.

The program students are in (maybe afternoon students have a heavier workload).

2. State whether the study is observational or experimental.

a) Thirty patients with lower back pain are randomly divided into two groups. One group is given acupuncture and the other group is given stretching exercises. After one month both groups are questioned about their lower back pain.

Experimental

b) Animal control captured 60 wild rabbits on the outskirts of Victoria and measured how many had fleas.

observational