

- 1.30:** (a): Experiment
(b): Yes
- 1.31:** (a): The response variable is exam performance.
(b): The explanatory variable is light level. Its levels are fluorescent, yellow, and desk.
(c): The blocking variable is gender.
- 1.32:** (a): This was an experiment because there was assignment: the researchers actively set a variable.
(b): The explanatory variable is amount of vitamin C (and additives). The response variables were duration and severity of sickness and duration of symptoms.
(c): The blindedness of the patients is dependent on how well the nurses kept the knowledge secret.
(d): The study was double-blind if the nurses kept the knowledge secret.
(e): This can introduce confounding variables. In this case, I wonder if the high doses of vitamin C were tasted by participants, and they either recognized the taste or did not like the sourness. Maybe the placebo tasted better, and therefore the participants believed in it more.
- 1.33:** (a): The response variable is exam performance.
(b): There are two factors (variables the researcher controls): light and noise treatments. Light has three levels: fluorescent, yellow, and desk. Noise has three levels: none, construction, and human.
(c): Sex is a blocking variable.
- 1.34:** Get many participants. Assign each participant to study with instrumental, vocal, or no music. Measure how each participant does on a test.
- 1.35:** Each student will drink 2 unmarked sodas, given in random order. After each drink, a blinded researcher will ask the student to rate the taste from 1 to 10.
- 1.36:** (a): Experiment
(b): Treatment = exercise. Control = no exercise.
(c): Yes. The blocking variable is age.
(d): Not really. If you are told explicitly to not exercise, you probably can deduce the experiment is about exercise and that you are in the control group.
(e): As long as the blindedness is not an issue, this can show causal relationships (experiment) and it can be generalized (representative sample).
(f): I would worry about the harm of asking people to not exercise.
- 1.37:** (a): Experiment
(b): Treatment = chia seeds. Control = placebo.
(c): Yes. The blocking variable is sex.
(d): Yes. Placebo is a good blinding control.
(e): This can show causal relationships (experiment) and it can not be generalized (not a representative sample, volunteers).