Clicker: Experimental Design with 20 Mice

- 20 mice are **randomized** to 4 cages (= 5 mice per cage).

- We randomly select two cages which get a **special food treatment**, while the other cages are used as **controls** (getting the "standard food").

- Measure body weight of each mouse after a pre-specified time.

Treatment   Control   Control   Treatment

- Claim: This is an experiment with 10 experimental units per treatment.

  1. True
  2. False
  3. No idea

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- Problem: We only applied the treatment and the control **two times**.

- An experimental unit is given by a **cage** here, **not** a mouse.

- Reason: We **randomized** the **treatment** to a whole cage, not to individual mice.

- Mice in the same cage are **not** independent of each other.

- Maybe there
  - … was a very aggressive mouse in one of the cages or
  - … one cage was located at a «better» location in the room or
  - … something was special with respect to the feeder in one of the cages
  - etc.