Warm-up Question:

A doctor is interested in testing the effectiveness of a drug to treat kidney stones. 100 patients with kidney stones volunteer for a study in which they will either take the drug, or take a placebo. Describe in detail the best way for the doctor to allocate the pills.

One Solution: Get 100 identical but numbered tubes. Have an assistant randomly choose 50 of these tubes to fill with the drug, 50 to fill with the placebo. The assistant keeps records, so he knows what kind of pills are in each tube, but the doctor herself does not know. Each patient is instructed to take the pills contained in a tube that the doctor chooses at random. The patient-tube correspondence is recorded, so the assistant can trace what kind of pill the patient took. But neither the patient nor the doctor know. (This is a double blind study.)