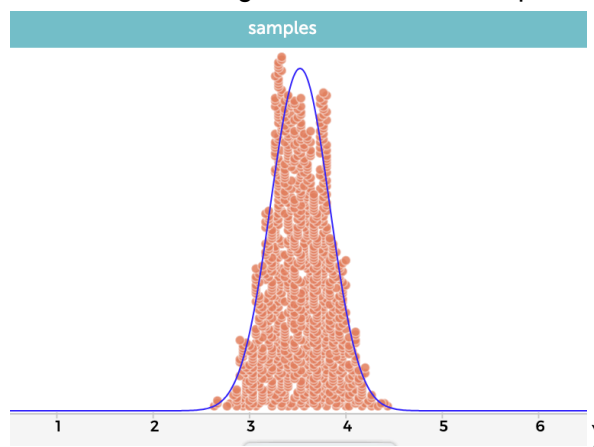


Learning to use CODAP 2: Sampling

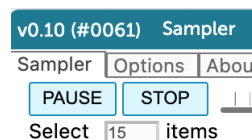
We're going to use CODAP for something other than looking at data displays: we're going to use it to simulate sampling.

Scenario 1: Rolling dice

How many dice do you need to roll before the sampling distribution looks pretty Normal? (Usually, we'd say $n > 30$, but that's just to set a safe minimum for every possible population distribution. Here's what the dice rolling looks like with a sample size of 30:



Open [this data](#).



You will need to adjust the sampler settings. Specifically, the bottom line, Select ___ items, is the sample size. Your job is to find the minimum size for which you can argue the sampling distribution looks Normal (for dice).

1. Try a sample size of 1. Copy and paste the graph of the sampling distribution below. Does it look Normal?

Describe the sampling distribution's shape.

2. Now try a sample size of 2. You're going to need to clear out all the samples of size 1 first.

Click on the "experiments/samples/items" window. Then click on  and choose "delete all cases." That clears out all the old samples. Now change the Select ___ items to 2, and

collect your sampling distribution. Copy and paste the graph of the sampling distribution below.

What is the x-axis showing you? (A sum of the two dice? No? What?)

Describe the sampling distribution's shape.

3. Delete your old samples. Try numbers between 3 and 30 for the sample size. Be warned—the bigger the sample, the slower CODAP will go. However, you can usually tell before you have 1,000 samples what the shape of the distribution is going to be!

Scenario 2: Voters

70% of voters supported a new tax (true population proportion).

Open [this data](#).

How big does the sample size need to be for the sampling distribution to look Normal?