Welcome to STAT 201!

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Idea behind the course

Imagine:

A radio station wants to know the median age of their listeners.

You survey some listeners, calculate the median, and present the number.

What’s the problem with this?

Idea behind the course

Science: present results *and communicate uncertainty / evidence*.

Question:

What aspects of uncertainty might you present with your results?

Idea behind the course

This course is about **providing evidence behind your calculated results**, especially by **communicating uncertainty** in your numeric estimates.

- univariate samples
- calculating mean, proportion, quantile, etc. to *infer* about a population.
- Two-group comparisons leads to more advanced courses (like STAT 301)

This Week: Sampling

Population

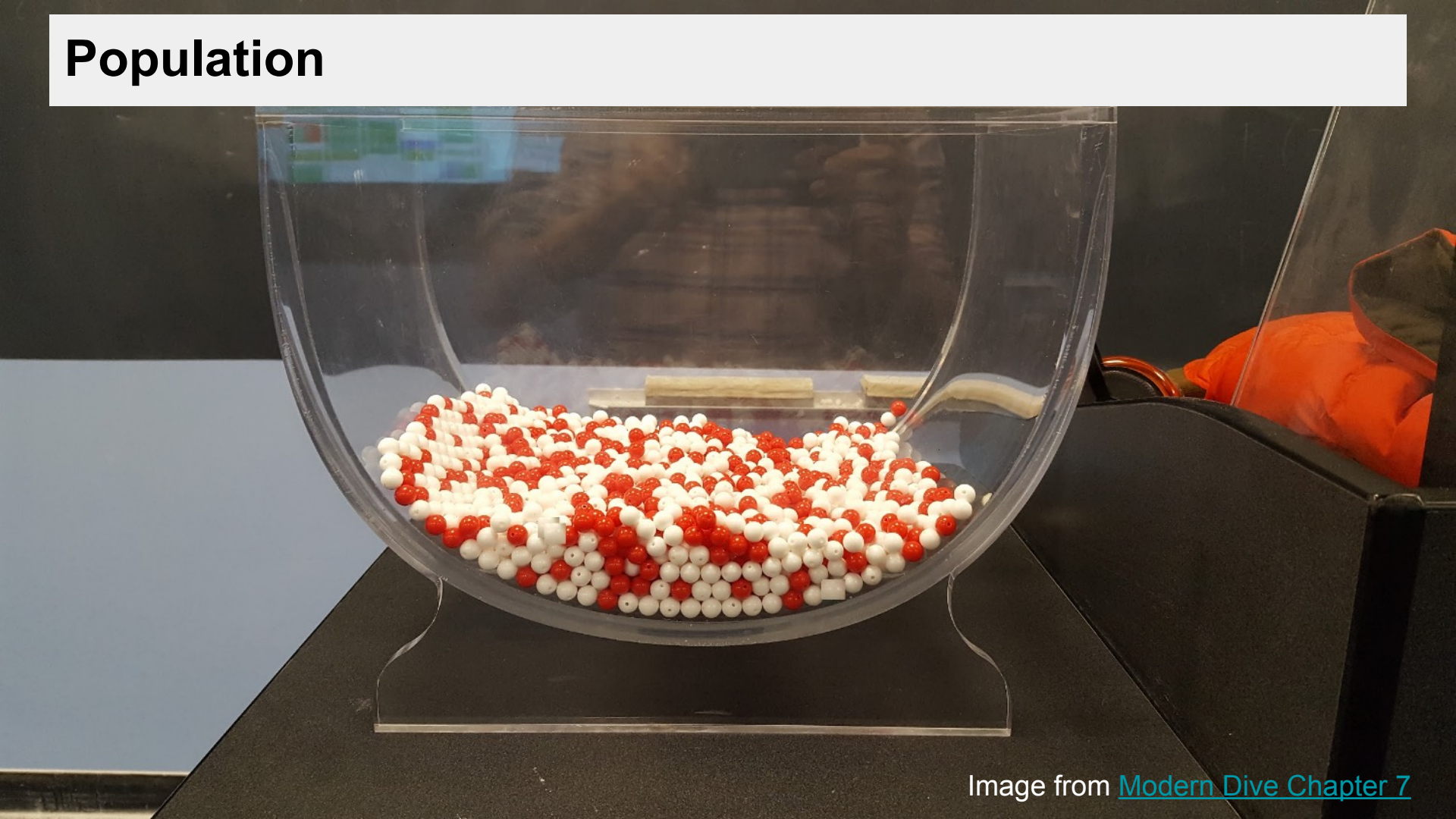
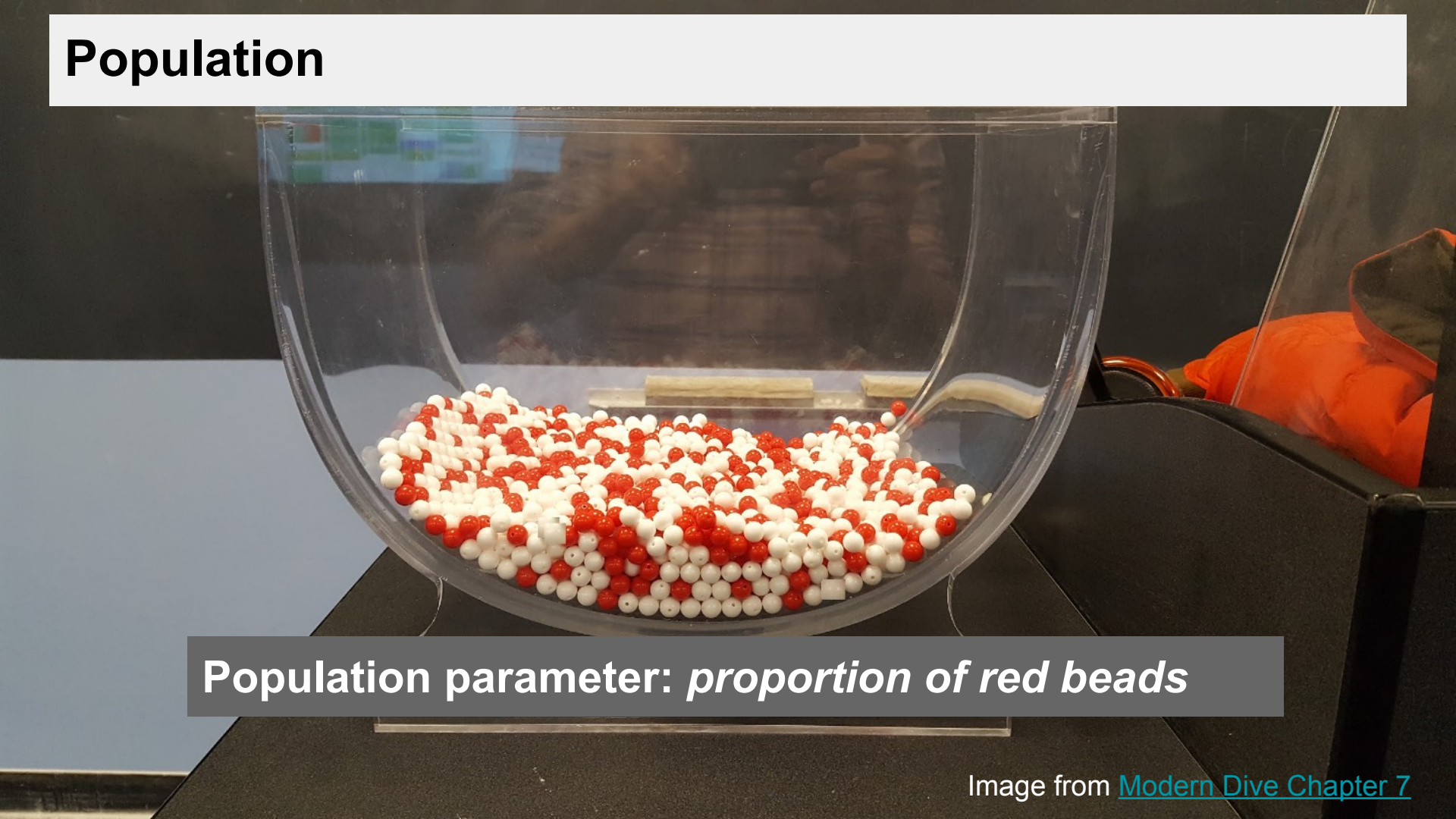


Image from Modern Dive Chapter 7

Population



Population parameter: *proportion of red beads*

Image from Modern Dive Chapter 7

Sampling

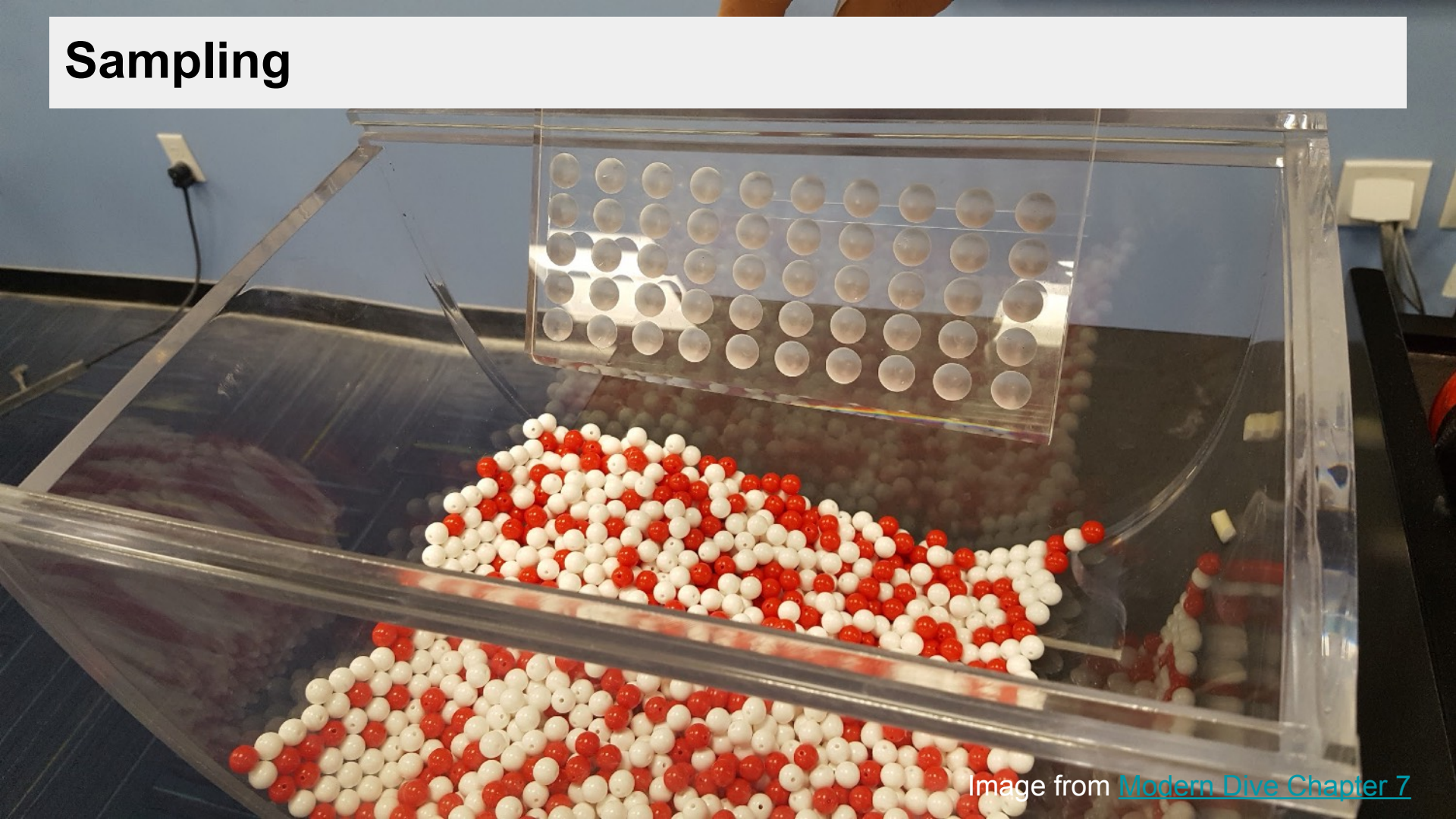


Image from Modern Dive Chapter 7

Sample

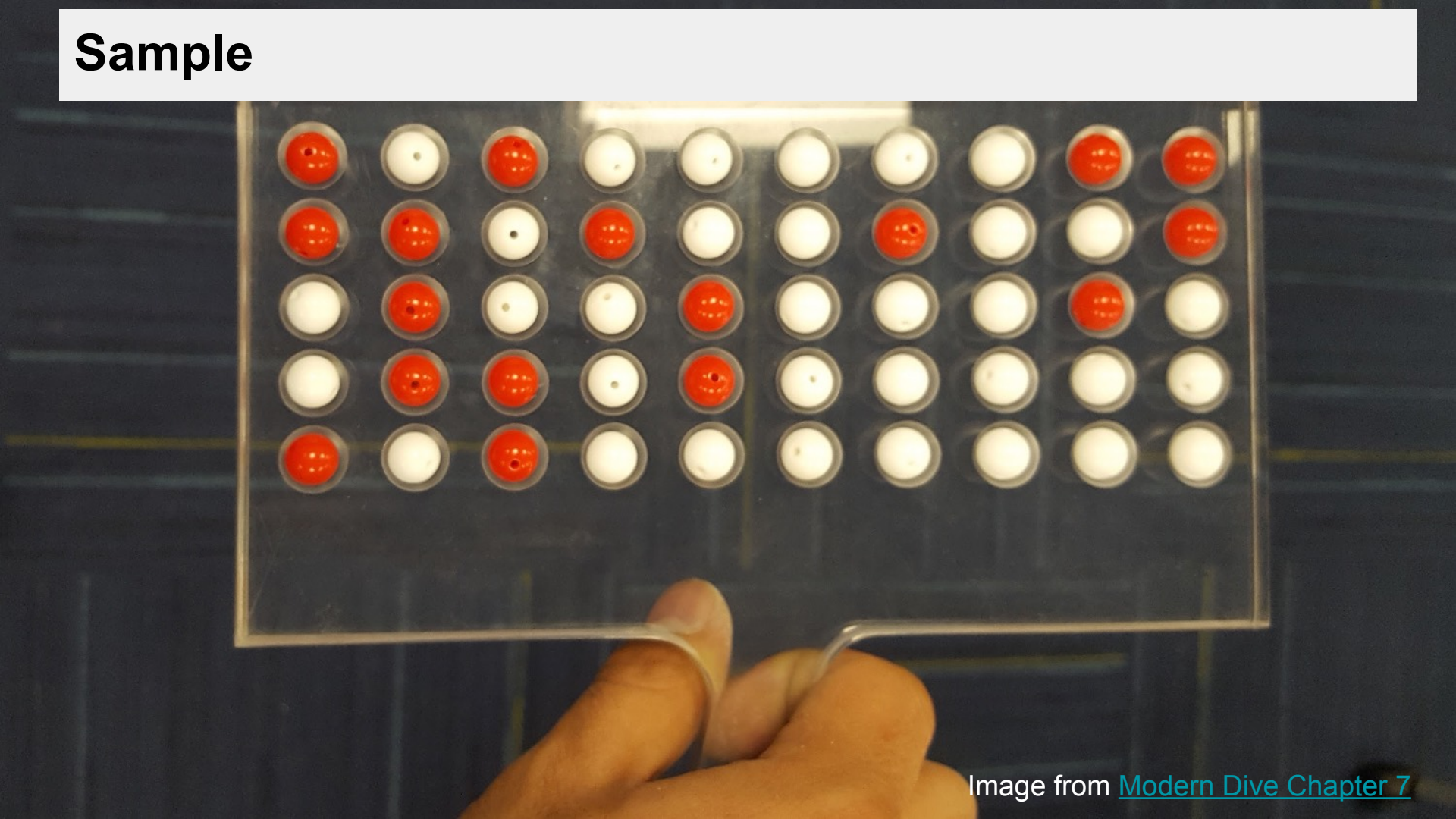
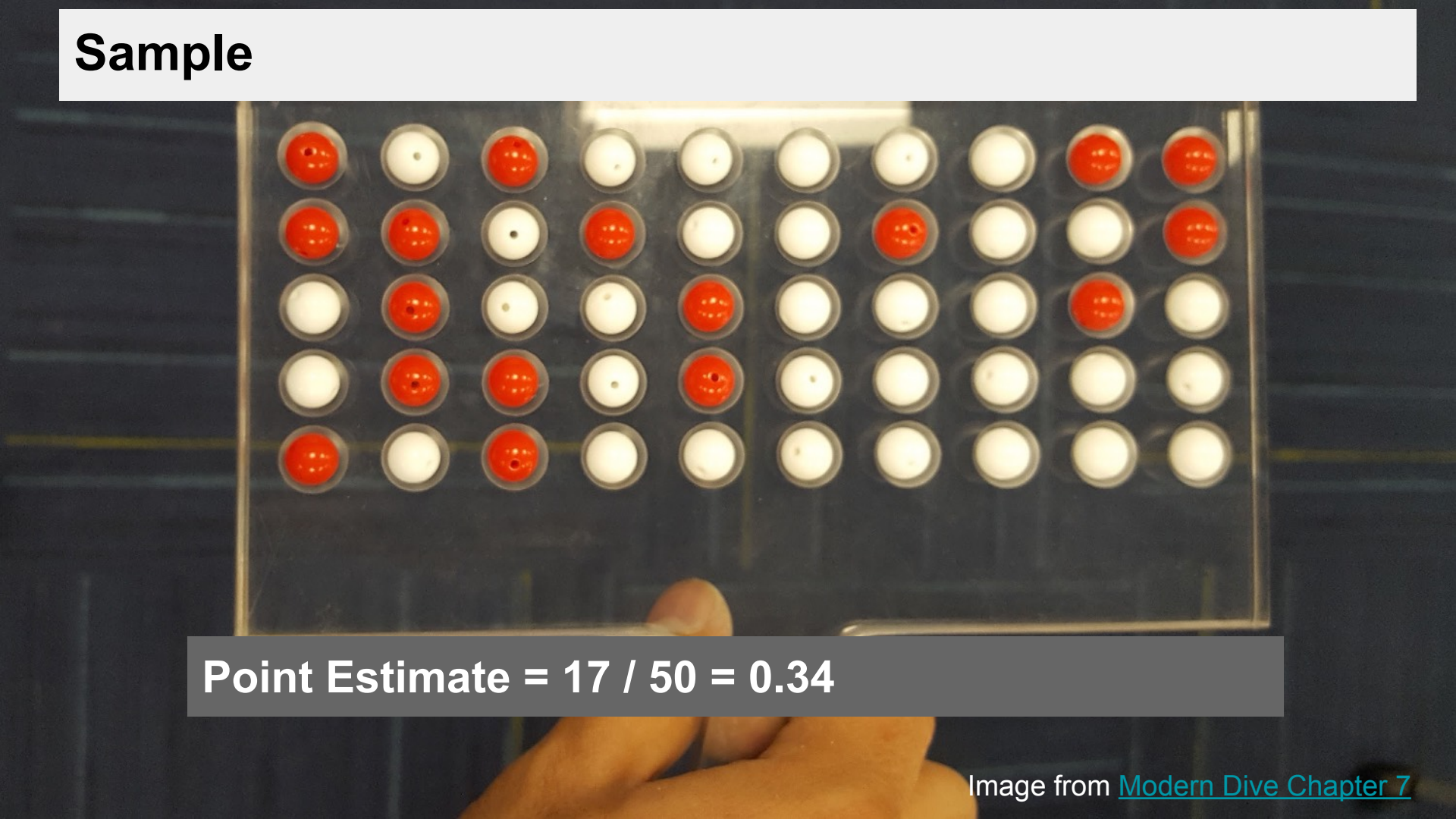


Image from Modern Dive Chapter 7

Sample



Point Estimate = 17 / 50 = 0.34

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Sample

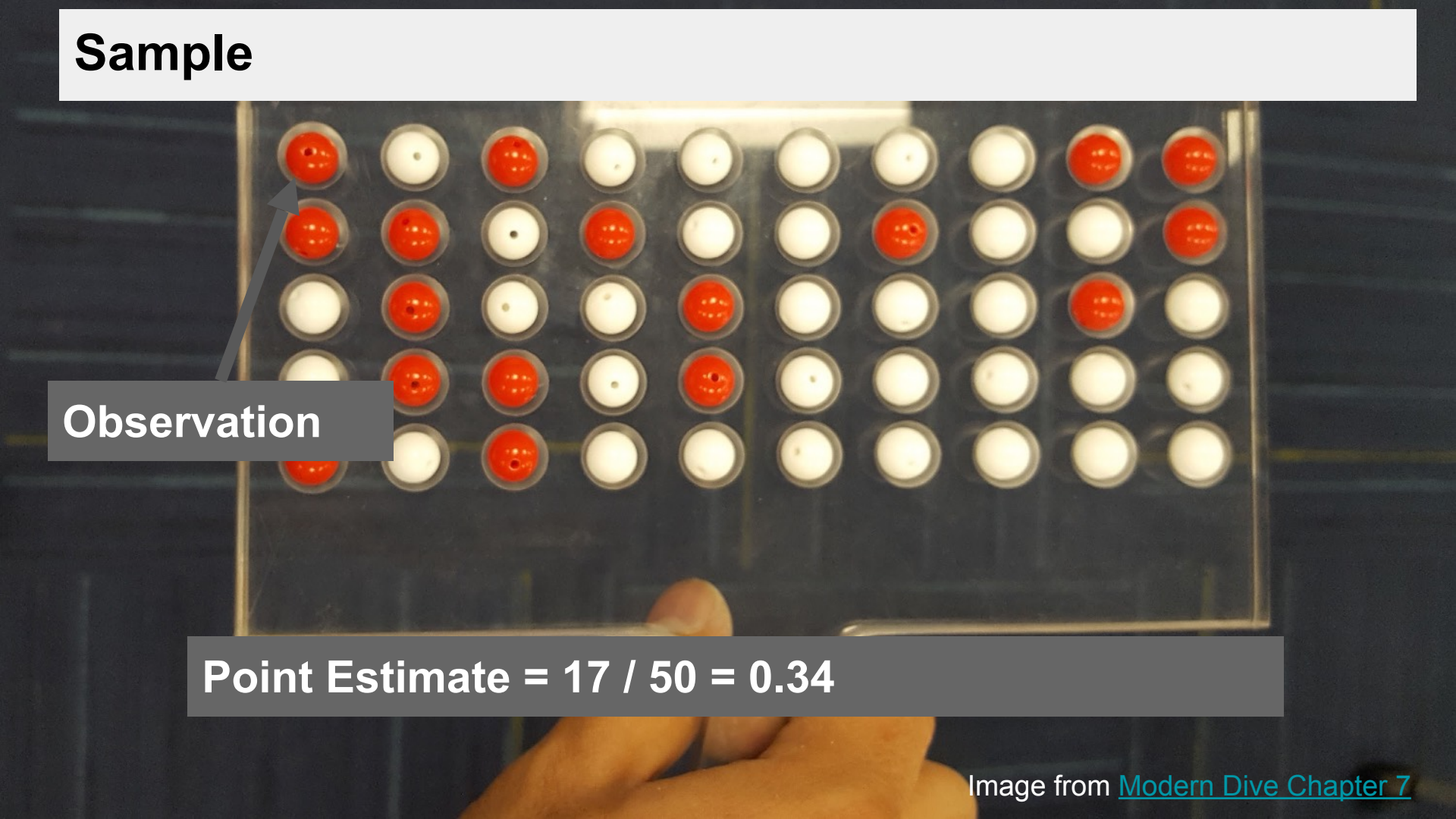

Image from Modern Dive Chapter 7

Worksheet 1

I'll demonstrate concepts by working through Worksheet 1 (access through canvas for now until we get jupyterhub set up).