



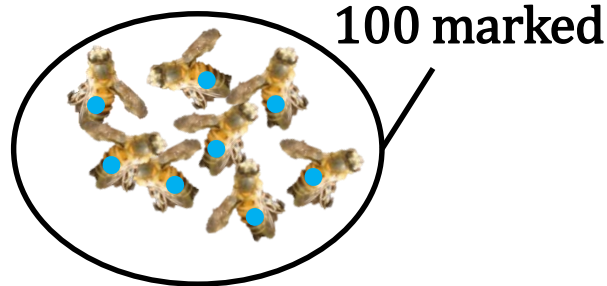
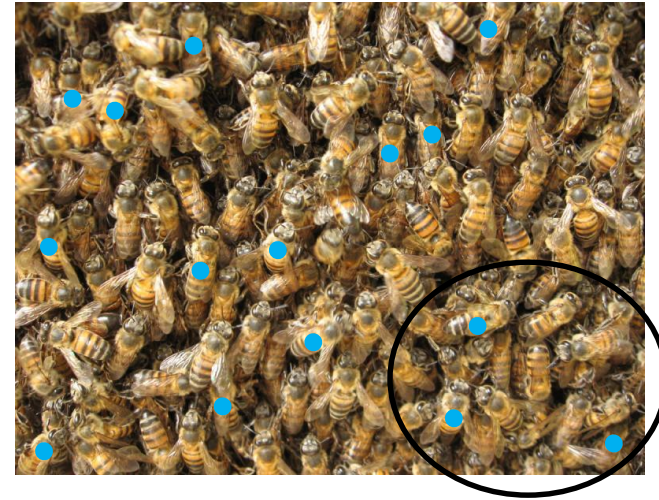
No Do-Now today.

We will get started on the lesson immediately at the start of class.

Thanks!

Objective: Use proportions to determine wildlife populations.

Video: Mark/Recapture Method

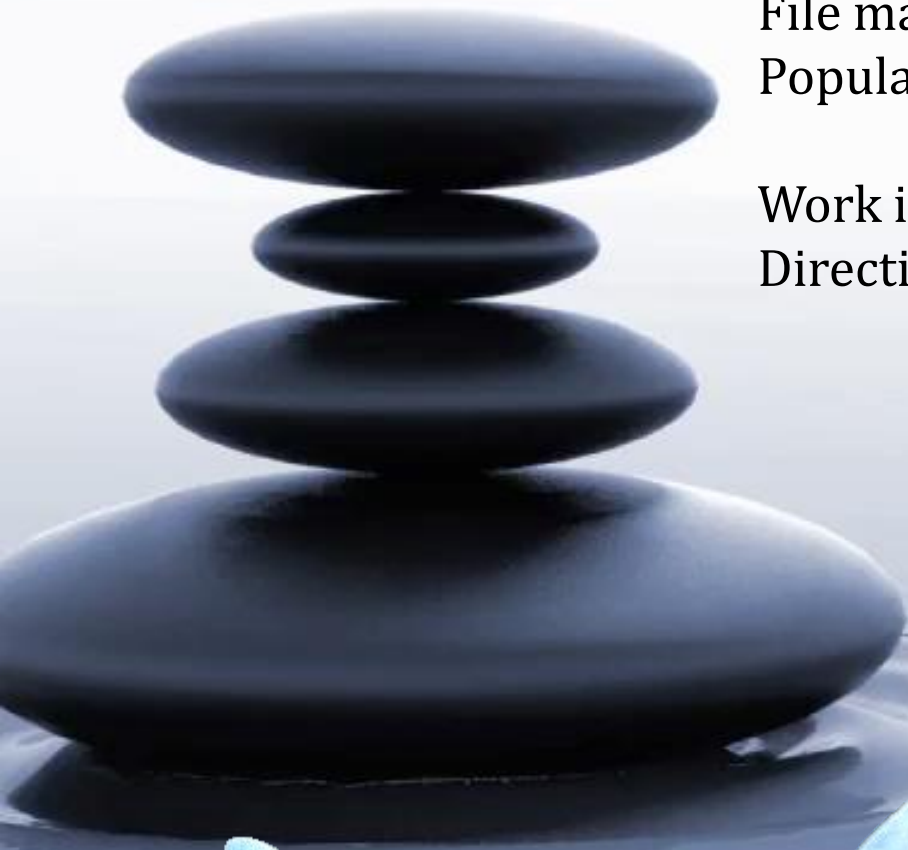



100 marked

$$\frac{\text{Number of tagged animals in the recaptured sample}}{\text{Total number of animals in the recaptured sample}} = \frac{\text{Number of tagged animals in the total population}}{N \text{ (Total number of animals in the population)}}$$

File managers: Please distribute the sheet “Fish Population Estimate” to your teammates.

Work in pairs. Follow the Directions on the sheet.





Your job as a park ranger is to estimate the population of fish in each of the lakes in your region to determine if they need to be restocked.

- 1) Count the number of fish in your cup. These are the fish that have been captured and tagged, which will be returned to the lake. Record this number.

Number of tagged fish in the total population = _____

- 2) Dump the “tagged” fish from your cup into the lake (blue plastic bag).

Allow your fish to swim around for a few days in the lake by **carefully** shaking the bag.

- 3) Without looking into the bag, RECAPTURE a cup full of fish. Count the total number of fish that you’ve recaptured **and** the number of recaptured fish that were tagged.

Total number of fish in the recaptured sample = _____

Number of tagged fish in the recaptured sample = _____

- 4) Use your data to set up a proportion like the one shown below.
Solve for N and round to the nearest whole fish.

$$\frac{\text{Number of tagged animals in the recaptured sample}}{\text{Total number of animals in the recaptured sample}} = \frac{\text{Number of tagged animals in the total population}}{N (\text{Total number of animals in the population})}$$

- 5) Record your results from trial 1 in the table below.
Complete three more trials.

Trial	<i>Number of tagged fish in the recaptured sample</i>	<i>Total number of fish in the recaptured sample</i>	<i>Number of tagged fish in the total population</i>	<i>N (Total number of fish in the population)</i>
1				
2				
3				
4				