

(Write down the following questions)

Identify the trend in each graph.

Interpret what that means about wildebeest population

What do you think the following represents?

Black dots:

Red line:

Green shaded area:

How do you think they measure wildebeest populations?

Objective: Students will characterize types of populations based on their density.

Agenda: Warm Up
Population Notes
Identify the type of population

Homework: Climatogram due tomorrow
Pg 5-6 in research due tomorrow

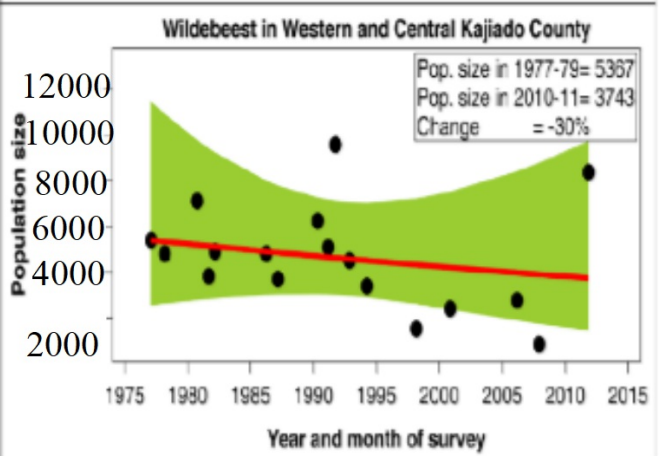
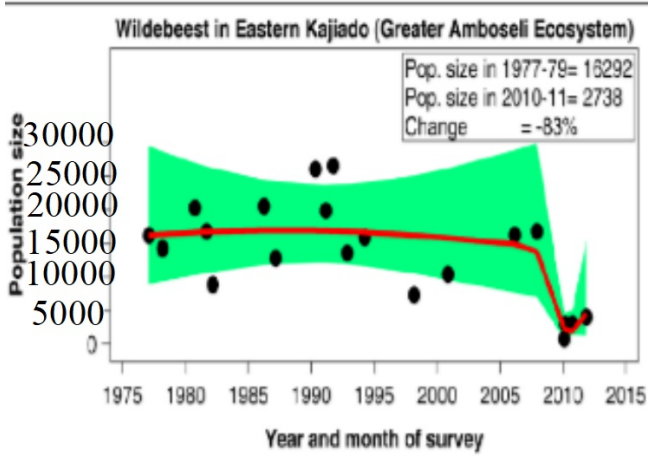
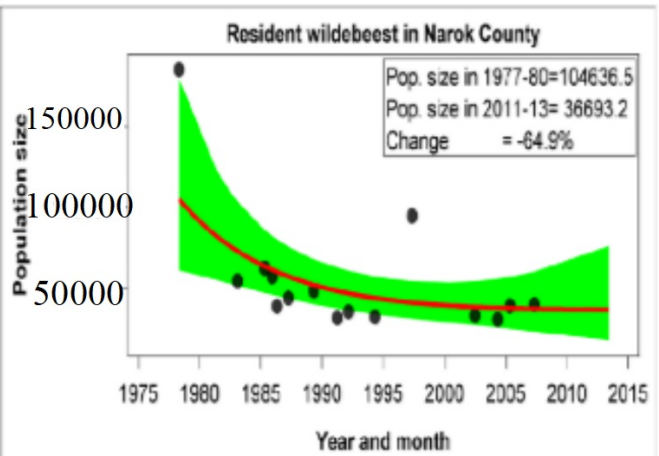
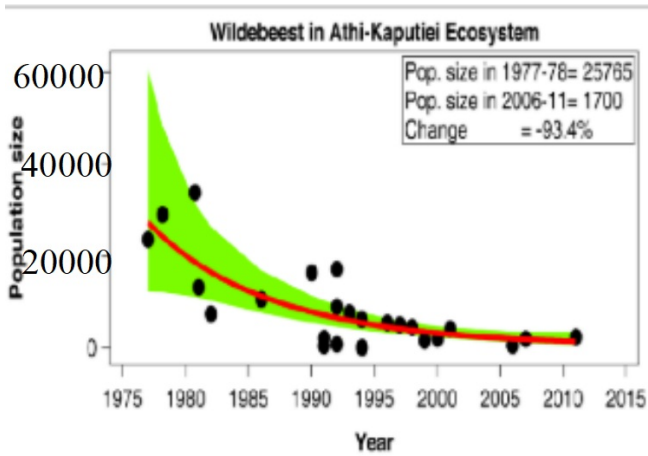
Did you turn in Bird Island
Did you take the quiz from last Friday

The iconic wildebeest migrations of East Africa are an important ecological phenomenon and massive tourist attraction. However, many wildebeest populations are in drastic decline across the region (Estes and East, 2009). Their dispersal areas and migratory corridors are being lost due to high human population densities, increasing urbanisation, expanding agriculture and fences. Their loss would contribute to biodiversity decline, and jeopardise tourism and other ecosystem services. Urgent efforts need to be made to protect wildebeest migratory corridors and dispersal areas to ensure these great migrations for the future.



Video #1

Video #2



(Write down the following questions)

Identify the trend in each graph.

The line is decreasing

Interpret what that means about wildebeest population

Population is decreasing over time

What do you think the following represents?

Black dots: Actual Population Count

Red line: Line of Best Fit

Green shaded area:

95% confidence that population falls within that range

How do you think they measure wildebeest populations?



Photos from helicopters

Name: _____ Date: _____ Period: _____

Describing Populations

A population is: _____

A population is a group of the SAME species in the SAME area at the SAME time.



- Rely on same resources

-Interact

-Interbreed

Population Density:

Rank pictures from lowest population density to highest population density



Population Density:

Definition	Examples
<u>The number of individuals per unit area</u>	Low Population Density Example: <u>Territorial- Tiger</u> High Population Density Example: <u>Colonial animals- rabbits,</u> <u>corals, termites</u>

At low populations densities individuals are spaced far apart

At high population densities individuals are spaced close together

Population Density

- Measure of how crowded a population is
- Larger organisms generally have lower population densities.
- **Low population density:** More space, resources; finding mates can be difficult
- **High population density:** Finding mates is easier; tends to be more competition; more infectious disease; more vulnerability to predators



Northern pintail ducks

Population Distribution

Population Distribution:
(Draw)



Random



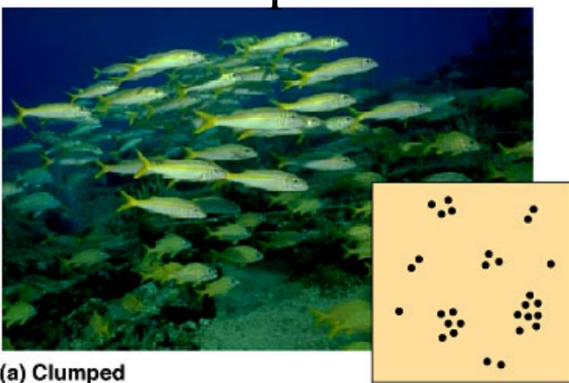
Uniform



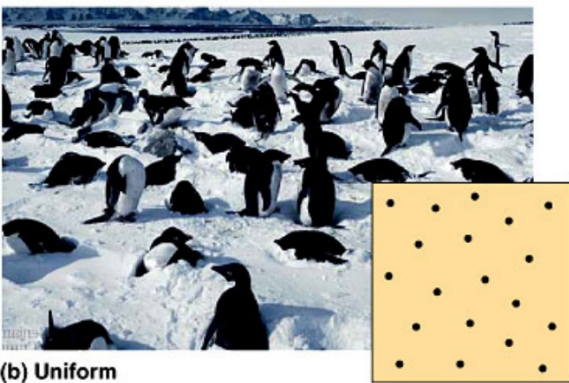
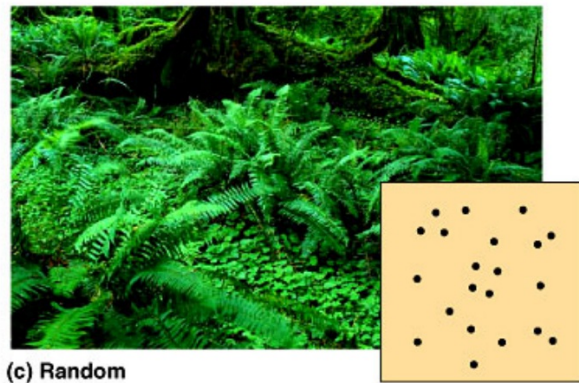
Clumpe

Definition: The way
a population is
spaced across
an area.

Clumped



Draw in the boxes



Random

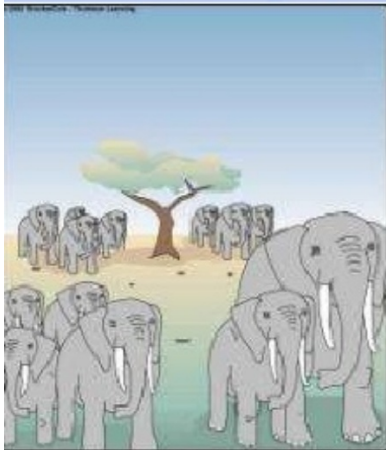
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Uniform

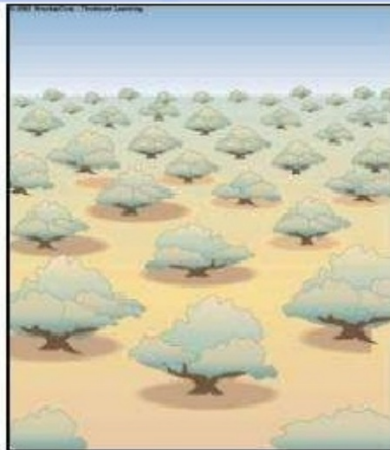
Population Distribution

Three general patterns: **clumping, uniform distribution, and random dispersion.**

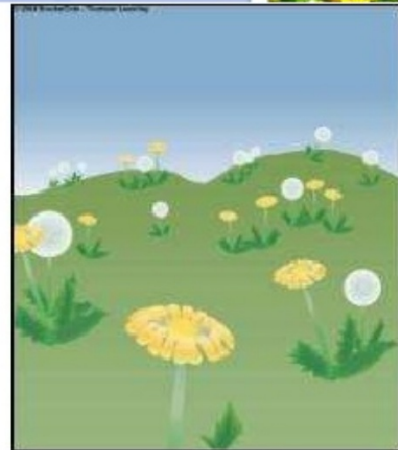
Most species live in clumps or groups.



Clumped
(elephants)



Uniform
(creosote bush)



Random
(dandelions)



Population Distribution

Clumped



– Describe the population distribution of each population.

– **Lions** live in groups called prides. Prides will always live close to a watering hole.

Random



– **Dandelion** seeds are dispersed by the wind. The plant grows wherever its seed lands.

Uniform



– **Sage** plants secrete toxins from their roots killing other plants nearby. This leads to all of the sage plants being equally spaced in their environment.

Which of these populations would be

Population Demographics: Includes the distribution of age and the Sex Ratio (important for reproductive females)

Sex Ratio: The number of males to females

Sex Ratios

– Are there more males or more females?



– **Bald Eagles** are monogamous and mate for life.

– The males of a species of **marsupial mouse** die after mating season leaving a population of only pregnant females to eventually raise the next generation.



In a group of 3-4 students

Each student pick out an animal- read the paragraph and fill out the chart

Name of Animal 1: _____

1. Population Size: _____

2. Population Density: (Circle One) High Low Low _____ High

a. How do you know? _____

3. Population Distribution: (Circle One) *Random* *Uniform* *Clumped*

a. How do you know? _____

4. Sex Ratio: (Circle One) *Equal Male/Female* *More Females* *More Males*

a. How do you know? _____

After you fill out the chart- share with each other.

