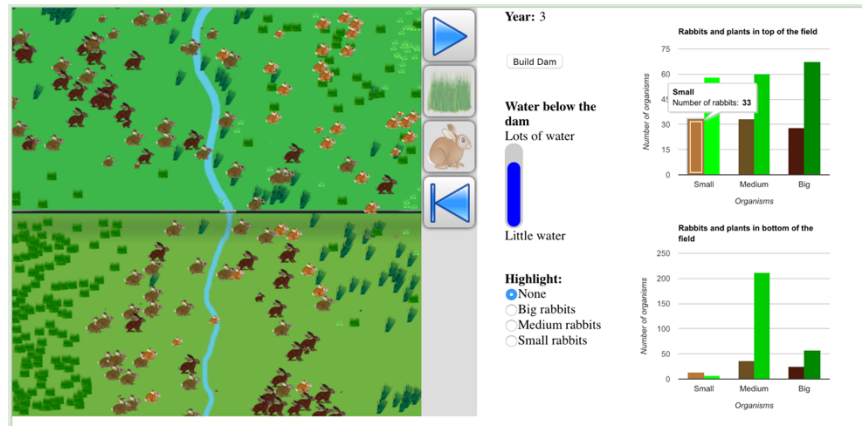


Names of students in this group:

What happens to populations if the environment changes? (Building a dam)

In this simulation, you will investigate how adaptive traits can become non-adaptive traits if the environmental conditions change.



Let's Investigate!

Step 1 - Planning the experiment

- **Independent variable:** Amount of water
- **Dependent variable:** Number of different sized-rabbits
- **Inquiry question:** How does the amount of water affect the population of different sized rabbits?

Step 2 - Planning and carrying out the experiment

- Use the *Grass* button to plant.
- Use the *Rabbit* button to place rabbits on the field.
- Click the *Play* button and watch what happens.
- Stop the simulation and build a dam.
- Click the *Play* button.
- Observe and record the changes in the number of grass and rabbits of different sizes over time. To collect the data, click the *Stop* button at the beginning of each year.

Step 3 – Analyzing data

Run your experiment. Collect data at the beginning of each year, and record the results in the *Result Table*. Run your investigation several times, until you think you have collected enough data.

Top half of the field

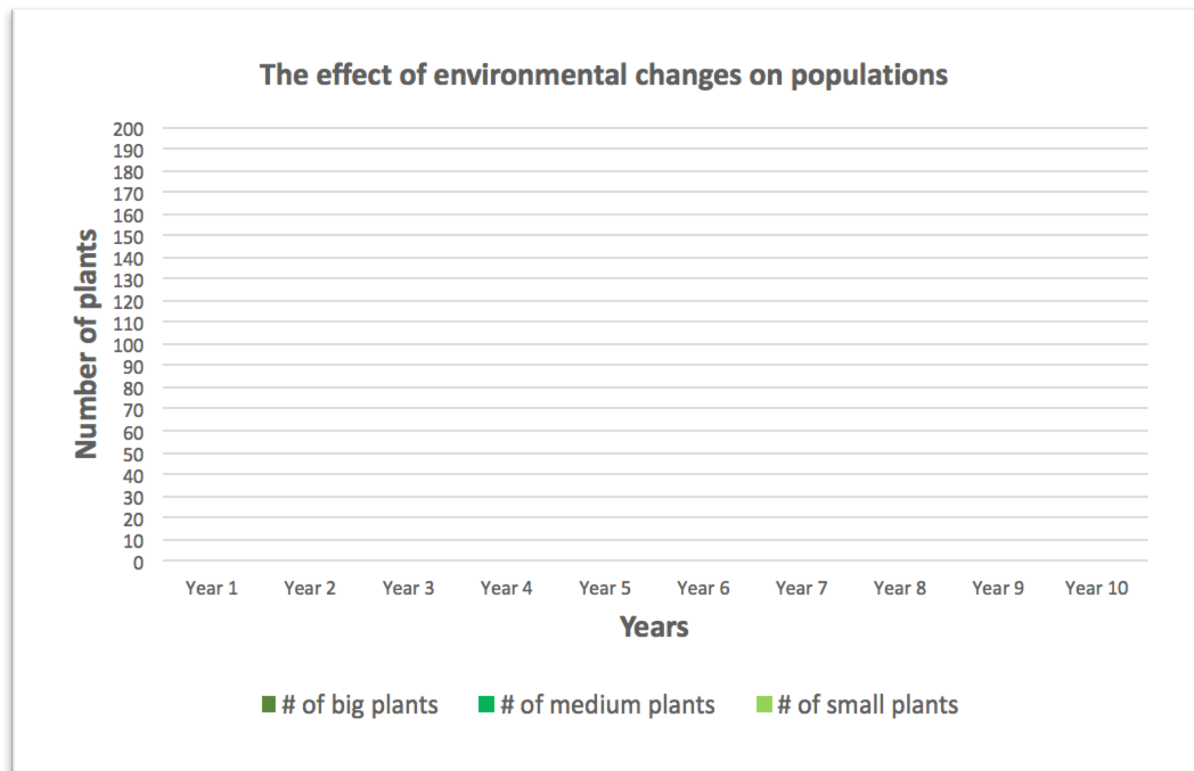
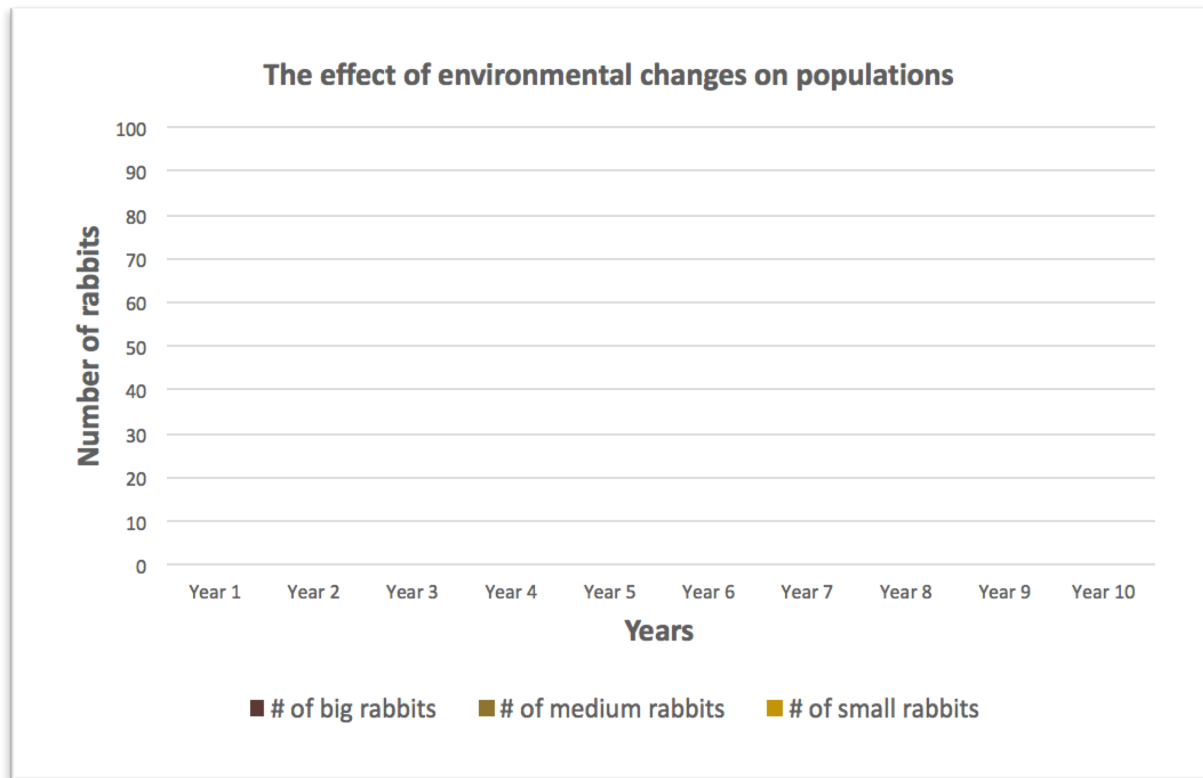
Time (years)	Types of rabbits			Types of plants		
	Number of big rabbits	Number of medium rabbits	Number of small rabbits	Number of big plants	Number of medium plants	Number of small plants
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Bottom half of the field

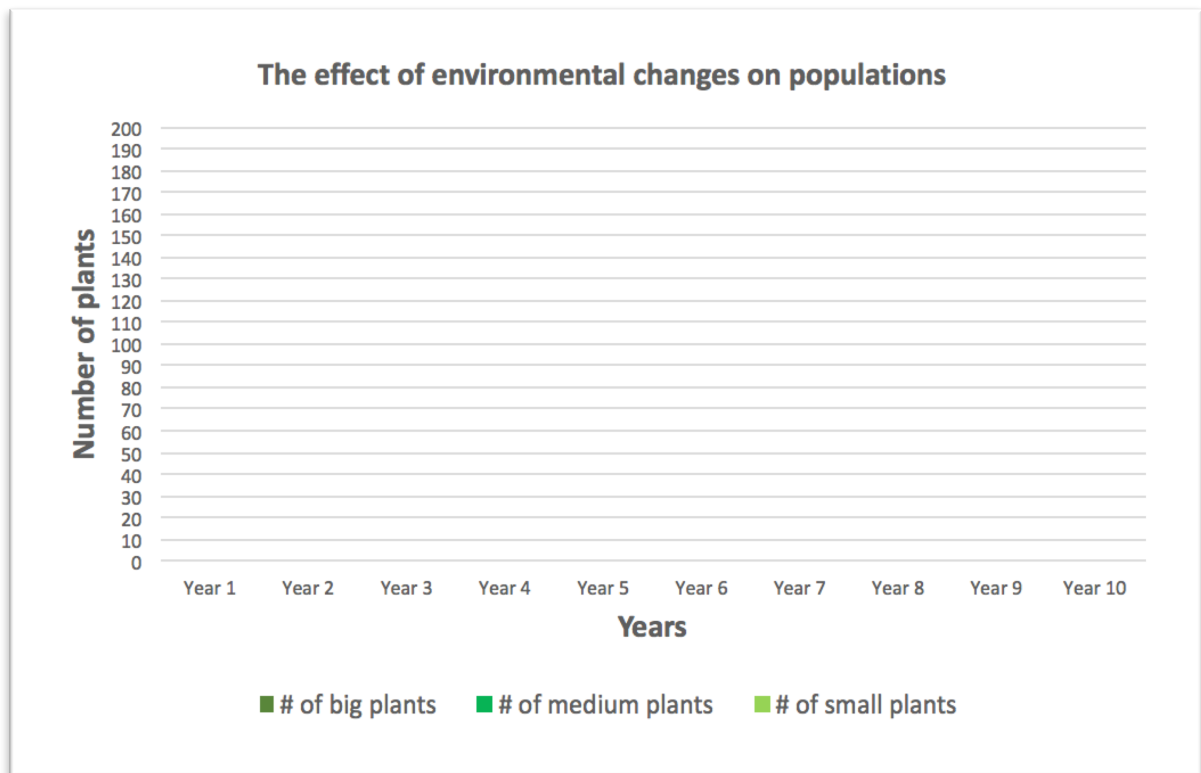
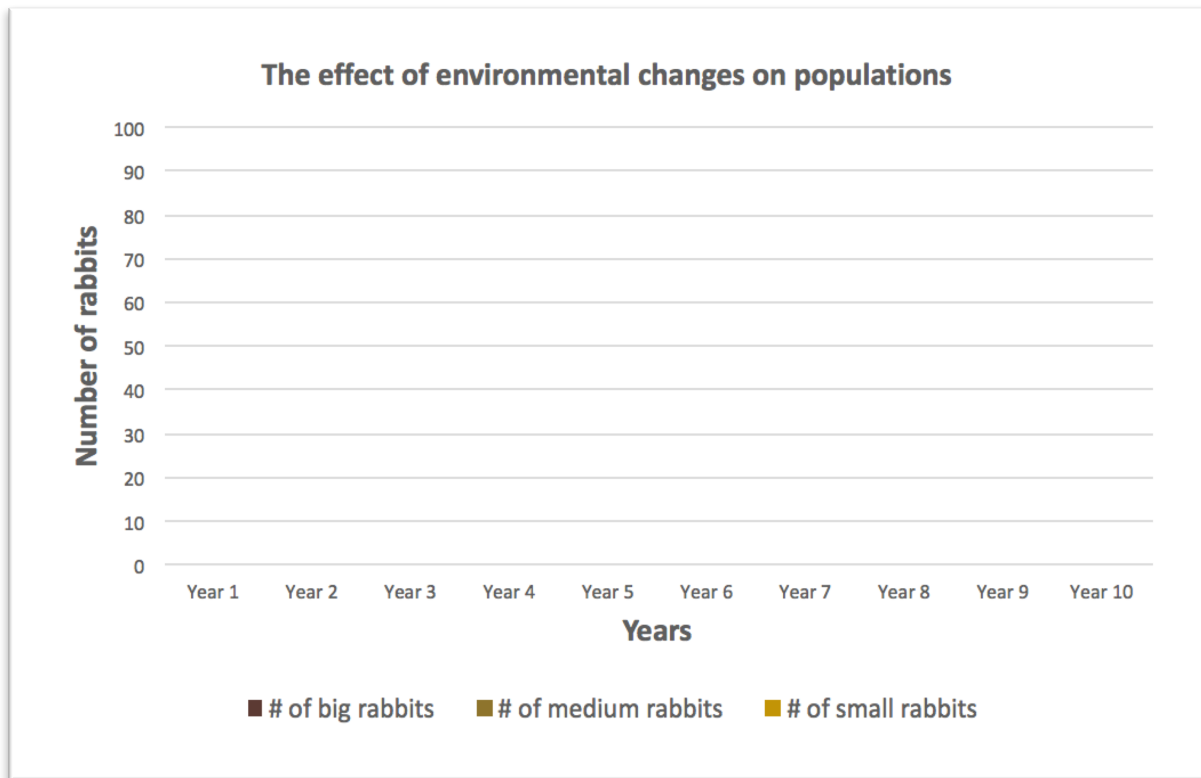
Time (years)	Types of rabbits			Types of plants		
	Number of big rabbits	Number of medium rabbits	Number of small rabbits	Number of big plants	Number of medium plants	Number of small plants
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Plot the graph here

Top half of the field



Bottom half of the field



Step 4 – Interpreting data and communicating information

1. What **pattern** can you find from the data? Discuss with your partner the trends and record them here.

2. What **claim** can you make about the effect of the amount of water on the plant and rabbit population? What **evidence** do you have that support your claim? What is your **reasoning**?
