# Bunny, wolves and the evolution



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## **Primary tabs**

Natural selection is a central concept of evolution. Do you know what that means?

Get into this unit and learn how to read the future of the animals and plants around you!

# Darwin's theory influenced the entire scientific world!

For Darwin, the process of natural selection was analogous to the kind of selection practised by cattle, horse, dog and pigeon breeders; in this so-called artificial selection, humans choose specimens of plants and animals to breed according to the characteristics that seem most advantageous (for example, cows that give the most milk or horses that run the fastest), whereas in the case of natural selection it is the environment that chooses them.

## Check it out yourselves!

Investigate with your buddy natural selection comparing dominant and recessive traits of rabbits, with the environmental factor of wolves. How? Just open this interactive simulation and look around! Will the bunnies take over the world?

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Probably you have already discovered a bit how this simulation works.

Now, using the bar graph provided you will analyse data about how the population changes.

#### Step 1

When you get to the simulation click on the yellow button that says "add a mate".

#### Step 2

Click on the button under the section "Add mutation" and click on the Dominant Fur.

#### Step 3

After about 10 seconds click the wolves under the section "Environmental Factors".

### Step 4

Let that run for about 10 generations then you will fill out information on the table below.

### Step 5

You will select the tool "Data probe" to see the numbers of each rabbit on the bar graph. Complete the table.



Change the mutation and environment!

Now repeat the steps you and your buddy did using the same environment but changing the mutation: select recessive fur! Then do both traits again in the white/blue ground area environment.

... What's going on?

#### Done?

Now answer these questions together:

- How are dominant and recessive traits different in terms of population changes in the brown ground area?
- How are dominant and recessive traits different in terms of population changes in the white/blue ground area?
- How does the environmental changes of adding in the wolves affect the rabbit population?
- How do traits relate to the rabbits' survival?

Tipp: If other buddy-teams are working on this unit, compare your answers at the end!

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Partly as a result of global warming, the natural habitat of many species is changing very quickly and significantly. The only options for organisms are evolutionary adaptation or the risk of extinction. If the rise in temperature proceeds as it has done so far.

In the UN's Intergovernmental Panel on Climate Change (IPCC) researchers from 67 countries exchanged their findings: they warned that warming is putting a large portion of the world's biodiversity and ecosystems at risk of extinction!

Humans are inextricably dependent on many species, whether they're animals that pollinate crops, filter rivers and streams, or feed us.

Discuss this topic with your buddy, search for endangered species, choose one and make a postcard about them!

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