Name: Klasse:

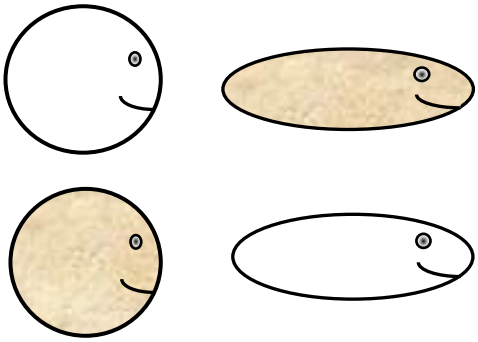
Genetic Variation and Natural Selection

Principles of Natural Evolution

The natural evolution follows a few simple principles. Charles Darwin's theory of evolution highlights "genetic variation" and "natural selection".

1. As you may know from your own experience, siblings are often similar but also different in many ways (e.g. in looks, attitudes or other features). The term variation indicates that creatures born to the same parents do not have identical characteristics. Name two reasons for these variations.

2. The variation in offspring is an important part of the theory of evolution, because not every offspring is able to reproduce or even to reach the reproductive age. This affects those individuals which are, because of their given properties, not as well adapted to their environment as others. This process is called "natural selection". You can think about the implications while studying following example.



In the picture you can see four related individuals of a fantasy animal species. They rather flee from danger than fight it and use for example abandoned holes in the ground to hide from natural enemies. Let's assume they are forced to populate a new habitat, dominated by rock surfaces and with frequent snowfalls.

Which individual do you think is most likely to reach the reproductive age and therefore has the chance to pass on its version of hereditary factors to the next generation? Give reasons for your opinion. Use your own words to answer the question, but make sure to include the terms "selection" and "adaption"/"adapted" where it is appropriate.

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3. Whether an individual is adapted better or worse is dependent on the environment. There are multiple angles to this, shown in the film on different examples. Summarize each example in one sentence. *(Use the given example as a guide for filling out the table.)*

	*Fast gazelles have a better chance to survive by escaping predators.*