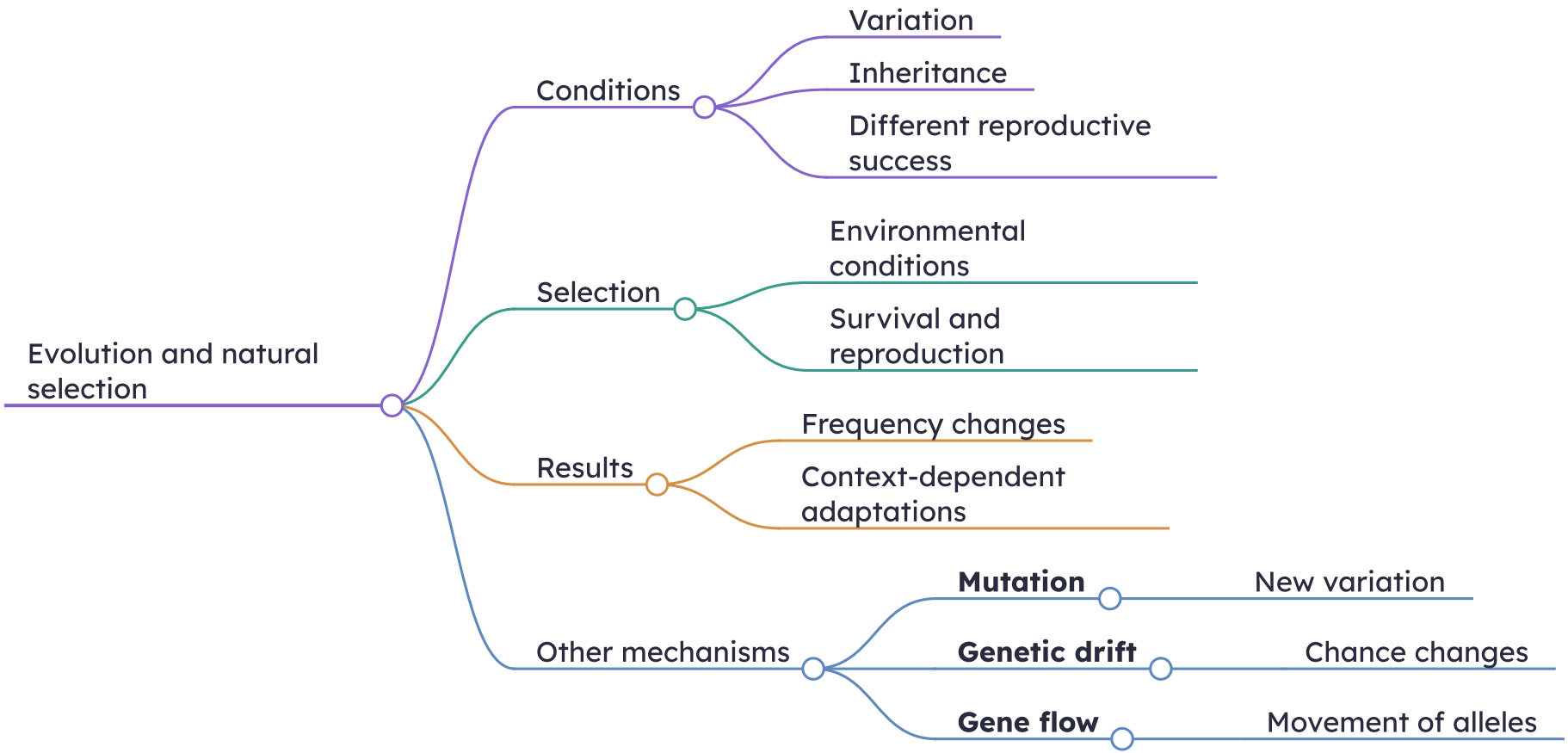
Evolution and natural selection

Explain population change through inherited variation and reproductive success.



Read one branch at a time. Then cover the details and explain them in your own words.

Understand the topic

Individuals in a population vary. When heritable differences affect reproductive success in an environment, their frequencies can change over generations. Mutation introduces variation; natural selection does not deliberately create what an organism needs. Genetic drift and gene flow can also change populations.

How the map is organized

Separate the conditions for selection, the process, the result, and other mechanisms.

> **Watch out for this**
> An individual does not evolve by trying harder. Evolution concerns inherited population change across generations.

Try it yourself

Use insects of different colors on tree bark. Explain how predation could affect the next generation, stating that color must be heritable.

Two questions to answer

What changes through evolution?

Evolution concerns inherited changes in populations over generations.

Does natural selection have a planned goal?

Selection results from differences in reproductive success, not foresight.

Sources

openstax.org
https://openstax.org/books/biology-2e/pages/18-1-understanding-evolution

Original practice material compiled by Studera.ai. Explore at studera.ai/en/resources/mind-map-examples.