

Natural Selection

Biology

The four conditions, all of which must hold.

Darwin's mechanism, stated as conditions.

1

Variation exists

Individuals in a population differ.

2

Some variation is heritable

Offspring resemble parents.

3

More offspring than survive

Resources are limited; there is competition.

4

Differential survival and reproduction

Better-adapted individuals leave more offspring.

5

Allele frequencies change

Over generations, the population changes.

COMMON ERRORS

Organisms do not choose to adapt

Individuals do not evolve; populations do

'Fittest' means best-reproducing, not strongest

Selection acts on existing variation, it does not create it

Selection has no foresight. It cannot produce a trait because it will be useful later.