



Use this alongside our Walkthrough Guides to tick off the concepts you're confident with to plan your study and find areas of improvement!

Evolution and Processes

- ☐ I can define **evolution**
- ☐ I can describe where new alleles come from
- ☐ I can define a **gene pool**
- ☐ I can define **allele frequency**
- ☐ I can discuss the relationship between allele frequency and evolutionary change
- ☐ I can define the **founder effect**
- ☐ I can explain how the founding population will likely have a different gene pool to the large population
- ☐ I can define and describe the **bottleneck effect**
- ☐ I can explain what could cause a bottleneck
- ☐ I can explain why genetic drift will have a greater effect on a population after a bottleneck
- ☐ I can explain what happens as a result of the founder effect
- ☐ I can define **genetic drift**
- ☐ I can discuss what can cause genetic drift
- ☐ I can discuss how genetic drift changes a gene pool

Migration

- ☐ I can define **migration**
- ☐ I can describe the difference between emigration and immigration
- ☐ I can explain how migration affects the allele frequency in each population

Types of Selection and Polyploidy

- ☐ I can explain what **phenotypic range** means
- ☐ I can explain what **stabilising selection** is
- ☐ I can draw a graph showing what stabilising selection is
- ☐ I can explain what **disruptive selection** is
- ☐ I can draw a graph showing what disruptive selection is
- ☐ I can explain what **directional selection** is
- ☐ I can draw a graph showing what directional selection is
- ☐ I can explain **ploidy**
- ☐ I can explain how polyploidy occurs
- ☐ I can describe the two types of polyploidy
- ☐ I can discuss how polyploidy can result in instant speciation

Speciation

- ☐ I can define a **species**
- ☐ I can define a **ring species**
- ☐ I can explain why defining a species is difficult
- ☐ I can list the two types of speciation
- ☐ I can define **allopatric speciation**
- ☐ I can discuss how geographic isolation leads to speciation
- ☐ I can define **sympatric speciation**
- ☐ I can discuss how speciation can occur without a geographic barrier

Reproductive Isolating Mechanisms (RIM's)

- ☐ I can define **reproductive isolating mechanisms**
- ☐ I can list the two types of reproductive isolating mechanisms
- ☐ I can discuss the types of reproductive isolating mechanisms for both sympatric and allopatric speciation
- ☐ I can explain the role of reproductive isolating mechanisms in speciation
- ☐ I can define a **prezygotic reproductive isolating mechanism**
- ☐ I can explain how prezygotic reproductive isolating mechanisms lead to speciation
- ☐ I can define a **postzygotic reproductive isolating mechanism**
- ☐ I can describe **hybrid inviability**
- ☐ I can describe **hybrid sterility**
- ☐ I can describe **hybrid breakdown**

Patterns of Evolution

- ☐ I can define **divergent evolution**
- ☐ I can explain how divergent evolution occurs
- ☐ I can explain how **homologous structures** arise
- ☐ I can define **convergent evolution**
- ☐ I can explain how convergent evolution occurs
- ☐ I can explain how **analogous structures** arise
- ☐ I can discuss how an interspecific relation can cause co-evolution to occur
- ☐ I can discuss the differences between **gradualism** and **punctuated equilibrium**
- ☐ I can define **adaptive radiation**
- ☐ I can explain what causes the rapid speciation required for adaptive radiation