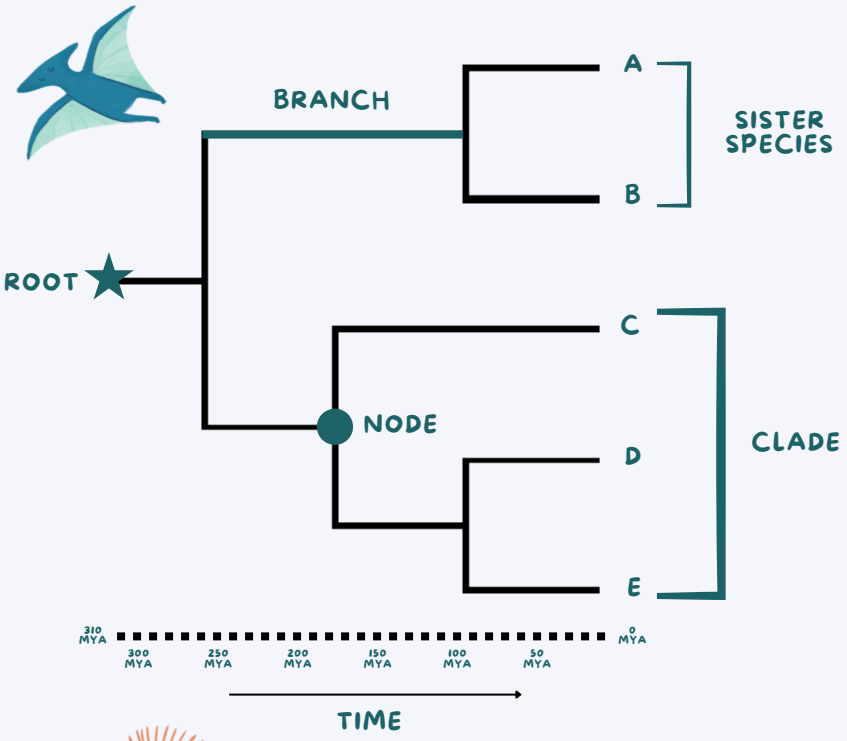
PHYLOGENETICS & EVOLUTIONARY RELATIONSHIPS

A phylogeny shows how species are related through a shared history.



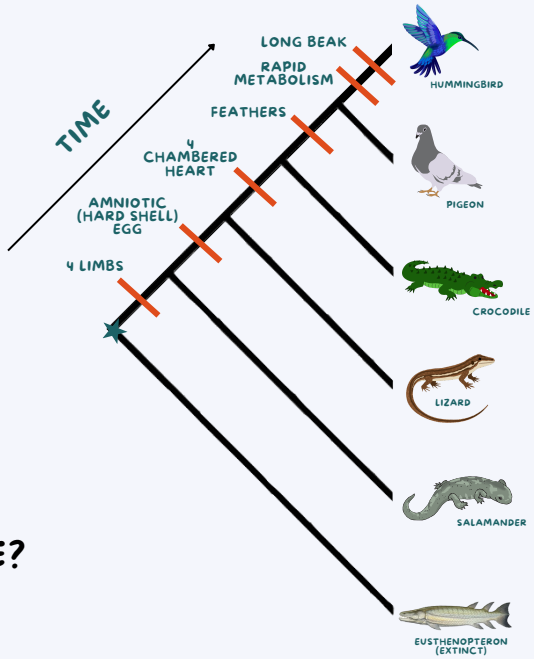
DEFINITIONS

★ ROOT	Most recent common ancestor of all species in the phylogeny
BRANCH	Species changing over time
NODE	Speciation event where one species diverges to become two or more descendant species
SISTER SPECIES	Species that arose from the same node/speciation event
CLADE	Part of a phylogeny that includes an ancestral lineage and all descendants

CHARACTER MAPPING

Traits shape evolution over time by influencing how organisms survive, reproduce, and interact with their environment.

- A character state change occurs when a trait evolves within a lineage.
- Mapped characters can be used to evaluate which features define different clades.



QUESTIONS

- WHICH TRAITS DOES AN IGUANODON HAVE?
- WHICH SPECIES ARE SISTER SPECIES?
- WHAT FACTORS MAY DRIVE THE EVOLUTION OF LARGE BODY SIZE OR HERBIVORY?