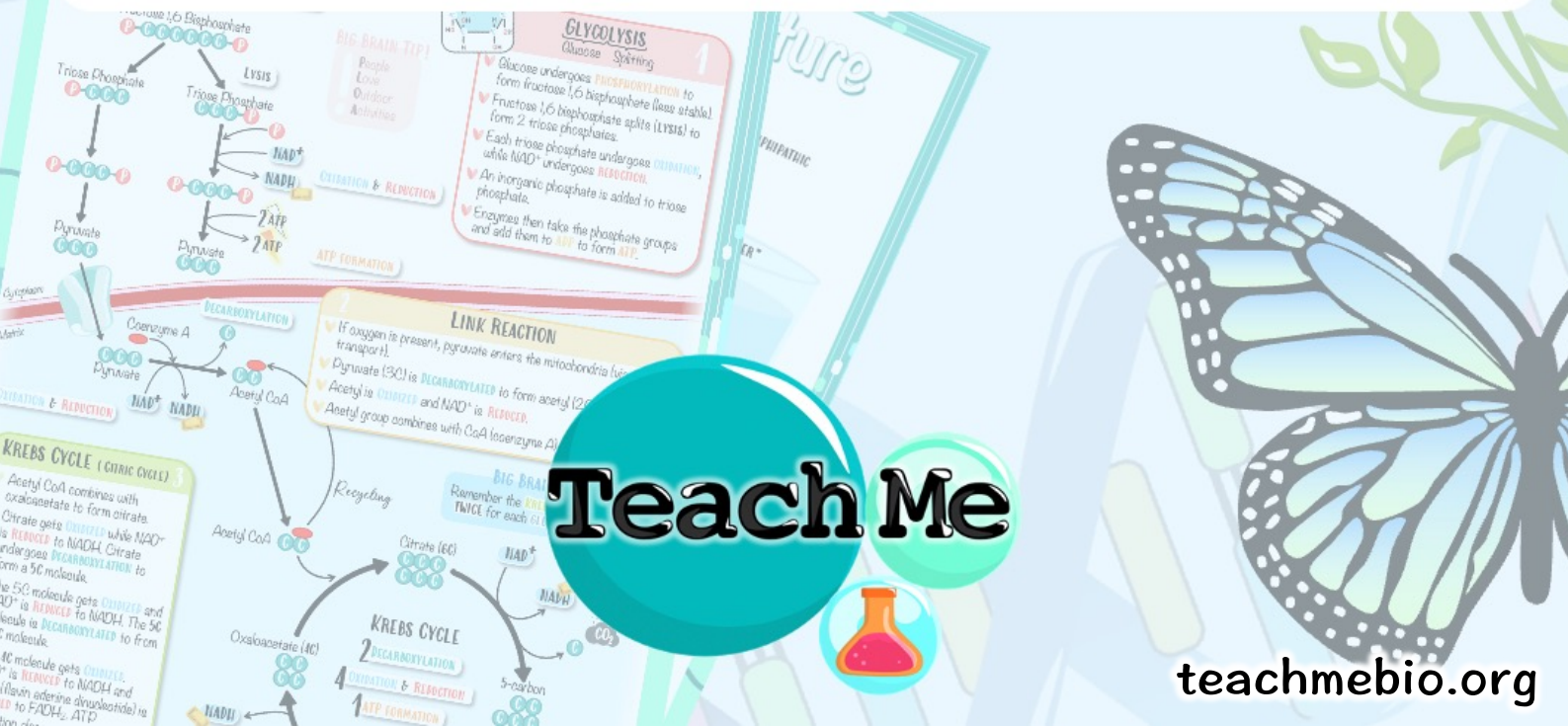


TeachMe

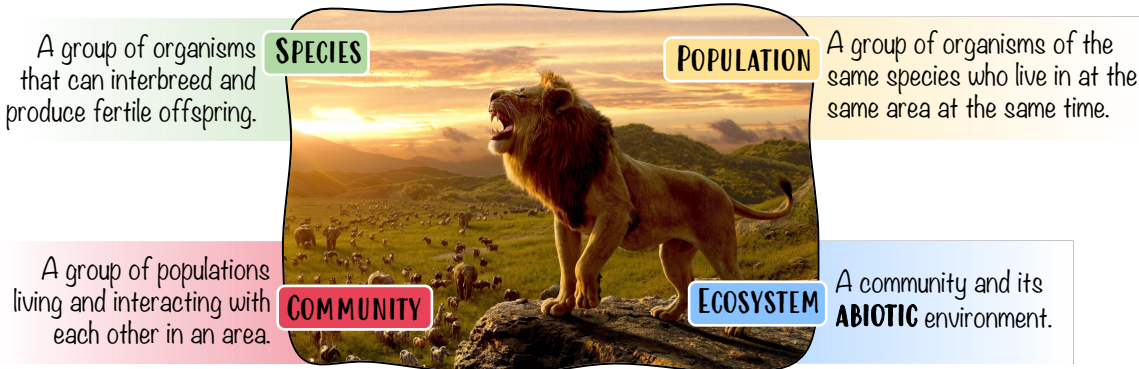
STUDY NOTES

B4.2 ECOLOGICAL NICHES



Ecological Niches

ECOLOGY – The study of the relationships between living organisms and their physical environment.



ABIOTIC FACTORS (anything non-living)

- Amount of sunlight ☀️
- Water availability 💧
- Type of soil 🌱
- Temperature 🌡️
- pH range 🍋
- Etc...

NICHE – The unique role (job) that a species plays in a community and where the organism lives (**habitat**)

The environment where an organism lives. Including **BIOTIC** and **ABIOTIC** factors*.

*Seen in B4.1

BIG BRAIN TIP!

Extant – currently existing
Extinct – currently not existing (the whole species) ?

FUNDAMENTAL NICHE

The **POTENTIAL** niche that it could inhabit, given the adaptations of the species and its tolerance limits.



A dogs fundamental niche could be an entire town, a forest or wherever its adaptations allow it to be...

REALIZED NICHE

The **ACTUAL** niche that it inhabits. Can be different from fundamental niche because of competition with other species.

... but it's realized niche is limited to the backyard of a house due to various reasons.



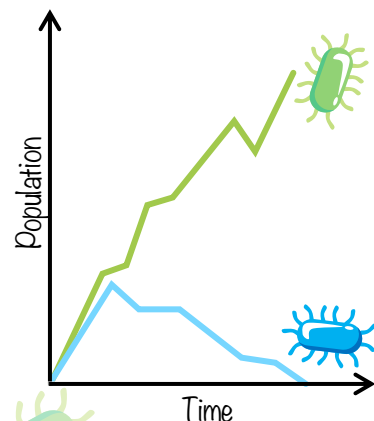
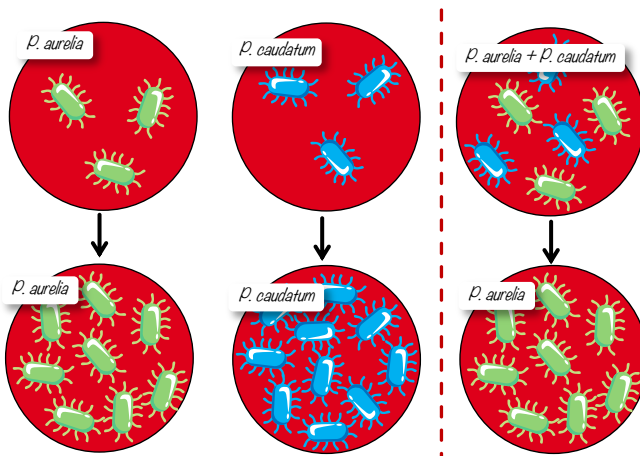
How IS THE REALIZED NICHE AFFECTED BY COMPETITION?

G.F. Cause (1934)



Principle of competitive exclusion

"When two species have a similar need for the same resources in the same space at the same time, one will be **EXCLUDED**."



INTERSPECIFIC COMPETITION

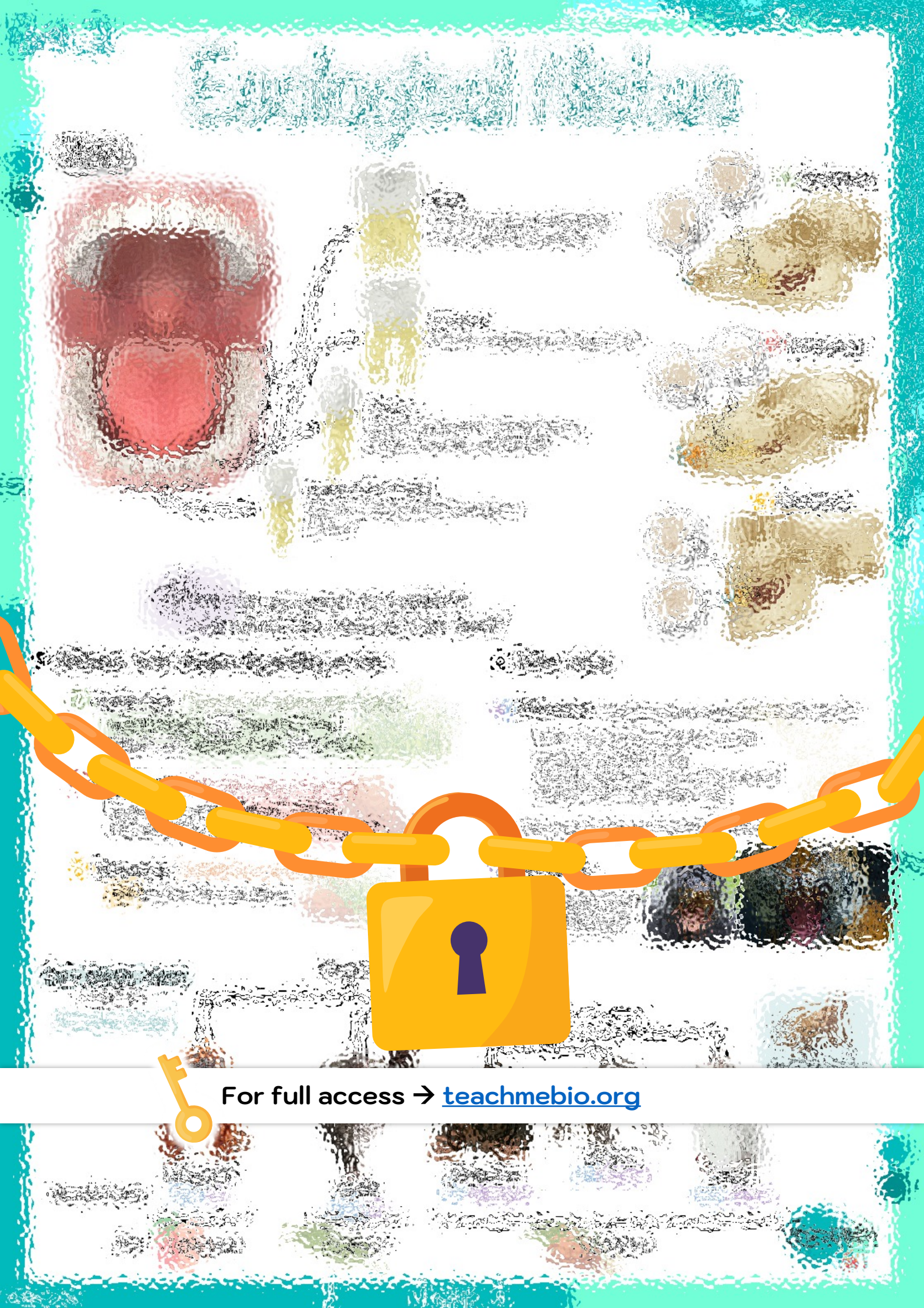
Between

When the two organisms are placed in the same environment but separately, they can both thrive as they have the adaptations to do so.

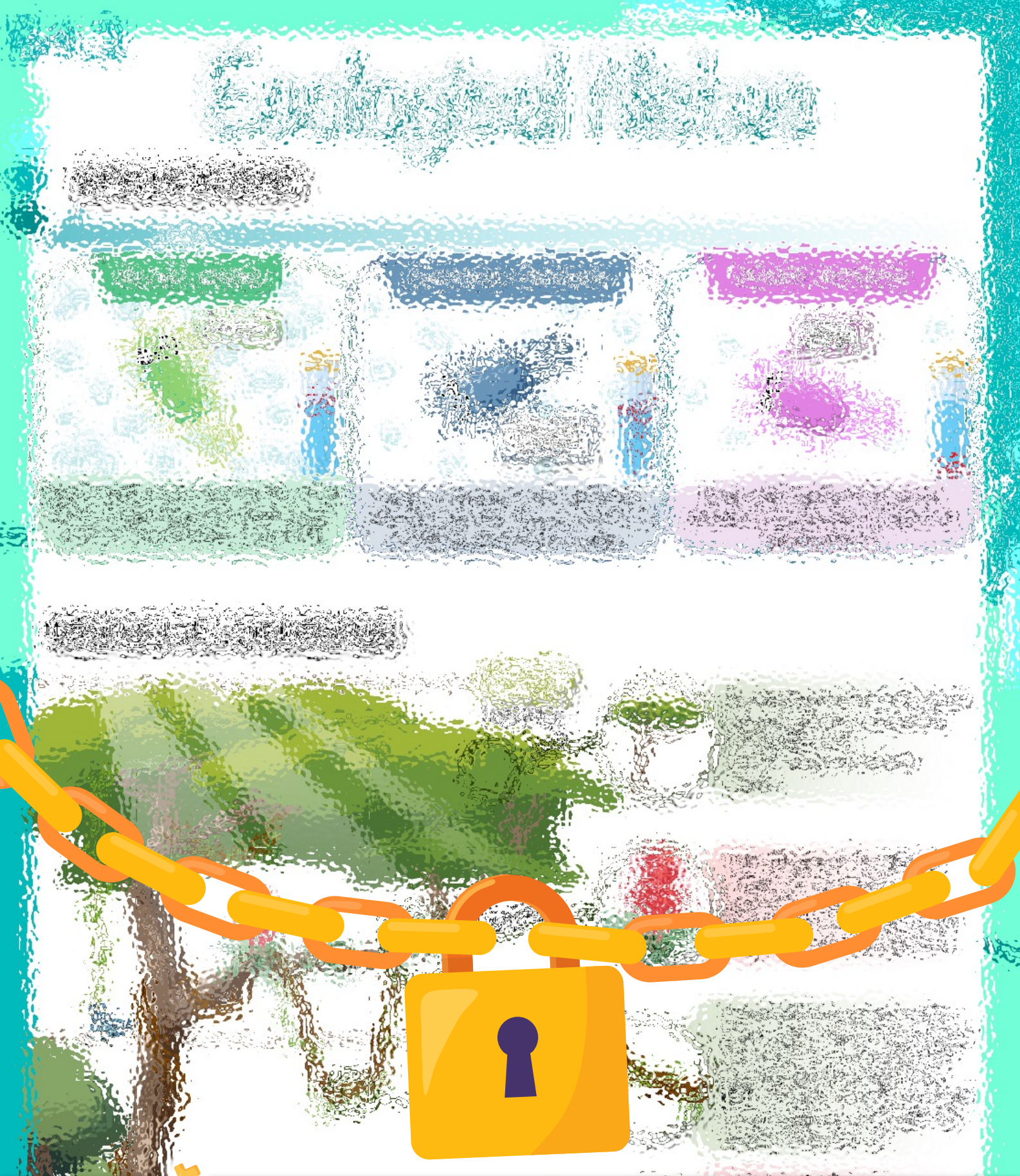
But if they are put in the same environment simultaneously, the one with better adaptation will outcompete the other and **EXCLUDE** it



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