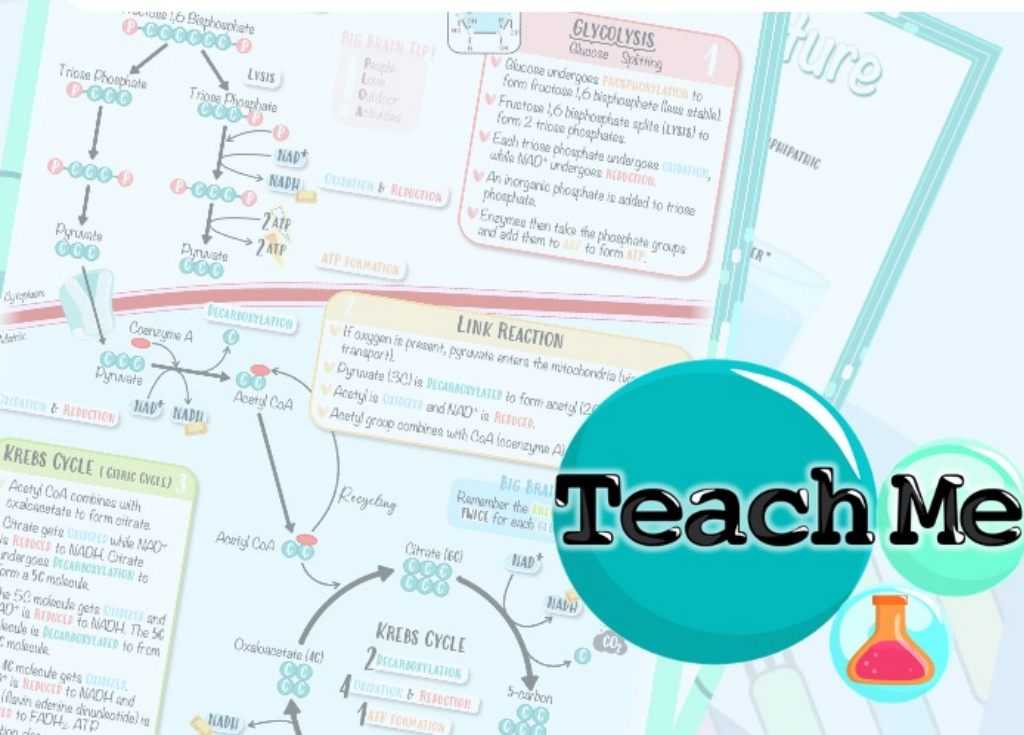


TeachMe

STUDY NOTES

C4.2 TRANSFERS OF ENERGY & MATTER



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Transfers of Energy & Matter

Section 1

ENERGY FLOW

A FOOD CHAINS & FOOD WEBS

Page 1

B ENERGY PYRAMID

Page 4

Section 2

CARBON CYCLING

A THE CARBON CYCLE

Page 6

B RENEWABLE & NON-RENEWABLE RESOURCES

Page 7

C THE KEELING CURVE

Page 7

D METHANE PRODUCTION

Page 8

I ENERGY FLOW

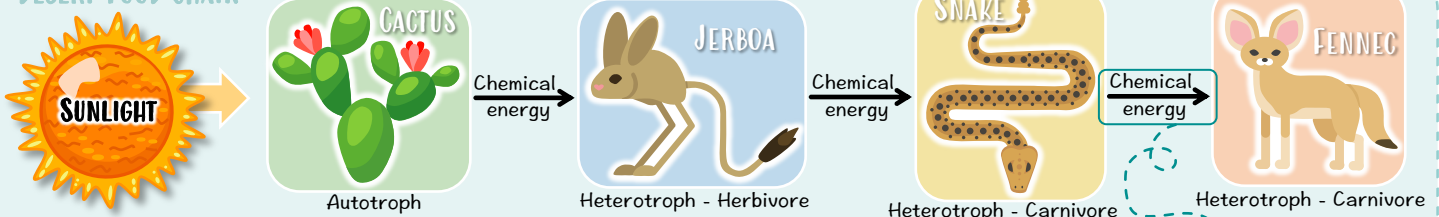
Energy is one of the most important entities that allows the existence of life in our universe. Energy can exist in various forms including light, chemical and heat energy. Energy cannot be created nor destroyed; it can merely be converted to another form. In this chapter we will explore how energy flows through an ecosystem.

A FOOD CHAINS & FOOD WEBS

Food Chains

A food chain is a sequence of organisms showing the feeding relationships and energy flow between the different species. The position of a particular organism within the food chain is called a **trophic level**.

DESERT FOOD CHAIN



Sunlight sustains most ecosystems as the **INITIAL ENERGY SOURCE**. The sun provides light energy that plants use for photosynthesis (exceptions — caves, ocean depths), converting the light energy into chemical energy. The Cactus becomes the primary source of energy for the Jerboa which is a **PRIMARY CONSUMER**. Energy is transferred between organisms as chemical energy. As a carnivore, the snake occupies the **SECONDARY CONSUMER** level on the food chain. The fennec fox preys on the snake making it the **TERTIARY CONSUMER** of the food chain.

ENERGY FLOW
Points in the direction of energy flow.

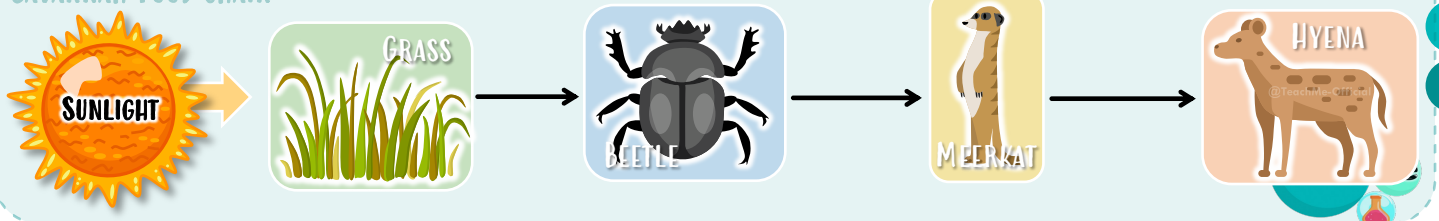
Producer Primary consumer Secondary consumer Tertiary consumer

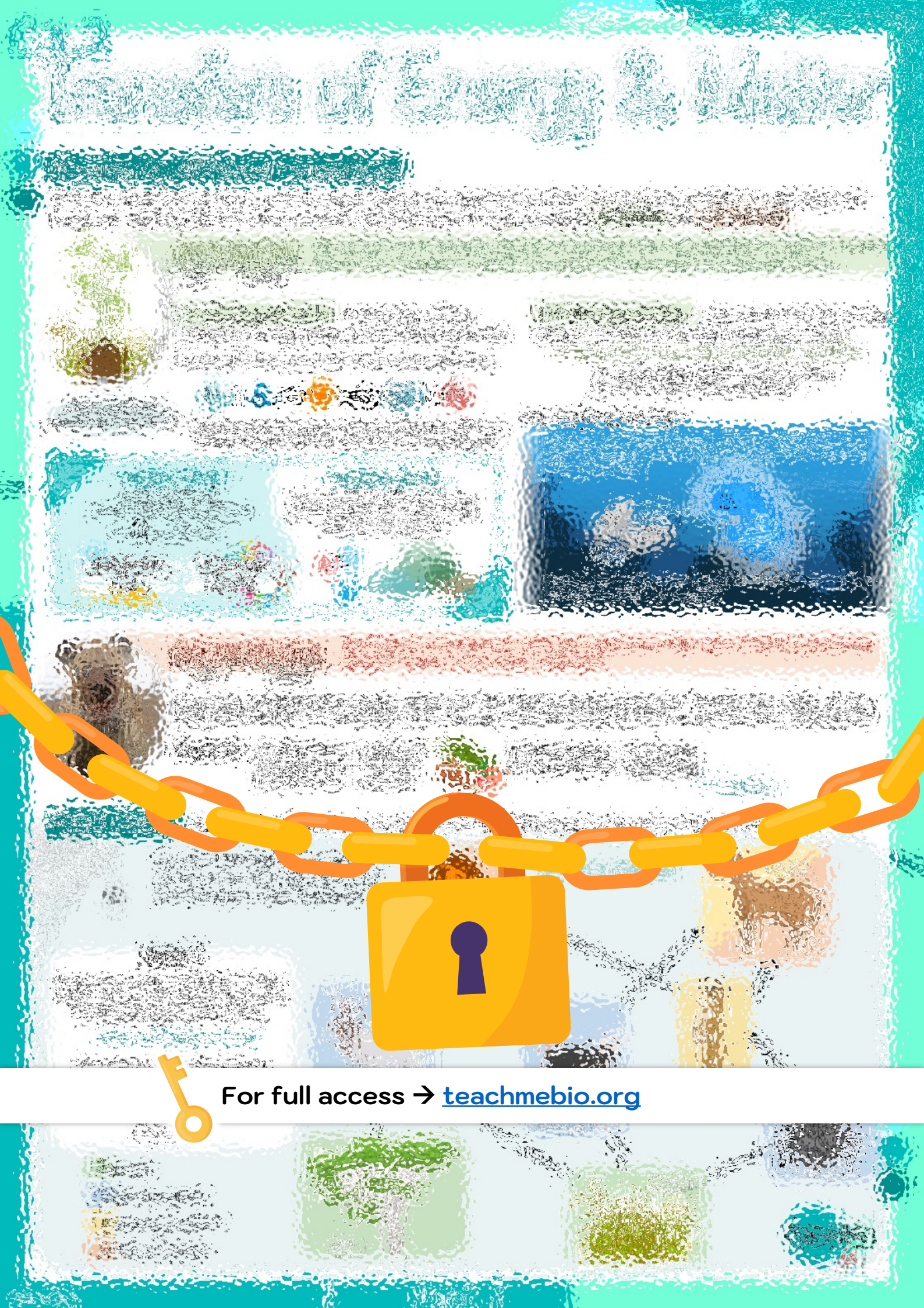
Each unique environment has different organisms inhabiting it, forming different food chains:

OCEAN FOOD CHAIN

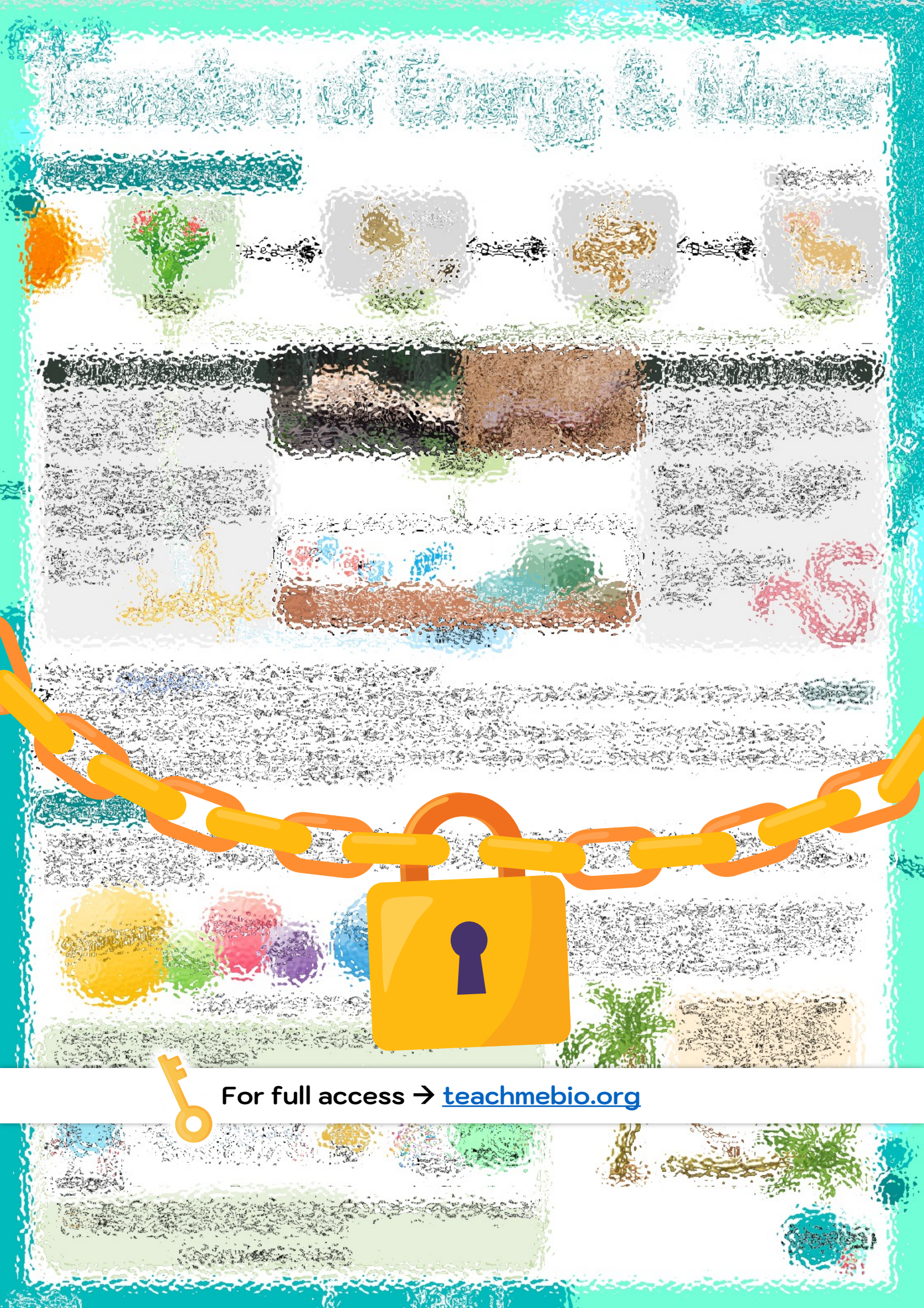


SAVANNAH FOOD CHAIN





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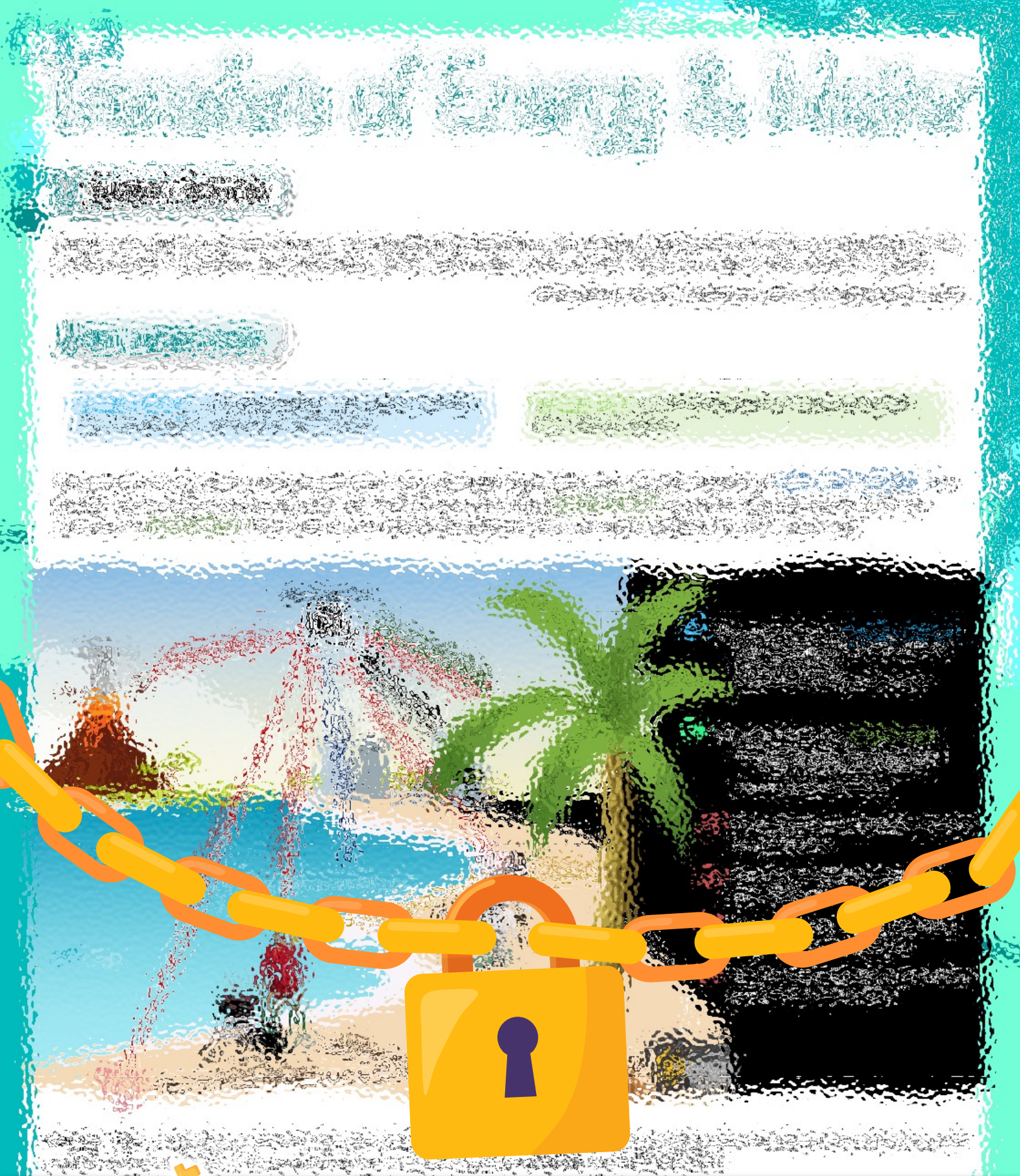
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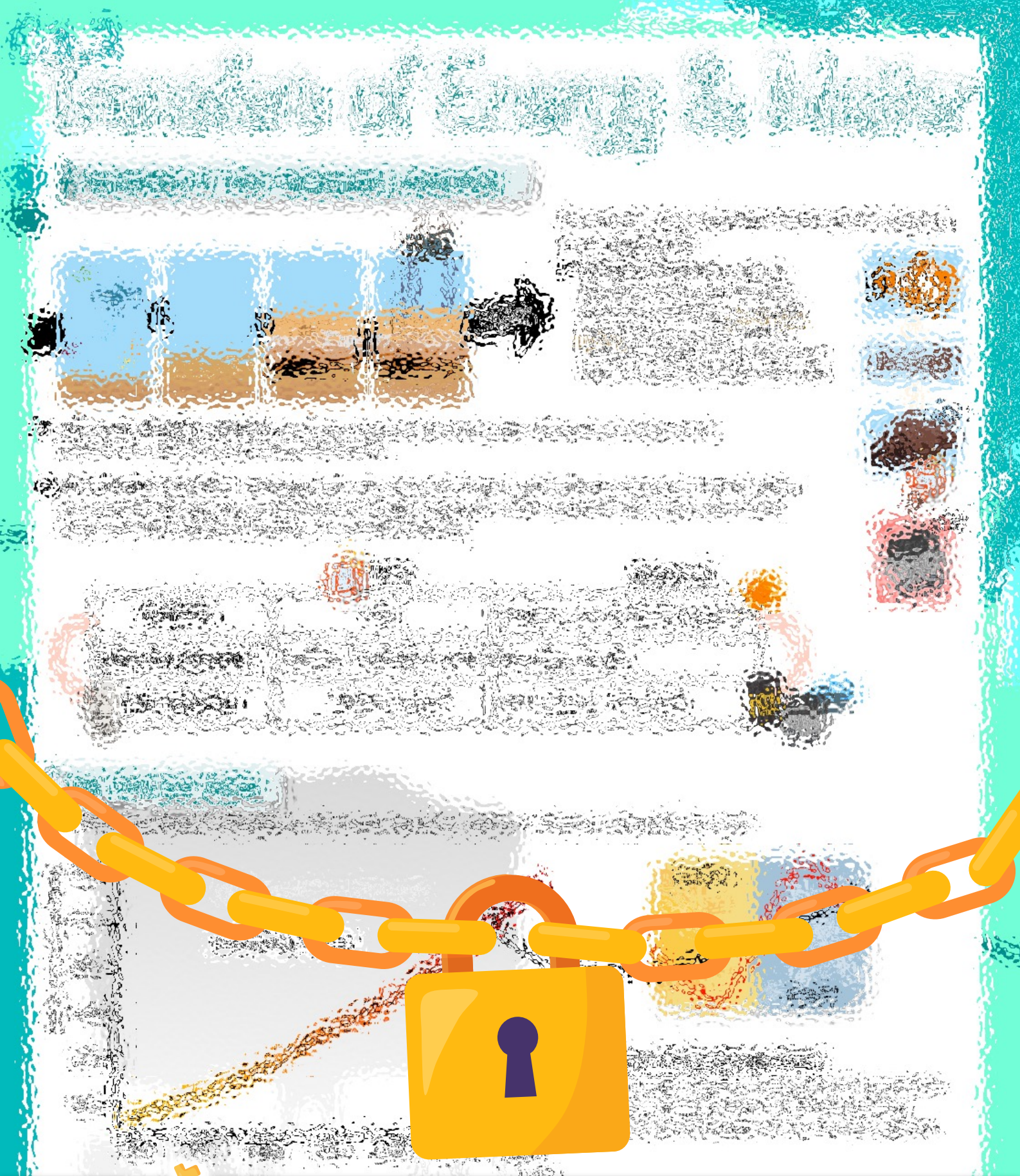
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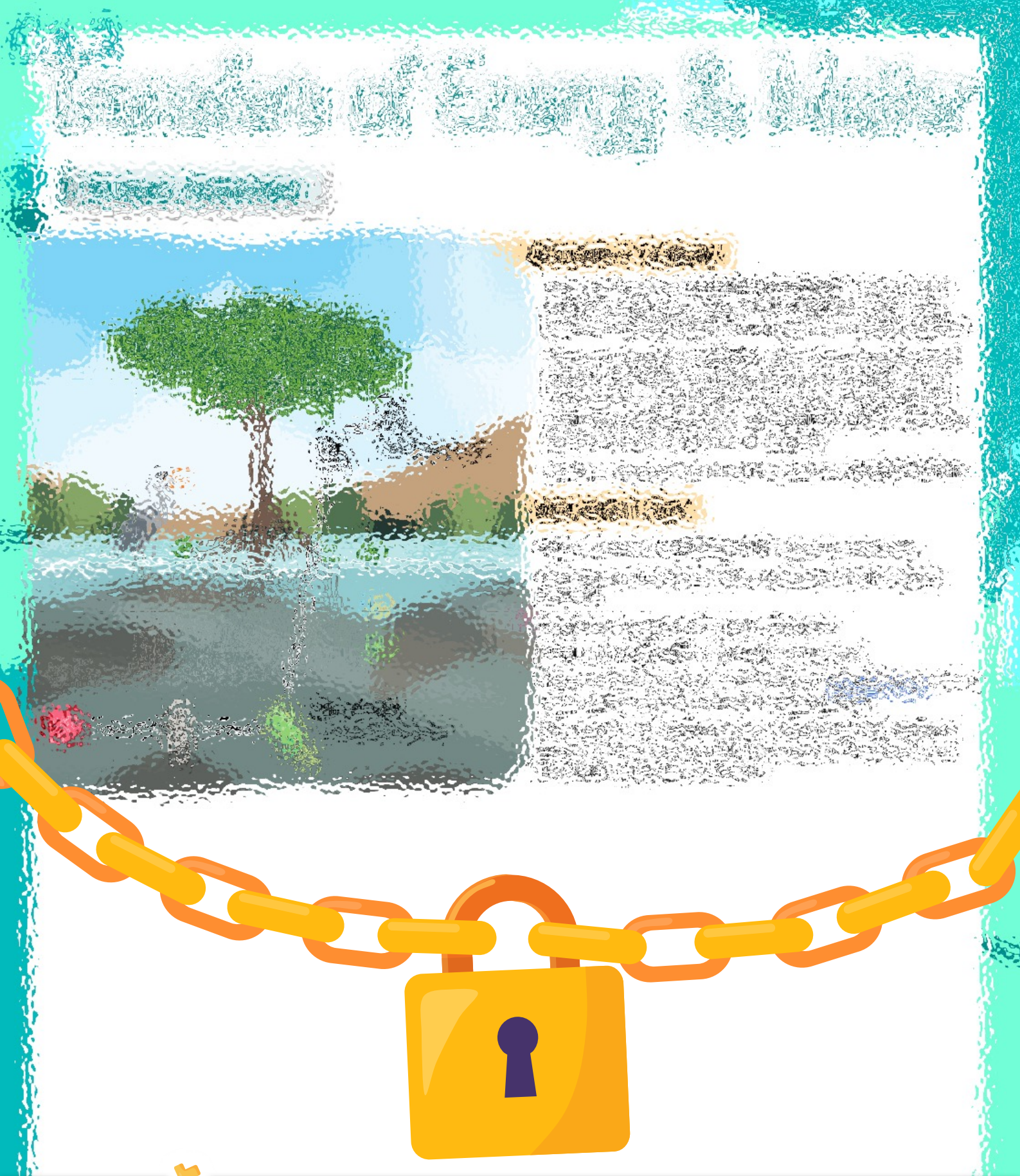
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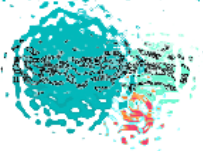
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