



Biodiversity



What is biodiversity?



The variety in living organisms

Differences between plant/animal species
Differences in how many organisms live in an area
Differences in how organisms interact with their environment



We can see differences in

Genetics of specific organisms
Individual of a population of 1 species
Different species in a community
Ecosystems in different locations



How do we measure it?

Richness

Number of species in
a certain place

Density

Number of
individuals/species living
within a certain area

Biomass

The combined mass
of all organisms living
in an area

Dominance/evenness

How common or evenly
spread the individuals of
particular species are
throughout the area

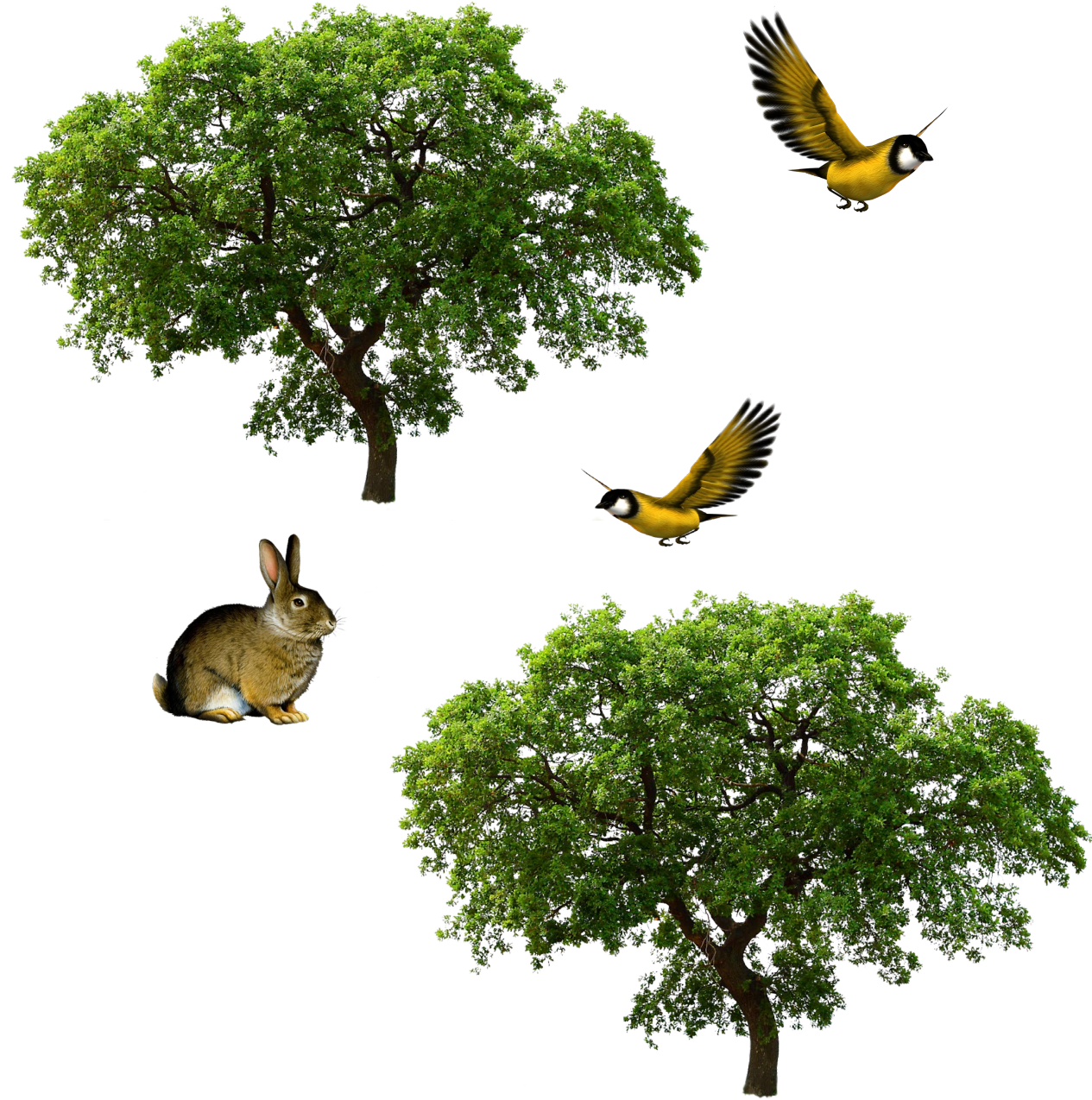
Rarity

The presence or
absence of rare
individuals



Species Richness

The number of species
in a certain place





Dominance/ Evenness

How common or evenly
spread the individuals
of particular species
are throughout the area



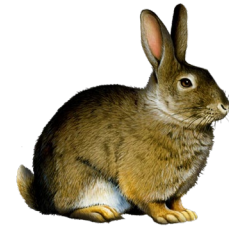


Biomass

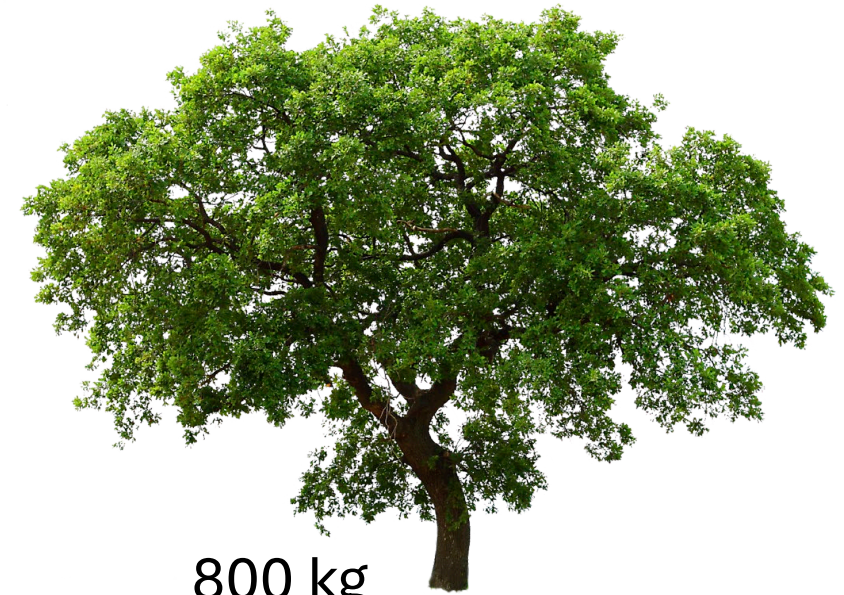
The combined mass of
all organisms living in
an area



1 kg



2 kg



800 kg

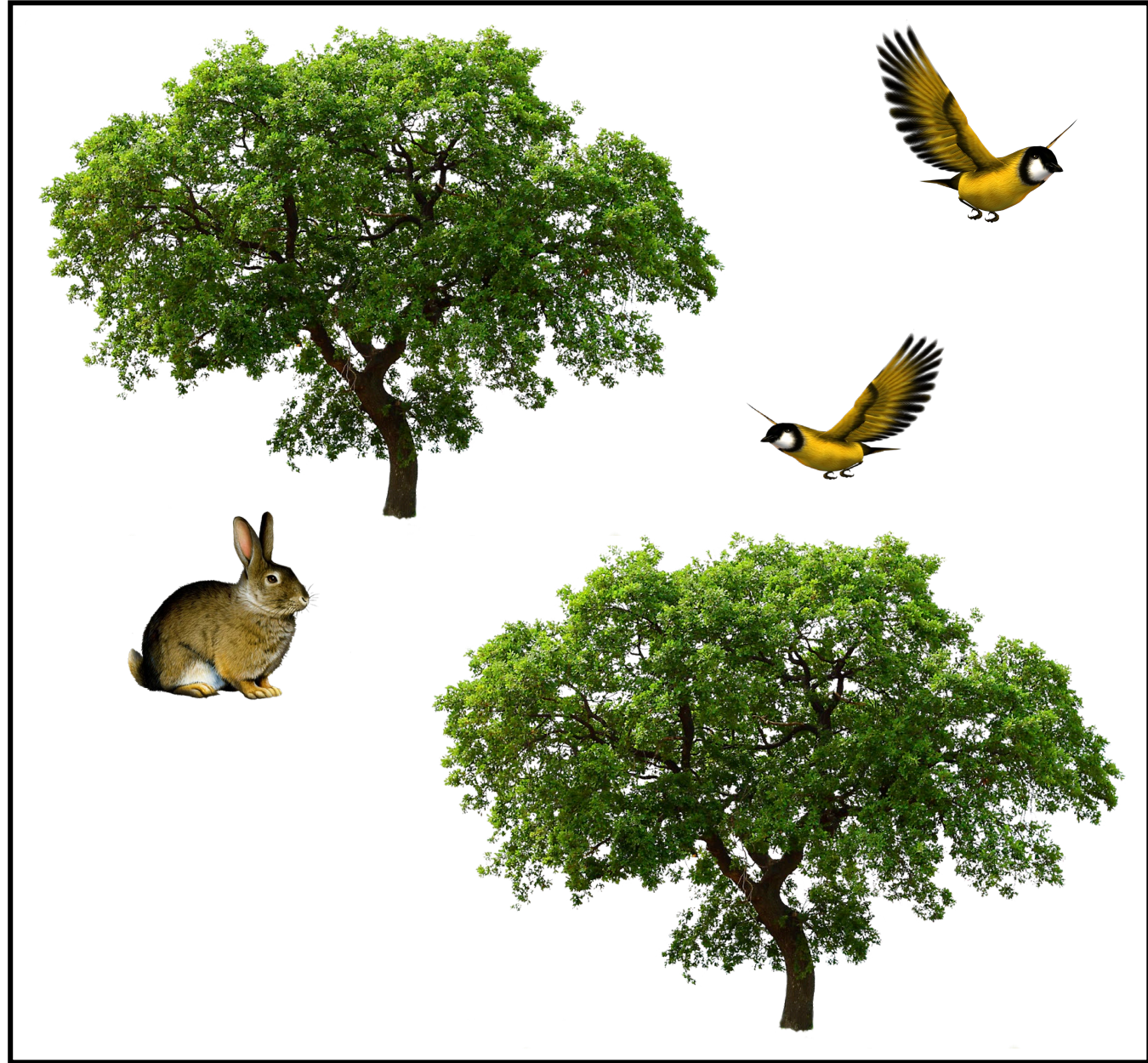


Density

Number of
individuals/species living
within a certain area

1 km

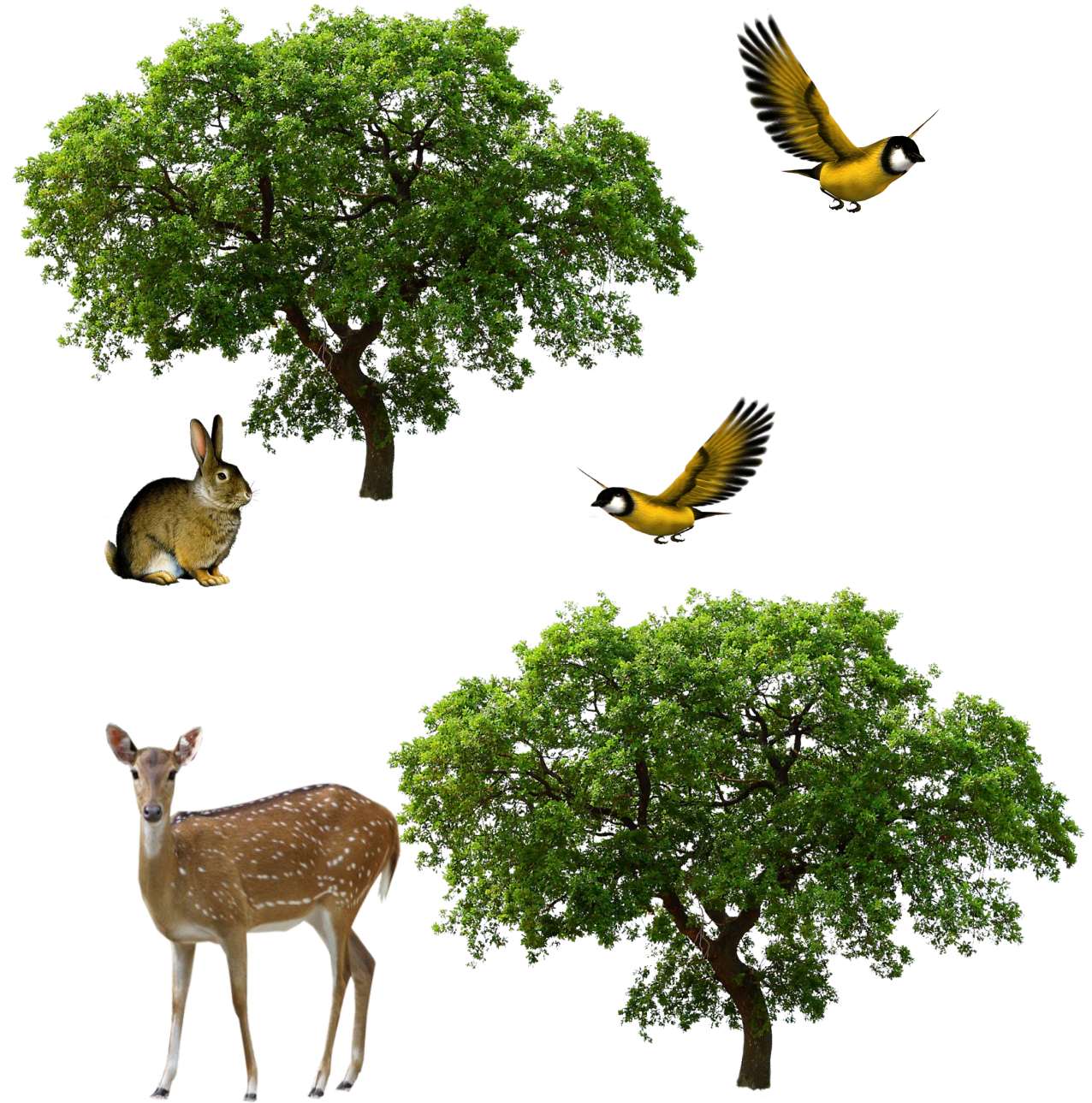
1 km





Rarity

The presence or
absence of rare
individuals



What does our data tell us?





Calculating Tree Biodiversity



Richness:

4 oak trees

6 elm trees

5 pine trees

Dominance:

Least dominant

Most dominant

Overall pretty even

Biomass:

8000 kg oak + 9000 kg elm + 12500 kg pine = 29500 kg trees

Density:

15 trees in 100 sq km = 15% of that area is trees

Rarity:

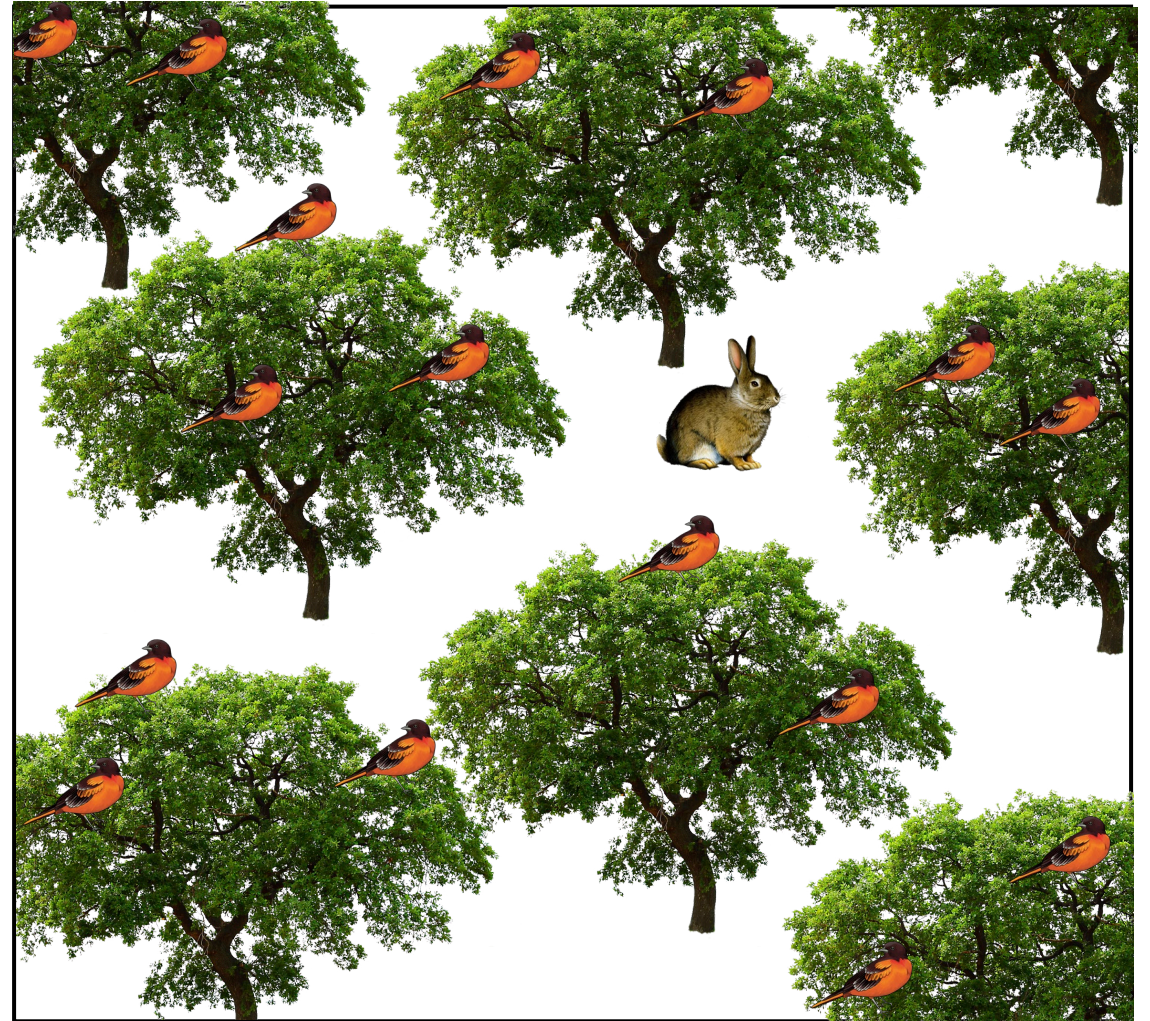
Common tree

Common tree

Common tree



What does our data tell us?





Calculating Forest Biodiversity

	2 oak trees		2 great tits
	2 elm trees		1 robin
	2 pine trees		1 magpie
			1 rabbit bunny
			1 deer

	8 oak trees
	16 robins
	1 bunny



Why do we monitor biodiversity?



To make sure ecosystems are healthy and happy



Plants and animals provide us with food, fresh water, and medicines



Plants buffer against climate change



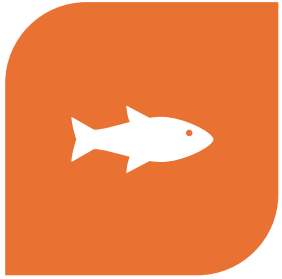
To prevent animals from going extinct



To preserve and prevent damage to ecosystems from human activities and climate change



How can we protect biodiversity?



STRENGTHEN OUR
RELATIONSHIP WITH NATURE
AND LIVING ORGANISMS



PRESERVE NATURAL
ENVIRONMENTS



MAKE PROTECTED AREAS FOR
THREATENED SPECIES

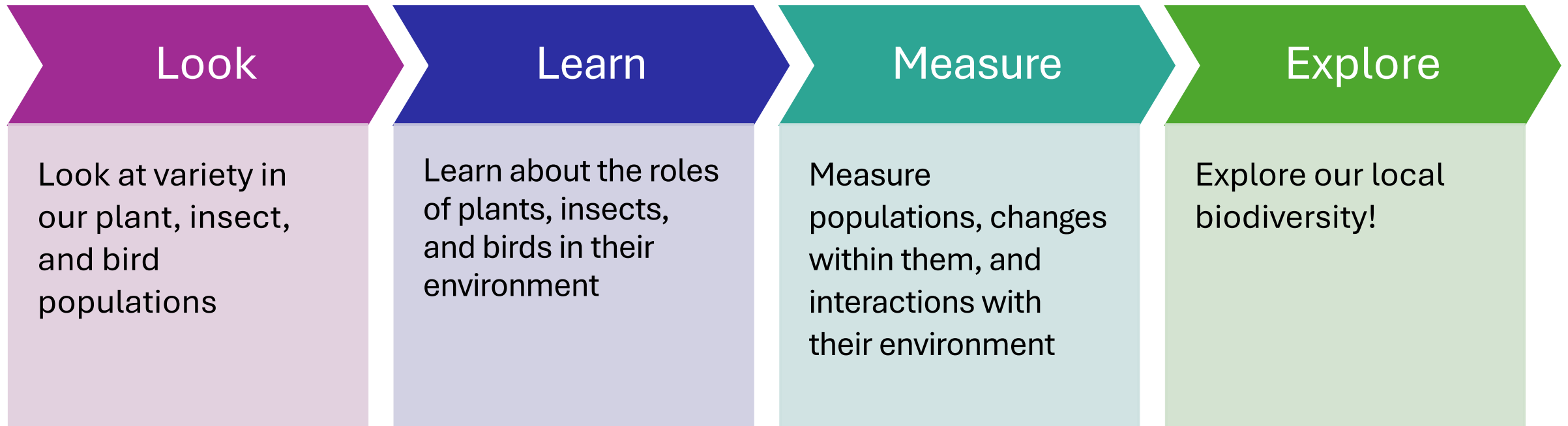


ENCOURAGE USE OF
RENEWABLE ENERGY
SOURCES, NOT FOSSIL FUELS



RAISE AWARENESS OF THREATS
TO BIODIVERSITY!

What will we do in this set of activities?



What will we learn in this set of activities?



How to take clear and informative notes



New ways to collect data



How to present our data visually



What biodiversity is and what that means in our local environment



How to use indicators to estimate biodiversity



Why our local biodiversity is important and how to protect it