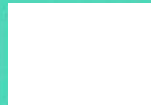




# Science

Living Things and Their Habitats

# Grouping Living Things



# Aim

- I can group living things in a range of ways.
- I can use a range of methods to sort living things.

# Success Criteria

- I can sort living things into groups.
- I can generate criteria to sort living things.
- I can sort living things into a Venn diagram.
- I can sort living things into a Carroll diagram.



# Life Processes

What do all these things have in common?



# Life Processes

All of these images are of living things. Sometimes we call them '**organisms**'.

Even though they might be very different from each other, all of these organisms share certain characteristics. All living things do certain things to stay alive. These are called **life processes**.

All animals, including humans, do these things. Plants do too, although they do them in different ways.

We can remember life processes by thinking about Mrs Gren.



# Life Processes

**M**ovement

**R**espiration

**S**ensitivity

**G**rowth

**R**eproduction

**E**xcretion

**N**utrition

**MRS GREN**



# Life Processes

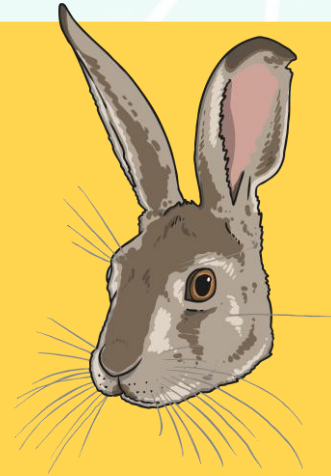
## Movement

All living things move.

Animals  
move around  
to get from  
place to  
place.



Plants grow  
and turn  
towards the  
light.



A hare runs to  
escape from  
danger.



A sunflower  
moves to turn  
its face towards  
the sun.



# Life Processes

## Respiration

All living things respire.

Plants and animals both use oxygen gas from the air to turn their food into energy. This is called **respiration**.



Land animals breathe oxygen through their mouths or noses. Sea creatures breathe oxygen dissolved in the water through their gills. Both types of creature then use this oxygen in their body for **respiration**.

Plants both respire and photosynthesise. While photosynthesis happens when the plant is in light, plants respire by taking in oxygen and giving out carbon dioxide during darkness.



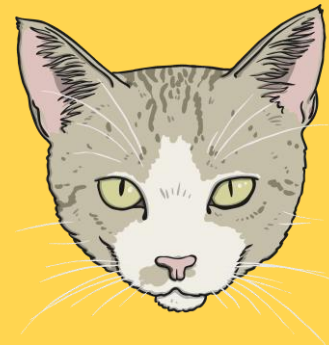


# Life Processes

## Sensitivity

All living things are sensitive.

Every living thing can detect changes in their surroundings.



Animals use their senses to see, hear, taste, touch and smell the world around them.



Plants can also detect changes in the environment. This mimosa plant curls up when you touch it!



# Life Processes

## Growth

All living things grow.

Animals grow from babies to adults.

Seeds grow into plants.



This ocean mola started life as an egg not much bigger than a full stop. It will grow to weigh about 1000 kg - this is the same size as a large bull!



Bamboo can grow up to 3cm every hour.

# Life Processes

## Reproduction

All living things reproduce.

Animals have young.

Plants produce seeds from which more plants grow.



Animals lay eggs or give birth to live young.



Most plants reproduce by forming seeds.



# Life Processes

## Excretion

All living things excrete.

Waste products are removed from the body.

Both plants and animals have to get rid of excess gas and water.



Animals excrete waste through urine and faeces.



Leftover gases and water leave plants from their leaves.

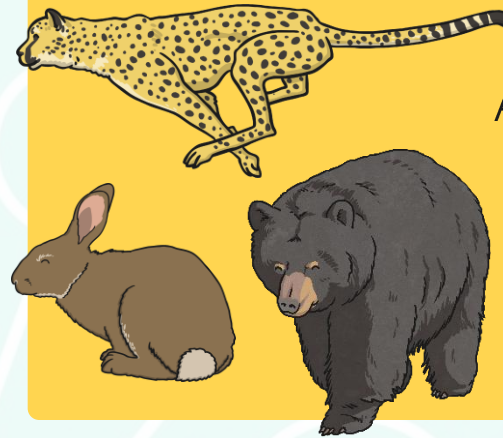
# Life Processes

## Nutrition

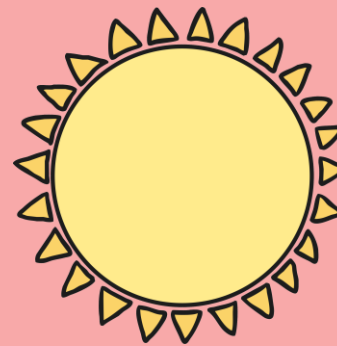
All living things need nutrition.

Food is eaten to provide energy to live.

Green plants make their own food using sunlight.



Animals may be carnivores, herbivores or omnivores.



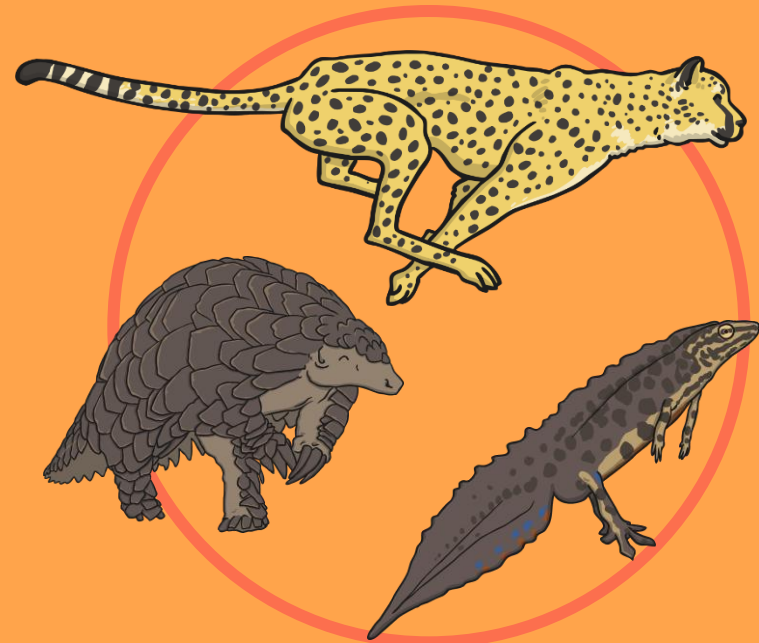
Green plants make their own food using the energy from the sun.



# Life Processes

All living organisms share these characteristics. This is how we know they are alive!

Living things have lots of other similarities, and many differences too. We can use these similarities and differences to sort the living things into groups.



# Grouping Living Things



With a partner, think of a way we could sort these organisms into two groups.



# Grouping Living Things



Here the organisms have been sorted into two groups. We have used a diagram to represent these groups.

Can an organism be in both groups at the same time?



plants



animals

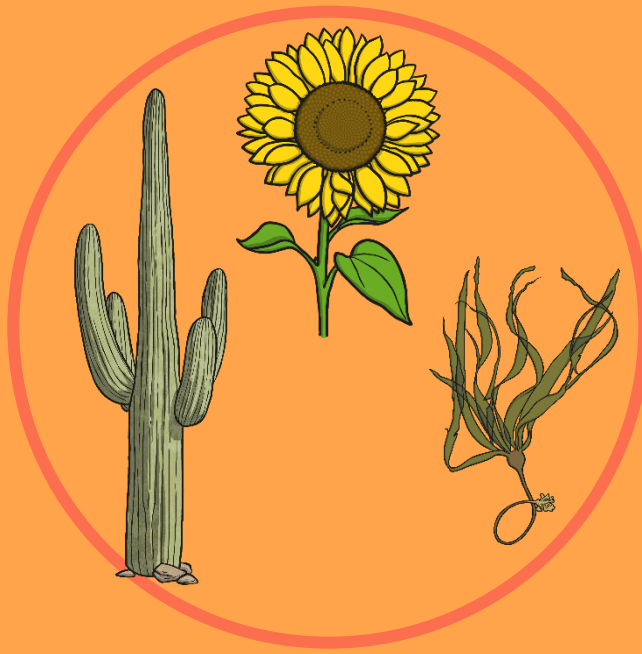




# Grouping Living Things



Here, an organism cannot be both an animal and a plant, so it can not be in both groups at the same time.



plants



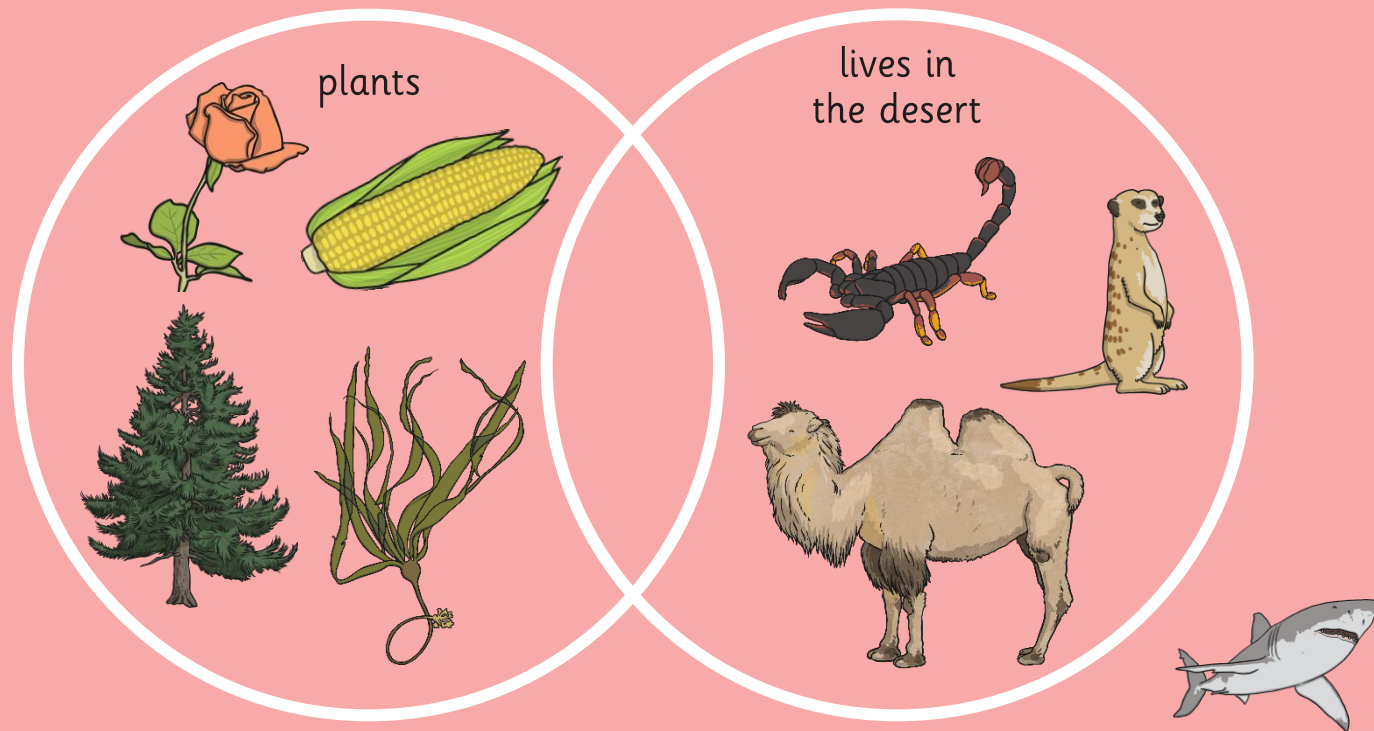
animals



# Grouping Living Things



This is called a Venn Diagram. Where does a cactus go in this diagram? How about a polar bear?



How is this diagram different to the previous diagram?



# Grouping Living Things



This is a Carroll Diagram. Can you name an animal to go in each section of this diagram?

	Lives in water	Lives on land
Has legs	Crab Sea otter	Horse Spider
Does not have legs	Whale Fish	Snake Worm

Could you put a plant in this diagram? What about a dandelion? Or seaweed?



# Criteria



We have asked some questions to sort our living things into groups so far.  
We sometimes call these criteria, which means a rule that we use to decide something.

Plant or animal.

Lives in the desert or does not live in the desert.

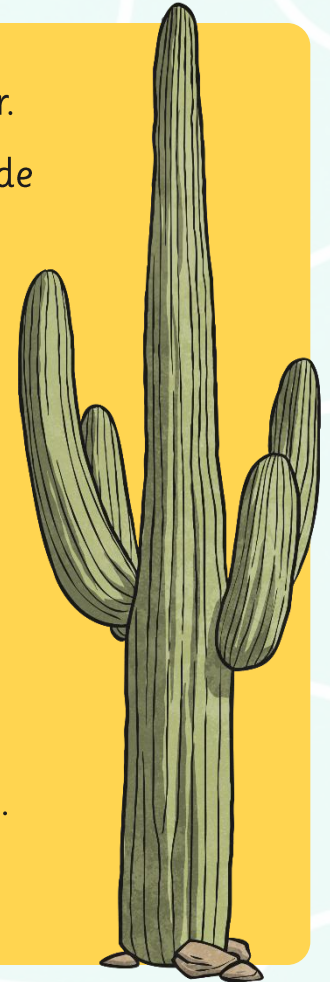
Has legs or does not have legs.

Lives on the land or lives in the water.

Today, you are going to be sorting animals.

With a partner, think of different groups that you could sort animals into.

Think of as many different groups as you can.



# Criteria




What  
criteria did  
you think  
of?



# Grouping Animals



You are going to group animals in a variety of ways, using some criteria that have been chosen for you, and some that you choose yourself.

 **Grouping Animals**

Cut out the animals and sort them into the groups below.

	lays eggs	does not lay eggs
birds		
not birds		



# Sorting into Three Groups

Venn diagrams can be used to sort lots of groups of animals.

Where would a turtle go on this diagram?

Where would a cat go?

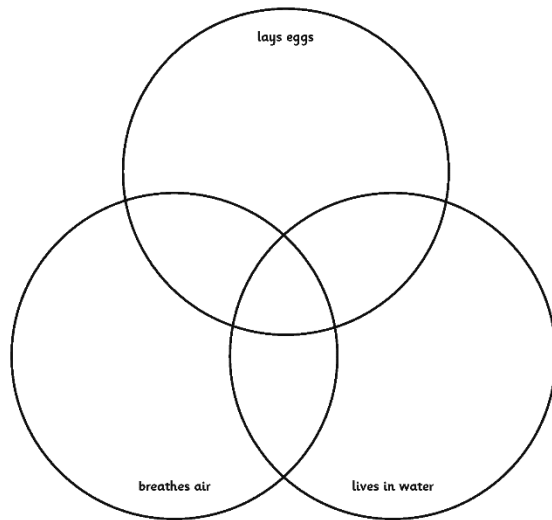














# Sorting into Three Groups



## Grouping Animals Extension

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<b>whale</b>  Lives in water Gives birth Breathes air	<b>salmon</b>  Lives in water Lays eggs Breathes through gills	<b>brown crab</b>  Lives in water Lays eggs Breathes through gills
<b>dolphin</b>  Lives in water Gives birth Breathes air	<b>snake</b>  Lives on land Lays eggs Breathes air	<b>crocodile</b>  Lives in water Lays eggs Breathes air
<b>badger</b>  Lives on land Gives birth Breathes air	<b>chameleon</b>  Lives on land Lays eggs Breathes air	<b>giant tortoise</b>  Lives on land Lays eggs Breathes air
<b>sea turtle</b>  Lives in water Lays eggs Breathes air	<b>octopus</b>  Lives in water Lays eggs Breathes through gills	<b>polar bear</b>  Lives on land Gives birth Breathes air





# Grouping Animals Quiz



## Grouping Animals Quiz

Use your Grouping Animals Extension Activity Sheet to answer the following questions.

1. Which animals lay eggs and breathe air?



2. How many animals lay eggs, live in water and breathe air?



3. Name the animals that live on land.



4. How many animals live in water and breathe air?



5. Name the animals that do not breathe air.



6. Name three other animals that would go in the same group as the polar bear?

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7. What kind of animal are the organisms that breathe air, live in water and do not lay eggs?

Reptiles  Fish  Mammals



8. Bonus question: Give a reason why there is an empty group.

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# Grouping Animals Quiz



1. Which animals lay eggs and breathe air?

snake

giant tortoise

chameleon

crocodile

sea turtle



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# Grouping Animals Quiz



5. Name the animals that do not breathe air.

**brown crab**

**salmon**

**octopus**

**shark**



# Grouping Animals Quiz



Well Done!



# Aim

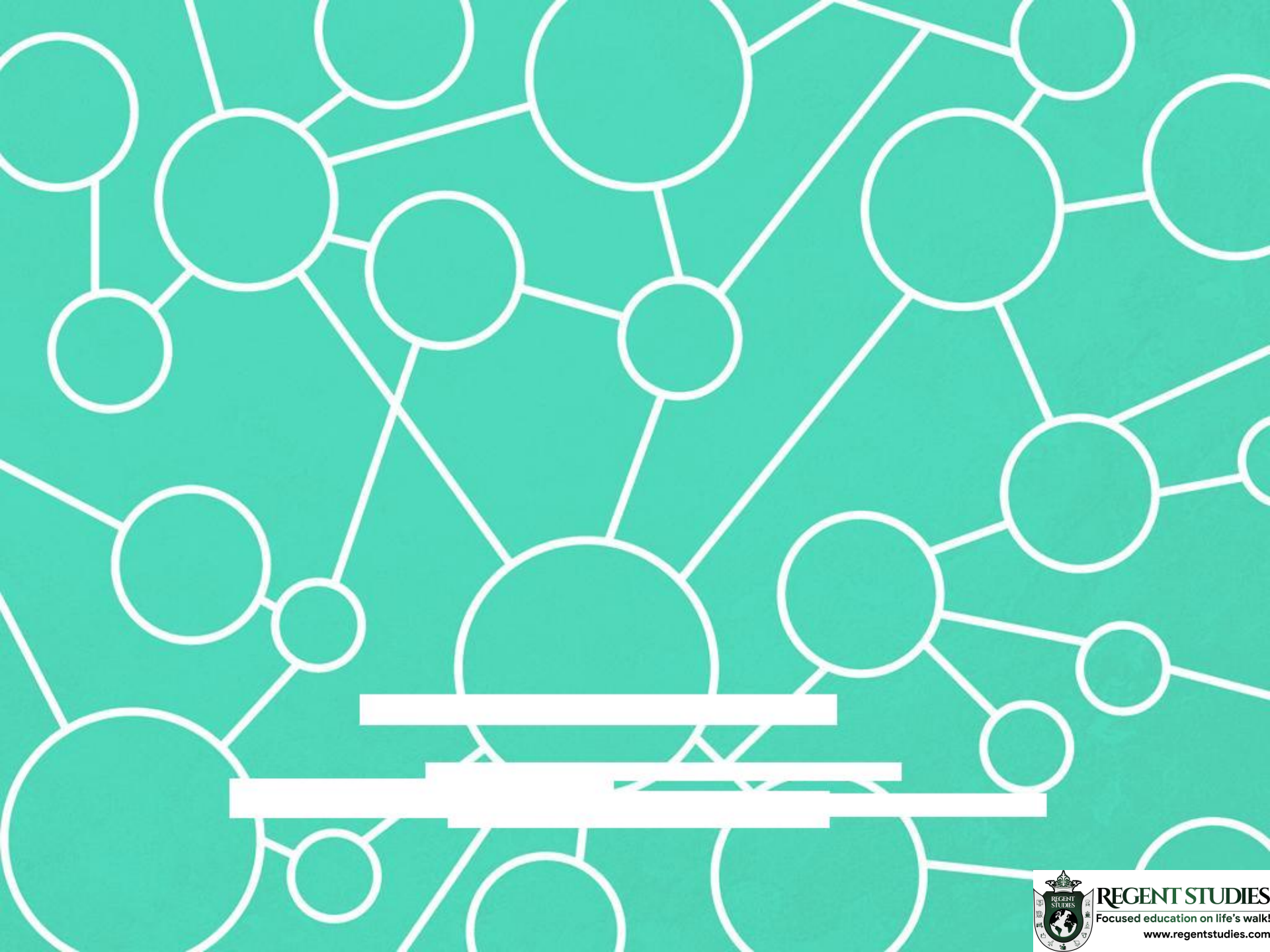


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