



ATLANTIC PUFFIN



DESCRIPTION

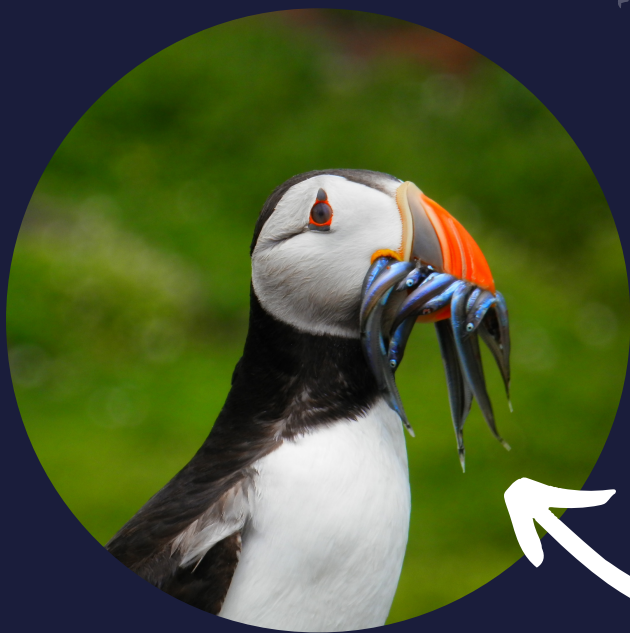
Puffins are easily recognisable with white bellies and **brightly coloured beaks**.

Newly hatched "pufflings" are small grey fluffy chicks and will only get their bright colours as adults.



SCIENCE

Puffins are ready to become parents around five years old and can **live for over 20 years**. Both parents take turns caring for a single egg in a burrow or crevice. Changes in the environment and attacks by animals can make successfully raising chicks more difficult.



FUN FACT

Puffins hunt small fish like sandeels and carry their catch back to the nest when they have a chick. They usually carry around 10 fish but puffins returning with over **60 fish** in their bills have been seen!



SOME OPTIMISM



Puffin numbers are increasing in Wales and monitoring efforts, such as the **Puffarazzi Project**, are working hard to identify the causes of puffin's decline.





BLACK-LEGGED KITTIWAKE



DESCRIPTION

Kittiwakes are **two seabird species**, the black-legged kittiwake found in Europe and North America and the red-legged only found in North America. Kittiwakes spend most of their lives at sea.

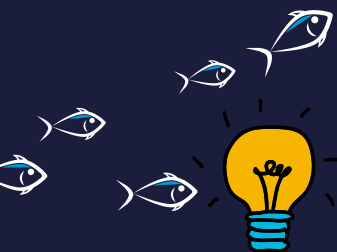


SCIENCE



Winter is spent feeding on fish, worms and shrimp in at sea, returning to clifftop colonies to breed in spring. Clifftop nesting reduces risk of attacks by **predators**.

But reduced food availability, due to climate change and unsustainable fishing, remains a threat.



FUN FACT

Kittiwakes get their name from the sound of their 'kittee-wa-aake' call. Their scientific name, *Rissa tridactyla*, means 'three-toes', referring to the unusually small hind toe on a kittiwake foot.



SOME OPTIMISM

In 2021, a seabird tracking collaboration revealed a **major seabird hotspot** in the North Atlantic. This area is used as wintering grounds by kittiwakes, and making it a Marine Protected Area could make a vital contribution to **protecting the species**.





ARCTIC TERN



DESCRIPTION

Arctic terns are recognisable with a distinct black cap, red beak and red legs. They are often called the '**sea swallows**' due to their ribbon-like tails.



SCIENCE

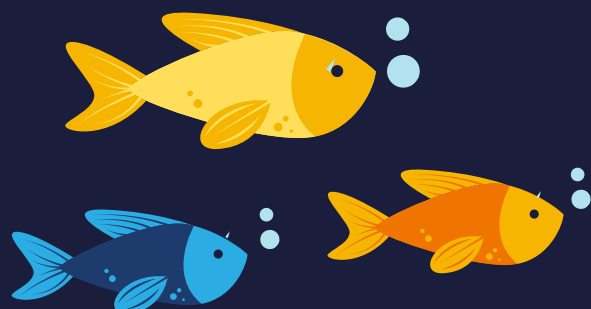
In the UK, Arctic terns are considered a **priority for protection** due to their declining population. This is mainly caused by our damaged oceans leading to a **lack of food**.

FUN FACT

Arctic terns have one of the **longest migration routes** in the world! They fly between the Arctic and the Antarctic up to **22,000 miles (35,000 km)** each year!

SOME OPTIMISM

Some seabirds changed their behaviours during the COVID-19 pandemic in absence of visitors. Arctic terns have colonised new nesting grounds on Farne Islands in 2021. It will be important to monitor the effect the return of visitors has on them in 2022.





COMMON GUILLEMOT



LEAST
CONCERN
LC



DESCRIPTION

Guillemots have **brown backs and white bellies**. Their colony often looks crowded as they nest very close together. The return to the same place every year and keep their mate for life.



SCIENCE

Guillemots spend most of their lives **at sea** only coming on land to breed. They are particularly at risk of **oil spills** because their reaction is to **dive deeper** rather than fly off. Monitoring of oil spills can prevent this and the number of large oil spills has been going down in recent years.



FUN FACT

Every **guillemot egg** looks different so the parents can recognise their own egg. The eggs are also **pointed at one end** – researchers think that this prevents them from **rolling off the cliffs** guillemots nest on!



SOME OPTIMISM

Some sites important for guillemot breeding, like the Skellig Islands or the Cliffs of Moher in Ireland, have been designated as **Special Protection Areas** to protect important seabird habitats.



SEABIRD
WATCH





CONSERVATION OPTIMISM

CONSERVING SEABIRDS

DECLINING DUE TO MANY THREATS

SEABIRD WATCH

Seabirds are important indicators of our ocean's health

Common Guillemot



LEAST CONCERN
LC

Razorbill



NEAR THREATENED
NT

Black-legged Kittiwake



VULNERABLE
VU

Around 150 of 350+ seabird species are threatened with extinction

INVASIVE MAMMAL SPECIES
can eat eggs and chicks



EXTREME WEATHER EVENTS
impact chick survival



BYCATCH
is where birds get caught in fishing nets



Incubation



Hatching



Rearing



RISING SEA TEMPERATURE
reduces food quality



THREATS IN THE LIFE OF A BLACK-LEGGED KITTIWAKE

COMMERCIAL FISHING
reduces food available



HARSH WINTERS
mean not all birds make it back to the colony



Courtship



Kittiwakes begin breeding at around 3 years old

Fledging



Winter Migration



WIND FARMS AND CLIMATE CHANGE
impact migration, disrupt food reserves and cause of death



MARINE PLASTICS
release toxic chemicals into seabirds stomachs





CONSERVING SEABIRDS

WAYS THAT WE CAN HELP...

SEABIRD WATCH



CAMERA MONITORING ENABLES US TO KEEP TRACK OF...

- ✓ HOW OFTEN parents bring food to chicks
- ✓ Whether a nest is ATTACKED during breeding
- ✓ WHAT TYPES of food chicks are eating
- ✓ HOW MANY chicks are raised



A camera on Skomer Island, Wales



...WHICH LEADS TO...

- ✓ The establishment of MARINE PROTECTED AREAS
- ✓ Measures to enable SUSTAINABLE FISHERIES MANAGEMENT
- ✓ PRATICAL CONSERVATION ACTIONS to reduce disturbances to colonies

...BUT WE NEED YOUR HELP!



GET INVOLVED! Head to the Zooniverse website and the Seabird Watch project page to help classify many images of seabirds. Everyone is welcome!

Click here!



TRY TO REDUCE YOUR CARBON FOOTPRINT



SWAP SINGLE USE PLASTICS FOR REUSABLE PLASTICS



LOOK FOR SUSTAINABLY CAUGHT FISH IN THE SUPERMARKET



Check for labels!



CONSERVATION
OPTIMISM

BE A SEABIRD EXPERT



Test how much you know!

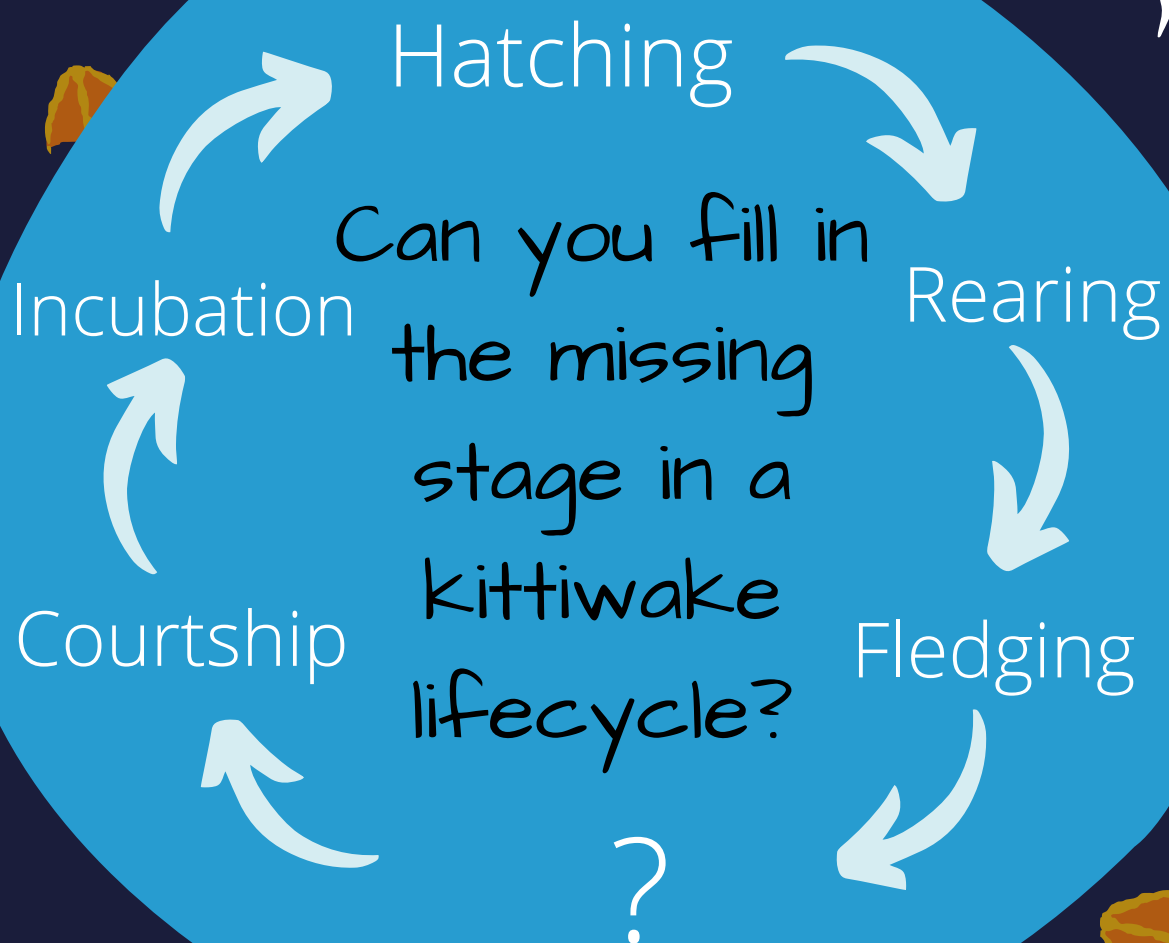
Can you identify these seabird species?



What effects does overfishing have on seabird food?

- Reduce food available
- More food variety
- Lower food quality

Which UK seabird has been nicknamed 'sea parrot'?



How many species of seabird are there?

- a) 90
- b) 350
- c) 500





CONSERVATION
OPTIMISM

BE A SEABIRD EXPERT



Answers!

Can you identify these seabird species?

1.
Kittiwake

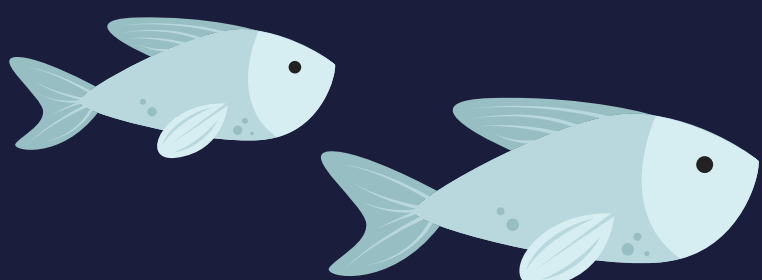
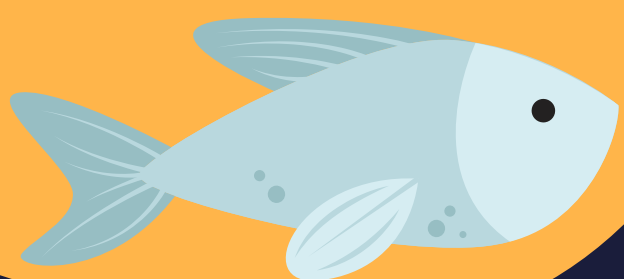
2.
Arctic Tern

3.
Atlantic Puffin

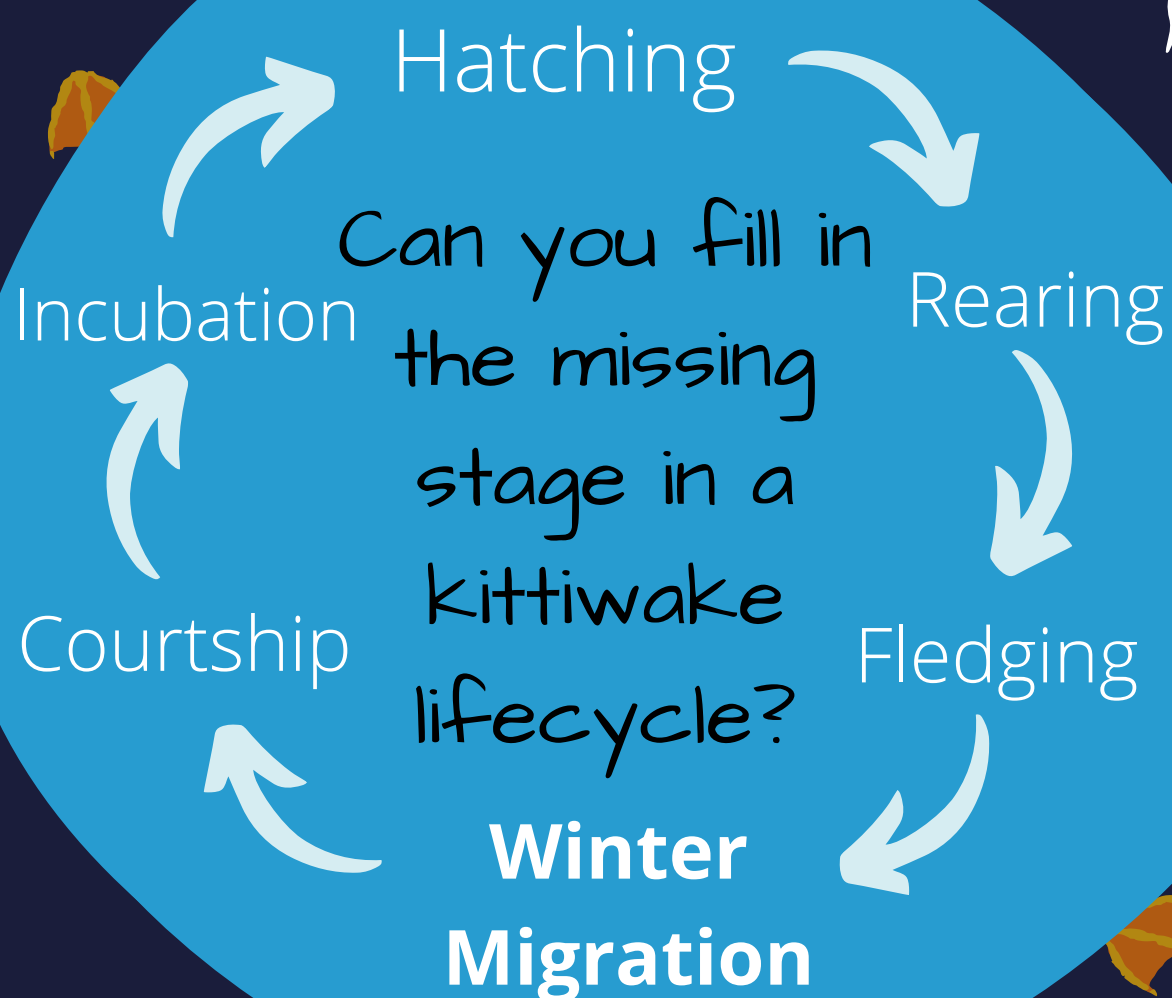
4.
Common Guillemot

What effects does overfishing have on seabird diets?

- Reduce food available
- More food variety
- Lower quality food



Puffins - also called 'clowns of the sea'



How many species of seabird are there?

- a) 90
- b) 350**
- c) 500



PUFFARAZZI

Photographing Puffins to Study their Diet

Puffin Facts

- Nicknamed 'sea parrots' or 'clowns of the sea'
- Chicks are named pufflings
- Small fish called sandeels form the majority of puffin's diet



VULNERABLE >

VU

Main Threats

- Sandeels are becoming a **less reliable food source**. Researchers are trying to see **how climate change may be causing this change**.
- **Reduced food puts puffins at risk of extinction.**



The Puffarazzi

PROJECT PUFFIN asked concerned citizens to join the **PUFFARAZZIS** and send photos of puffins with fish in their beaks to identify **WHAT THEY ATE** in different places and learn how puffin diet is linked to their survival.

#PUFFARAZZI

What were the images used for?

Can you tell the difference between the fish species on the left?



Non-Larval Sandeels



Larval Sandeels



Gadoids



Rockling



Clupeids

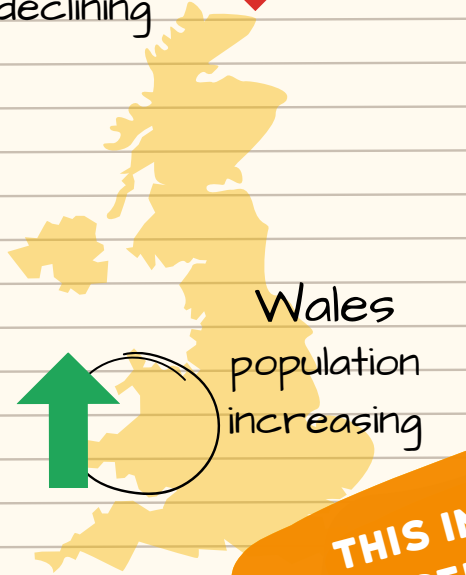
WHAT WERE THE RESULTS?

- Sandeels make up **50-100%** of puffin diets.
- Shetland puffins ate more **larval sandeels** (younger and lower quality food source).
- Quantity brought back each trip was **lowest in Shetland** and **highest in Wales**.
- Colonies that ate **many kinds of fish** were **less affected by changes in environment**.

Shetland population declining



Wales population increasing

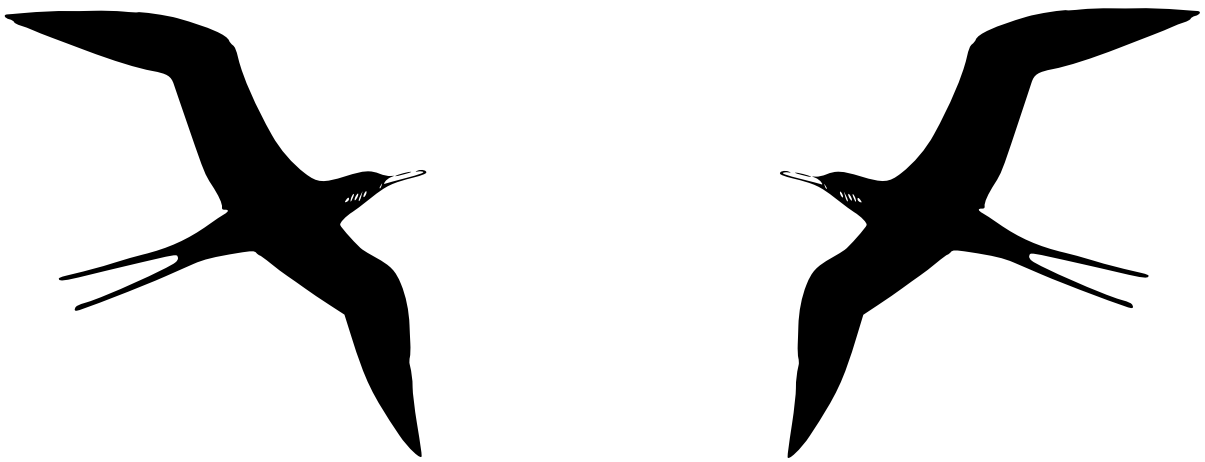


Trained citizen scientists (public participating in research) **used the images to identify and count species of fish** in each beak

THANKS TO ALL OUR CITIZEN SCIENTISTS!

THIS INFORMATION IS USED TO PROTECT PUFFINS!

UK Seabirds Activity Book



Credits: Amy Louise Mason, Layla Sklar, Isabel Schmidt



**CONSERVATION
OPTIMISM**



SEABIRD FACT FILE

Use the internet and non-fiction books to research these seabirds

Atlantic Puffin

What does a puffin look like?

You can stick in a photo you've found or try drawing one yourself!

Distribution Colour in the places this bird is found..



What is their conservation status?

How many puffins are in the UK?

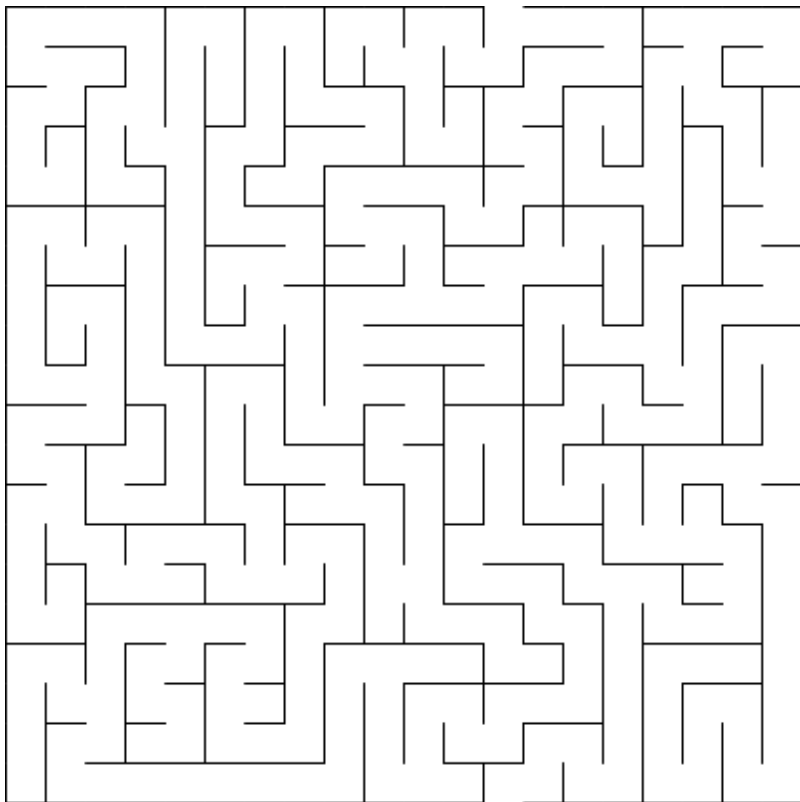
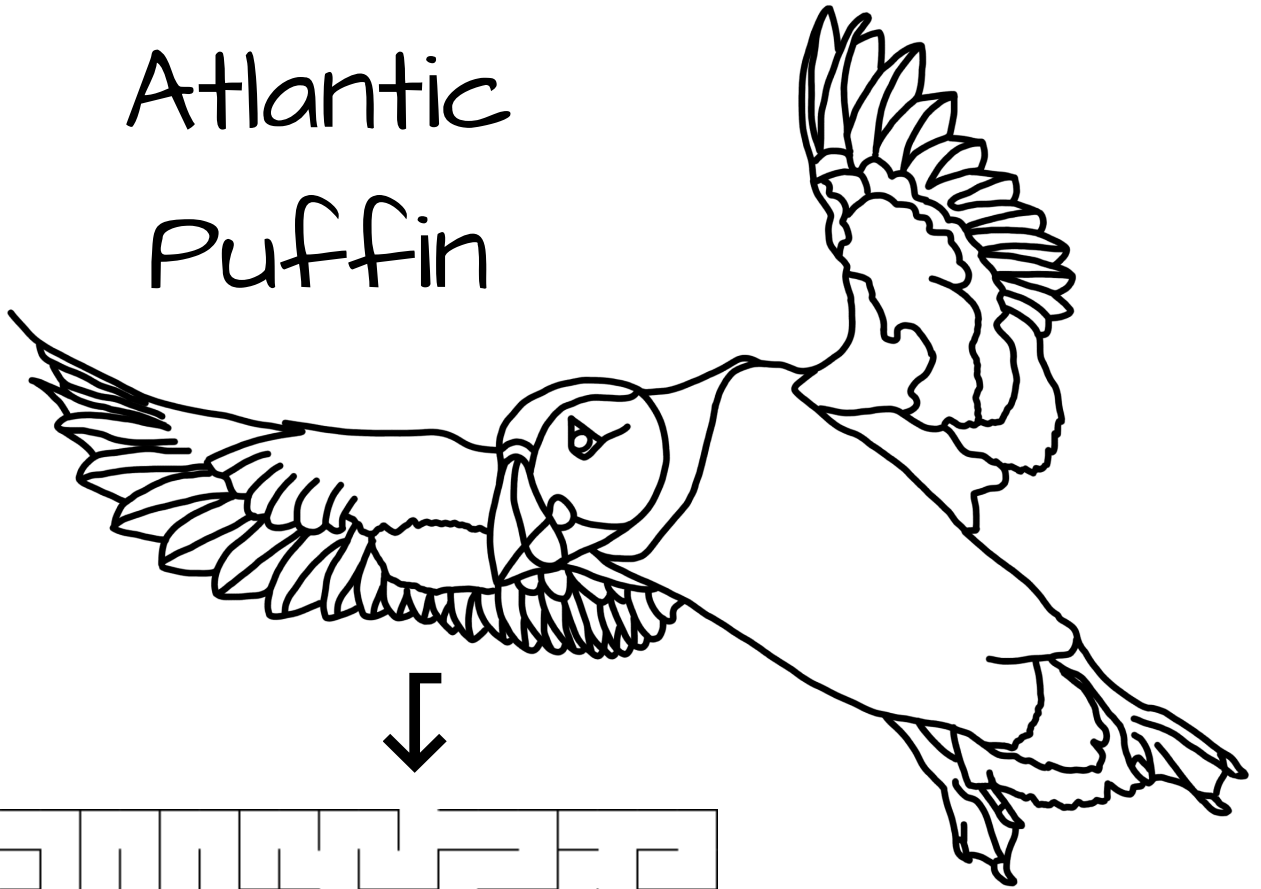
Fun Facts!

1. What is a baby puffin called?
2. What is a common nickname for puffins?

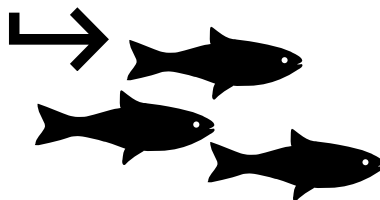
What do puffins like to eat?

COLOUR ME IN!

Atlantic
Puffin



Help the
puffin get
to the fish!



SEABIRD FACT FILE

Use the internet and non-fiction books to research these seabirds

Black-legged Kittiwake

What does a kittiwake look like?

You can stick in a photo you've found or try drawing one yourself!

Distribution Colour in the places this bird is found...



What is their conservation status?

How many kittiwakes are in the UK?

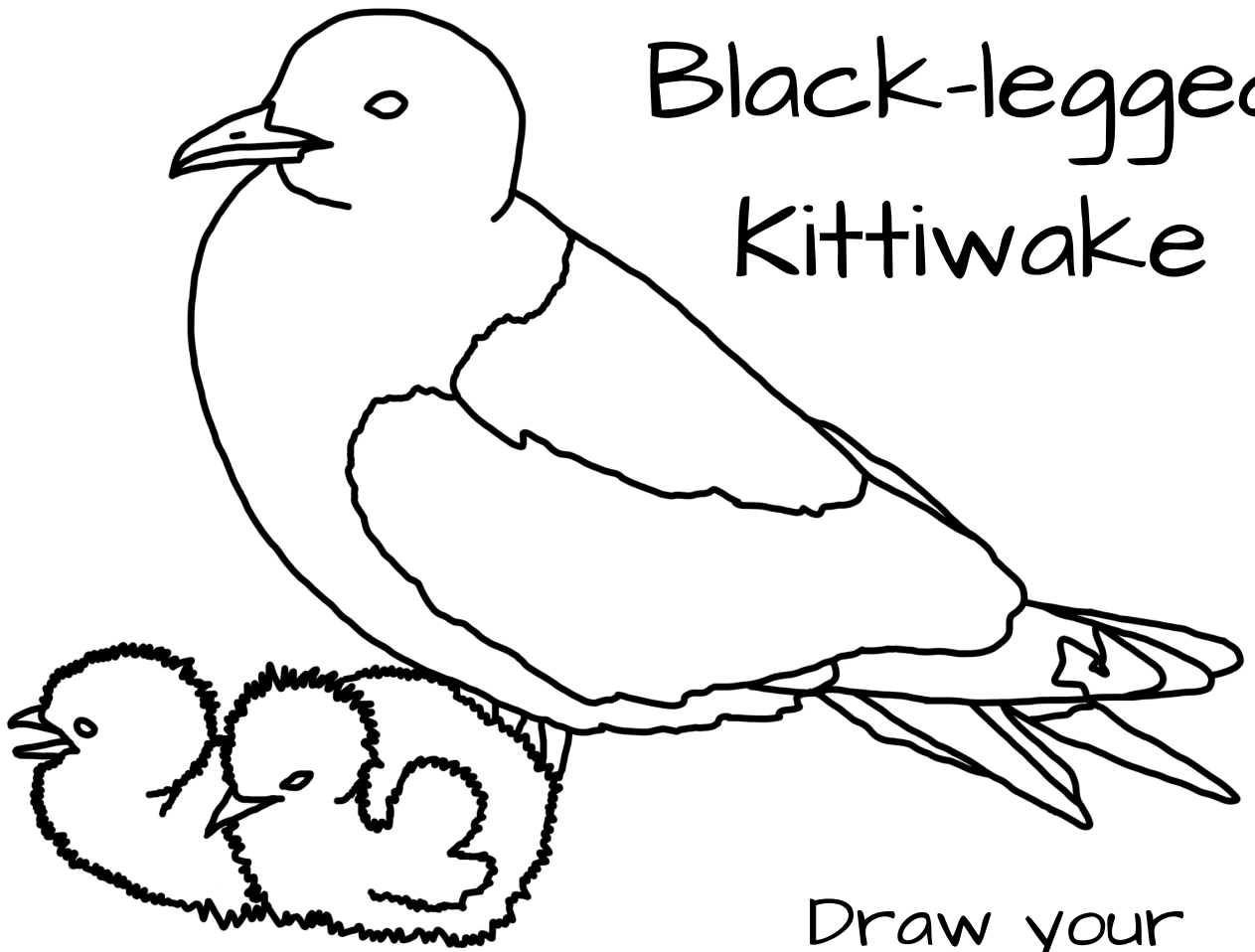
Fun Facts!

There are 2 different types of kittiwake!

But how can you recognise them?

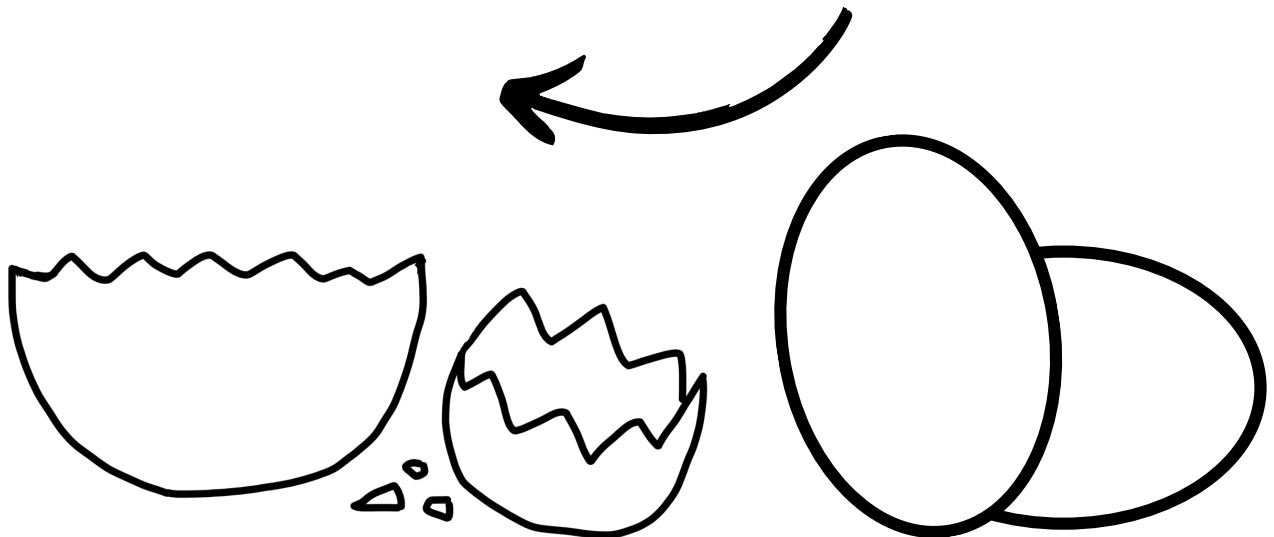
What do kittiwakes like to eat?

COLOUR ME IN!



Black-legged
Kittiwake

Draw your
own Kittiwake
chick!



SEABIRD FACT FILE

Use the internet and non-fiction books to research these seabirds

Arctic Tern

What does an arctic tern look like?

You can stick in a photo you've found or try drawing one yourself!

Distribution Colour in the places this bird is found..



What is their conservation status?

How many arctic terns are in the UK?

Fun Facts!

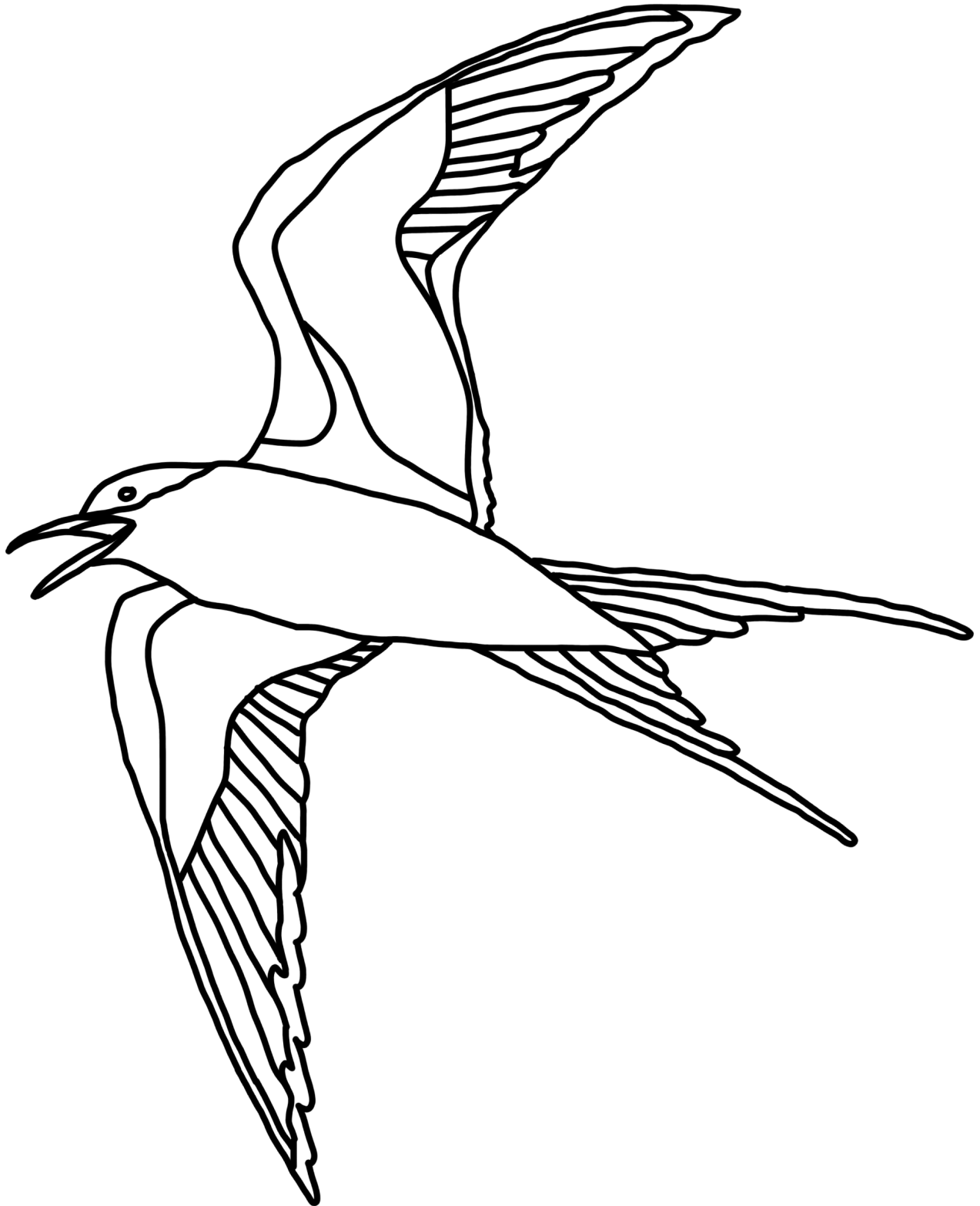
Fill in the gap:

Arctic terns have one of the longest
----- of all animals in the world.

What do arctic terns like to eat?

COLOUR ME IN!

Arctic Tern



SEABIRD FACT FILE

Use the internet and non-fiction books to research these seabirds

Common Guillemot

What does a guillemot look like?

You can stick in a photo you've found or try drawing one yourself!

Distribution Colour in the places this bird is found..



What is their conservation status?

How many guillemots are in the UK?

Fun Facts!

Guillemot eggs are one of the most pretty and interesting in the world!

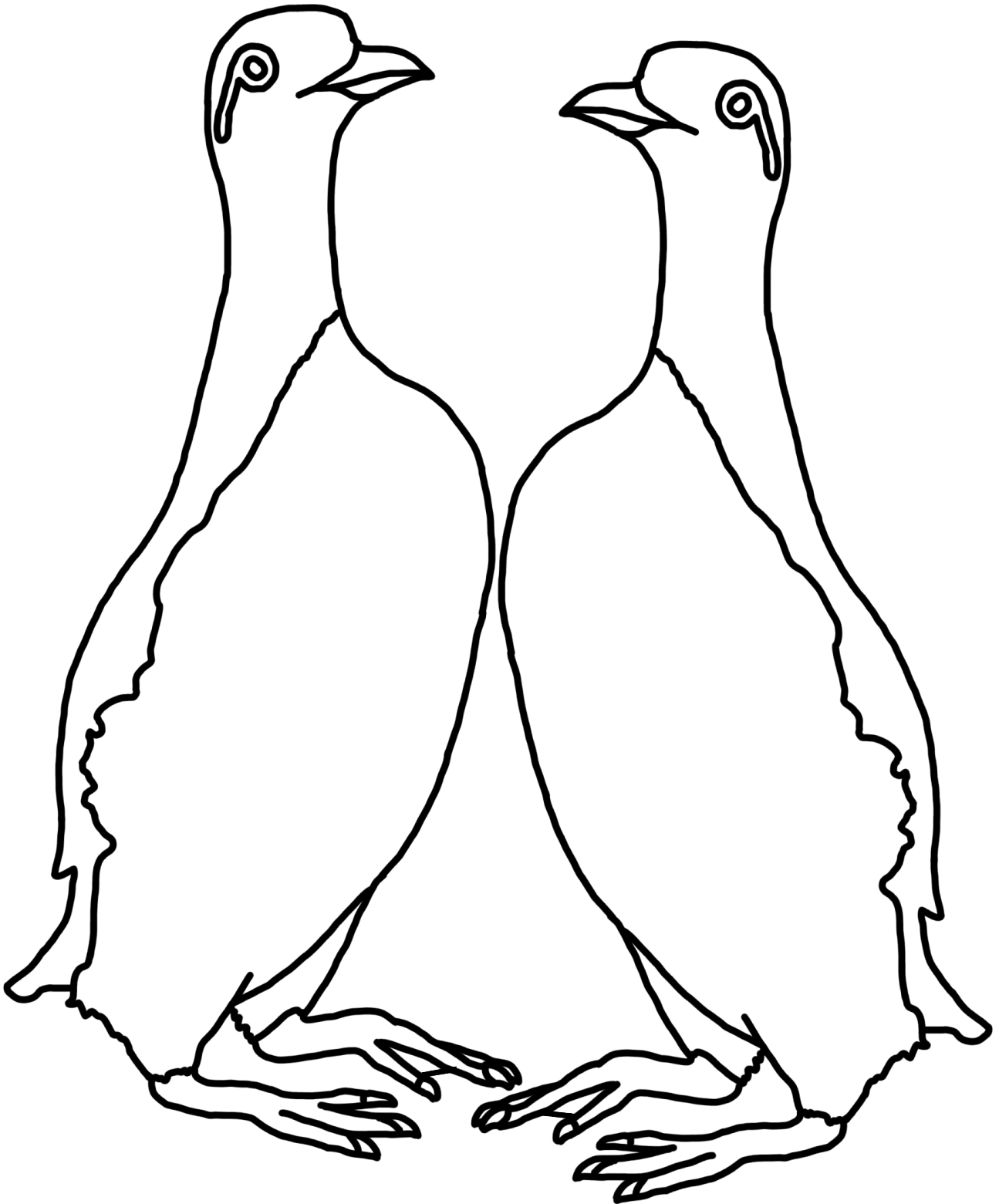
But why? Find 2 key features

- 1.
- 2.

What do guillemots like to eat?

COLOUR ME IN!

Common Guillemots



CAN YOU FIND ALL THE SEABIRD SPECIES THAT YOU COULD SPOT AROUND THE UK?



H	E	R	R	I	N	G	G	U	L	L	D	H	S
U	S	N	K	A	R	C	T	I	C	T	E	R	N
L	X	A	K	E	U	L	B	S	N	J	G	O	V
L	C	L	I	S	W	F	C	T	L	G	R	H	O
F	F	W	T	L	K	U	V	O	V	G	E	X	R
L	R	K	T	C	A	L	L	R	A	A	A	P	W
F	A	H	I	H	F	M	A	M	K	N	T	U	H
J	Z	E	W	Y	Y	A	U	P	L	N	S	F	Z
T	O	B	A	E	Y	R	M	E	J	E	K	F	N
V	R	P	K	B	D	F	V	T	J	T	U	I	E
G	B	W	E	I	X	I	Q	R	R	A	A	N	N
X	I	Z	D	Q	Z	N	J	E	M	M	F	X	I
T	L	P	C	R	G	U	I	L	L	E	M	O	T
E	L	O	T	M	C	O	R	M	O	R	A	N	T

- | | | | | | |
|--------------|--------------------------|--------------|--------------------------|-----------|--------------------------|
| Storm Petrel | <input type="checkbox"/> | Herring Gull | <input type="checkbox"/> | Cormorant | <input type="checkbox"/> |
| Razorbill | <input type="checkbox"/> | Arctic Tern | <input type="checkbox"/> | Kittiwake | <input type="checkbox"/> |
| Puffin | <input type="checkbox"/> | Gannet | <input type="checkbox"/> | Guillemot | <input type="checkbox"/> |
| Great Skua | <input type="checkbox"/> | Fulmar | <input type="checkbox"/> | | |

CAN YOU FIND ALL THE TOOLS WE USE TO PROTECT OUR SEABIRDS?



S	Y	M	J	E	C	D	C	Q	U	D	L	W	T
E	U	O	M	D	O	O	D	A	W	E	A	F	R
A	B	N	F	U	N	H	N	K	C	E	A	T	E
B	P	I	M	C	S	V	U	L	O	T	H	V	A
I	U	T	W	A	E	O	P	T	I	M	I	S	M
R	F	O	N	T	R	Y	C	J	X	O	Z	O	C
D	F	R	G	I	V	S	V	C	L	C	S	M	N
W	A	I	E	O	A	D	C	A	M	E	R	A	S
A	R	N	B	N	T	E	A	M	W	O	R	K	K
T	A	G	G	Y	I	S	R	N	Z	G	J	Q	S
C	Z	Z	H	B	O	J	Q	F	E	F	P	S	X
H	Z	F	S	C	N	F	H	G	Q	P	N	E	L
C	I	T	I	Z	E	N	S	C	I	E	N	C	E
X	L	K	K	L	B	T	S	U	R	V	E	Y	S

Conservation

Cameras

Seabird Watch

Teamwork

Monitoring

Puffarazzi

Education

Citizen Science

Data

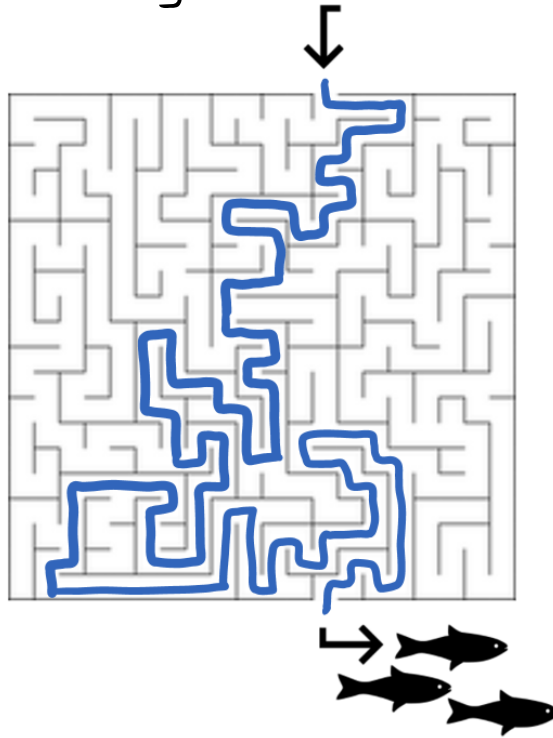
Action

Optimism

Surveys

ANSWERS!

Page 2 Maze



Page 9 Word Search



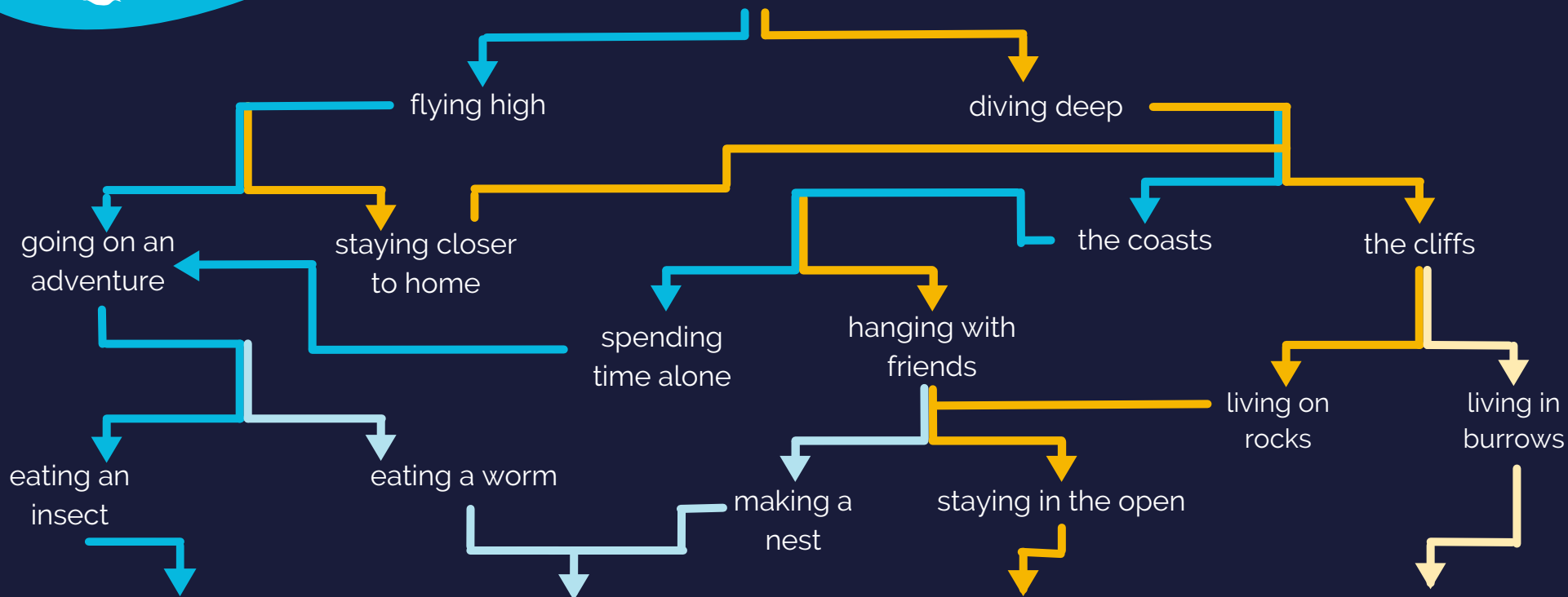
Page 10 Word Search



Which seabird are you?



Would you prefer...



Traveller

You're... an **Arctic Tern!**
The Arctic tern can be seen in the UK in summer and flies an incredible migration from the Arctic to Antarctica each year. Enjoy your trip!



Sea lover

You're... a **Black-legged Kittiwake!**
Most sea-loving bird, Kittiwakes spend winter feeding on fish, worms and shrimp at sea and return to clifftop colonies to breed in spring!



Adventurer

You're... a **Common Guillemot!**
Guillemots know how to live on the edge with eggs being pointy on one end – researchers think that this prevents them from rolling off the cliff where adults breed!



Charmer

You're... an **Atlantic Puffin!**
Clown of the sea, Puffins are also excellent divers. They use their wings to dive under water as deep as 60 metres (200 feet) to catch their food!