**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.

Credits: Layla Sklar
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.

Credits: Isobel Hawkins
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 important to monitor the effect the return of visitors has on them in 2022.

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.

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!
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.

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 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.
CONSERVING SEABIRDS DECLINING DUE TO MANY THREATS

Seabirds are important indicators of our ocean’s health.

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.

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

HATCHING

Incubation

Rearing

FLEDGING

WINTER MIGRATION

THREATS IN THE LIFE OF A BLACK-LEGGED KITTIWAKE

MARINE PLASTICS release toxic chemicals into seabirds stomachs.

COMMERCIAL FISHING reduces food available.

RISING SEA TEMPERATURE reduces food quality.

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

Credits: Amy Louise Mason & Layla Sklar | Photos: Alexa Piggott & Lauren Mason | Illustrations: Terra Dawson
CONSERVING SEABIRDS
WAYS THAT WE CAN HELP...

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

...which leads to...

- The establishment of marine protected areas
- Measures to enable sustainable fisheries management
- Practical 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!

Try to reduce your carbon footprint
Swap single use plastics for reusable plastics
Look for sustainably caught fish in the supermarket

Credits: Amy Louise Mason & Layla Sklar | Photos: Alexa Piggott & Lauren Mason | Illustrations: Terra Dawson
Can you identify these seabird species?

1. 
2. 
3. 
4. 

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'?

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

How many species of seabird are there?

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

 Credits: Isobel Hawkins, Graphics from Canva
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

Can you fill in the missing stage in a kittiwake lifecycle?
- Hatching
- Incubation
- Courtship
- Rearing
- Fledging
- Winter Migration

Puffins - also called 'clowns of the sea'

How many species of seabird are there?
- a) 90
- b) 350
- c) 500

Credits: Isobel Hawkins, Graphics from Canva
**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

**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.

What were the images used for?
Can you tell the difference between the fish species on the left?

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

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.

This information is used to protect puffins!

Credits: Isobel Hawkins and Isabel Schmidt | Photos from Oliver Prince, Tommy Mees, Rita Baker, Farish Patel and Chris Sweeting
https://www.rspb.org.uk/reserves-and-events/events-dates-and-inspiration/puffarazzi/
UK Seabirds
Activity Book

Credits: Amy Louise Mason, Layla Sklar, Isabel Schmidt
## 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...

<table>
<thead>
<tr>
<th>What is their conservation status?</th>
<th>How many arctic terns are in the UK?</th>
</tr>
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<tbody>
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<table>
<thead>
<tr>
<th>Fun Facts!</th>
<th>What do arctic terns like to eat?</th>
</tr>
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<tbody>
<tr>
<td>Fill in the gap:</td>
<td></td>
</tr>
<tr>
<td>Arctic terns have one of the longest</td>
<td>What do arctic terns like to eat?</td>
</tr>
<tr>
<td>____________ of all animals in the world</td>
<td></td>
</tr>
</tbody>
</table>
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...

![World Map](image.png)

### 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?

Storm Petrel  Herring Gull  Cormorant
Razorbill  Arctic Tern  Kittiwake
Puffin  Gannet  Guillemot
Great Skua  Fulmar
CAN YOU FIND ALL THE TOOLS WE USE TO PROTECT OUR SEABIRDS?

Conservation
Teamwork
Education
Action
Cameras
Monitoring
Citizen Science
Optimism
Seabird Watch
Puffarazzi
Data
Surveys
ANSWERS!

Page 2 Maze

Page 9 Word Search

Page 10 Word Search

HERRING GULL D HS
US K A R CT 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 W T L K U V O V G E X R
L R K T C A L L R 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 L L E M O T
E L O T M C O R M O R A N T

S Y M J E C D C Q U D L W T
E U O M D O D A W E A F R
A B N F U 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 T I P 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
Which seabird are you?

Would you prefer...

- going on an adventure
- flying high

- staying close to home
- spending time alone

- eating an insect
- eating a worm

- making a nest
- staying in the open

- the cliffs
- living in burrows

- the coasts
- living on rocks

You're... a

- Traveller: 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: 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: 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: 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!

Credits: Isabel Schmidt, Layla Sklar, Amy Mason