Classroom Based House Martin Education

How to use this educational material

The material is broken down into classroom based subjects and into four different age groups: 4-7, 8-10,11-13 and14+. In addition, to enable topic-based learning, topic identifiers have been added to questions, experiments, projects, or activities to enable quick identification of materials for topic-based learning. The topic categories and their symbols are:

 Climate Change

 Migration

 Natural Science

English	Age 4 - 7	Write a story about house martins, try to include details of their image, behaviours, and their life in your work.
	Age 8 – 10	Write a poem or short descriptive story about house martins, try to include details of their image, behaviours, and their life in your work.
	Age 11 - 13	Write a poem or short descriptive story about house martins, either about a young house martin's first journey to the UK and the sights it sees and the problems it may encounter; or about nest building and raising young including the issues they may encounter, and actions people can take to help. Include details of their image, behaviours, and their life in your work.
	Age 14 +	Write a community newsletter, or newspaper article about house martins, either about their migration to the UK, the problems they may encounter and the actions people and communities can take to help; or about nest building and raising young, the issues they may encounter and how people and communities can help them. Include details of their conservation status, lifestyle, image and behaviours in your work.

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Mathematics

Age 4 - 7

If a pair of house martins lay 5 eggs in their first brood, and 3 eggs in their second brood, how many eggs altogether have been laid?

After eggs are laid it takes around 16 days for the chicks to hatch, and on average, 26 days of feeding the chicks until they can leave the nest. How many days will it be when the chicks are ready to leave the nest?

Age 8 – 10

If it takes 1000 beaks of mud pellets to build a nest, and an average 2 weeks to build, how many mud pellets do the parent birds together use each day?

Following on from your answer above, how many mud pellets does each parent use each day if they share the work equally?

A house martin flies around 7000 miles from Africa to England. How many miles in total will the house martin fly to England and back to Africa?

Age 11 - 13

If a house martin travels from Naivasha, Kenya in Africa to Fetlar, in the Shetland islands as their most Northerly breeding ground in the UK, using a route via Gibraltar as a crossing point to Europe, what distance does it travel in miles (use on-line maps to identify distance "as if the crow flies" - meaning a straight line route)?

If the approximate average life span of a house martin is 2 years, how many miles will it travel in its life time from Naivasha, Kenya to Feltar, Shetland Islands and back again?

If a house martin's average speed is 24 miles per hour, and they roost for 7 hours each night how many days/hours would it take them to reach their most Northerly breeding ground in the UK?

Using the answer above, how many miles on average does a house martin fly each day taking into account their need to roost overnight for 7 hours?

If it takes 1500 beaks of mud pellets to build a nest, and a minimum of 2 weeks to build one, how many mud pellets are collected each day?

If a pair of adult birds raise 2 broods each containing 5 eggs in a breeding season, and there are 7 pairs of adult birds in a colony, how many house martins will there be altogether at the end of the season?

Guesstimating there were 238116 UK breeding pairs in 2024 and they have declined by 57% since 1995, how many breeding pairs can we guestimate being present in 1995? (Guestimate as not scientifically proven)

How many pairs are guesstimated as lost in that time, and how many birds?

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Mathematics

Age 14+

If a house martin travels from Naivasha, Kenya in Africa to Fetlar, in the Shetland islands as their most Northerly breeding ground in the UK, using a route via Gibraltar as a crossing point to Europe, what distance does it travel in miles (use on-line maps to identify distance "as if the crow flies" - meaning a straight line route)?

If a house martin's average speed is 24 miles per hour, and they roost for 7 hours each night, how long would it take them to reach their most Northerly breeding ground in the UK? Provide four answers by giving calculations in each of the following timescales: months, weeks, days, hours.

If there are 8 pairs of adult birds in a colony, each raising 2 broods, and each laying 5 eggs per brood, but in 4 of the total broods only 40% of the eggs hatch, and in 3 of the total broods only 20% of the eggs hatch, how many young (juveniles) are raised in total, and how many total birds are there at the end of the breeding season?

Using the answer above, what percentage of all the birds are juvenile birds, and what is the ratio of juveniles to adult birds?

Guesstimating there were 238,116 UK breeding pairs in 2024 and they have declined by 57% since 1995, how many breeding pairs can we guestimate being present in 1995? (Guestimate as not scientifically proven)

How many pairs are guesstimated as lost in that time, and how many birds?

Present your findings for how many breeding pairs are guesstimated to be lost as a ratio of breeding birds present in 1995 to now.

It has been reported (May 2022) that flying insects have declined by 60% in 20 years in the UK, and 25% in the last 30 years worldwide, and they are continuing to decline at 8.8% per decade worldwide. What is the average percentage loss per year of UK insects to worldwide insects presented as a ratio?

If no action is taken to reverse flying insect decline, in how many years will the worldwide percentage reach a 60% decline?

If 1 artificial nest cup was installed and adopted by a house martin pair each year thereafter, and each year 2 broods of 5 eggs were laid, with a success rate of 90% of young being raised over 3 years, how quickly could 1 nest cup support 100 house martin young being raised? How many young would 500 artificial nest cups produce in that same timescale?

Science

Age 4 - 7

Experiment: What soil mix makes the strongest house martin nest to survive sunlight heat? This is actually something we would like to know so please let us know your results!

How does wet weather help a house martin to build a nest?

If it is hot and sunny for many days, what can happen to mud, and what issues could this have for a house martin building a nest?

Age 8 – 10

Experiment: What soil mix makes the strongest house martin nest to survive sunlight heat – this is actually something we would like to know, so please let us know your findings

How does wet weather help a house martin to build a nest?

If it is hot and sunny for many days, what can happen to mud, and what issues could this have for a house martin building a nest?

When a house martin journeys on migration from Africa to the UK over many days, what activities might a house martin need to do along its journey to keep healthy?

Are there any issues that might occur during migration that would make the journey take longer, and why?

Age 11 - 13

Experiment: What soil mix makes the strongest house martin nest to survive sunlight heat – this is actually something we would like to know, so please let us know your findings

What is the effect of prolong dry spells on the ability of house martins to breed in the UK? List all effects, positive and negative and why they have an impact.

What if the effect of prolong wet spells on the ability of house martins to breed in the UK? List all effects, positive and negative and why they have an impact.

How is climate change impacting UK house martins across their wintering and breeding grounds and across their migration route?

What environmental causes can delay the return of house martins on their migration to the UK

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Science

Age 14+

Experiment: What soil mix makes the strongest house martin nest to survive sunlight heat – this is actually something we would like to know, so please let us know your findings

Fieldwork: If there is a house martin colony in your area that you can visit, conduct a visit in April/May and early September, spend at least half an hour each visit. In each visit count how many nests are whole, and how many partial, and whether there are any artificial nests (they will usually have a wood backing that is then attached to the building). Also count how many and which nests are being used by house martins. Make observations about the bird's behaviours (including chicks when observed in the nest) at each visit, in September record how many times adult birds visit the nest to feed their young in the time you are there. Draw up an assessment from both visits, include a comparison of results and your findings from each visit, descriptions of different behaviours observed and the causes of those behaviours, and draw conclusions on how often parents feed chicks in terms of how often they are fed each hour/day, and where likely sources of flying insects are being gathered from. (If the colony is on private houses viewable from the pavement, write to residents beforehand to explain your fieldwork activity).

What properties does mud have that make it a good material for house martins to build their nests from?

Experiment: Separate the class into groups then get each group to mimic 4 mud nest by lining a plastic bowl approximately 13cm wide and 10cm deep with clingfilm or similar, and then coating the inside with a 1cm layer of mud with some clay content. Let them dry out fully, then remove them from the bowl. In another lesson, get the group to test one mimicked nests under the exposure to heat temperatures and one under frost temperatures, test another nest to see if it has any insulating properties in cold weather, or cooling properties in hot weather. Record the findings from each group and ask the class to make their conclusions from the results. Keep the fourth nest for the class or each group to design a test of their own that may impact house martins using mud nests, get the class or each group to record their findings. We would be interested in hearing your findings from your experiments. (Please note these mimic nests are not suitable as artificial nests for house martins to use).

How is climate change impacting UK house martins across their wintering and breeding grounds and across their migration route?

What environmental causes can delay the return of house martins on their migration to the UK

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Geography

Age 4 - 7	Using a picture of the world that includes country names, draw a line from Africa to the UK. What countries would a house martin fly over? Do they fly over any water?
Age 8 – 10	Using a map of the world, draw a line from Kenya, Africa to Fetlar, Shetland Islands. (Or Orkney Islands if the map does not show Shetland islands in correct location (i.e. it is in a box). What countries would the house martin fly over? Do they fly over any water? If so, what type of water, and does it have a name? Using online maps, are there any other land features house martins fly over?
Age 11 - 13	If a house martin winters in Naivasha, Kenya and returns to England each year, plot a route from Naivasha, Kenya to Fetlar, Shetland Islands that house martins might take to reach the UK. Consider the need for suitable places to roost overnight each night (woodland/forests/reedbeds), their need to have water and good places for feeding on airborne insects along the way (feeding over water, forests, woodlands, meadows), and that they can travel approximately 200 miles a day. Name the countries they might pass through, and roost points, water sources, and good food sources along the route.
Age 14 +	If a house martin winters in Naivasha, Kenya and returns to England each year, plot a route from Naivasha, Kenya to Fetlar, Shetland Islands that house martins might take to reach the UK. Consider the need for suitable places to roost overnight each night (woodland/forests/reedbeds), their need to have water and good places for feeding on airborne insects along the way (feeding over water, forests, woodlands, meadows), and that they can travel approximately 200 miles a day. Name the countries they might pass through, and roost points, water sources, and good food sources along the route. Obtain the co-ordinates for each roosting, feeding and drinking source. Using either the House Martin Mapper App (downloadable from our website), or our House Martin Haven webpage (available soon), choose a house martin colony then explore the area around it on an online map to identify what makes this a good location for house martins. Consider the food sources, water sources, and mud sources they might be using, the need to build and repair nests and the need to feed young frequently each hour. Report your findings and considerations.

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History	Age 4 - 7	House martins nest on houses, but before houses were made they used to nest on cliffs (a few birds still do in Scotland and North Yorkshire). What likeness do cliffs and houses have that make them good nesting places?
	Age 8 – 10	House martins nest on buildings, but before buildings were made they used to nest on cliffs (a few birds still do in Scotland and North Yorkshire). Why do you think they started to nest on buildings?
	Age 11 - 13	Describe and explain the different types of places house martin have nested in the UK and Ireland (cliffs, houses), and the possible reasons for the changes to nest locations.
	Age 14+	House martins nest on areas of buildings which give them shelter from weather and predators, and where mud can stick to the building fabric. Consider the differences of design and materials on houses built from each period from the Georgian era to how houses are built today, what changes have there been, and what advantages or disadvantages did/have these changes had for house martins?

Art/Photography	Age 4 - 7	Use the colouring sheets provided to create a lifelike house martin. Draw a picture of a house martin building a mud nest, or raising chicks. Create a collage using natural materials to create a house martin.
	Age 8 – 10	Use the colouring sheets provided to create a lifelike house martin. Draw a picture of house martins either flying from Africa to the UK on migration, building a mud nest, or raising chicks. Create a collage using natural materials to create a house martin.
	Age 11 - 13	Create a piece of artwork to highlight the characteristics of house martins, or to raise awareness of their decline/causes of their decline. Create a photo story to depict life at a house martin colony, or issues causing their decline.
	Age 14+	Create a piece of artwork to highlight the characteristics of house martins, or to raise awareness of their decline/causes of their decline. Create a photo story to depict life at a house martin colony, or issues causing their decline.

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Physical Education		
	Age 4 - 7	Mimic the effort house martins make to build a nest cup. The objective is to carry footballs, or similar, over 500 meters to a basket or mat (nest area). In a class of 25 use a relay system of 4/5 students over the 500 metre distance, with 5/6 groups. A ball is picked up from the start and transported the distance and placed in the nest area, each person stays at their new point, the last person runs to the start to pick up the next ball. With 5 groups repeat 14 times, with 6 groups repeat 12 times. Around 72 balls are needed, so balls in the nest area may need to be reused part way through (replace them with bean bags). Explain what the whole class has achieved together is the equivalent of what 2 birds would do in a day, and house martins would repeat this for 14 days and spend time at the nest site packing the mud in to make a nest cup.
	Age 8-10	Mimic the effort house martins make to build a nest cup. The objective is to carry footballs, or similar, over 500 meters to a basket or mat (nest area). In a class of 25 use a relay system of 4/5 students over the 500 metre distance, with 5/6 groups. A ball is picked up from the start and transported the distance and placed in the nest area, each person stays at their new point, the last person runs to the start to pick up the next ball. With 5 groups repeat 14 times, with 6 groups repeat 12 times. Around 72 balls are needed, so balls in the nest area may need to be reused part way through (replace them with bean bags). Explain what the whole class has achieved together is the equivalent of what 2 birds would do in a day, and house martins would repeat this for 14 days and spend time at the nest site packing the mud in to make a nest cup.
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	Age 14+	Create a 4 mile cross country course for the class to run. In a class of 25, together they will have run 100 miles. Explain at the end of the course that what the whole class has run (100 miles), a house martin can fly twice over in a single day on migration (200 miles).

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