Habitats Trail

TEACHERS' GUIDANCE NOTES

Contents of this pack

Teachers' Guidance Notes

Please note that this trail is self-directed. Please read this information carefully and notify the Education team if you have any queries.

1. Trail aims and objectives

Learning objectives of the Trail

- Children should be able to identify different types of habitats, their conditions and why certain plants and animals live there.
- They should understand concepts including life processes, feeding relationships and classification.
- They should use observation and different recording methods to investigate habitats and be able to make predictions based on this.
- They should communicate this knowledge using use relevant vocabulary.

Curriculum Links

The trail links into Scientific Enquiry (Sc1, Unit 1 & 2), Life processes and living things (SC2 Unit 1 Life Processes, Unit 4 Variation and Classification and Unit 5 Living things in their environment
It will help to deliver the QCA units 2B Plants and Animals in the local environment and 4B Habitats.

General aims of trail/workshop	Specific objectives
1. Observe a range of habitats	• Make observations about different types of habitats and their conditions • Familiarity with concepts such as light, oxygen, predators, shelter, food source
2. Understand the need for care of the environment	• Observe care of pit ponies and decide how care can be taken of wildlife
3. Understand the need to protect against hazards	• Identify hazards associated with pit ponies e.g. injury to self or animal, poison etc and decide how this translates to wildlife
4. Learn about life processes and how these relate to habitat.	• Assign animals to different stages in a food chain
5. Identify animals using observation and identification keys	• Identify animals from a series of multi-sensory clues • Use a key to identify an insect they have found
6. Group and classify plants and animals	• Use an identification chart to assign birds into different groups according to their own criteria
7. Make predictions	• Work together to predict what types of creatures live in different habitats and investigate

2. Visit information and checklist

Before your visit
To ensure that pupils gain the best learning experience from the trail, it would be useful if they can be introduced to some simple types of habitats and the vocabulary used to describe them. It would also be advisable to split the class into smaller groups of 6-10 pupils with an accompanying adult group leader. This is a good thing to arrange before the day. Children can then either work all together or in smaller groups.

Equipment the pupils will need
A workbook has been designed for the pupils to complete on the trail. This can be used by either every child or one per group and will need **to be photocopied by you in advance**. Consequently, a suitable number of clipboards and writing equipment will be required.

Underground
If you are accompanying your trail with an underground visit, you may wish to ask the pupils to observe the type of habitats found underground.

Structure of activity
The trail is located around the site, mainly on the Nature trail and at Hope Pit. It will take about 1 ½ hours to complete.

You will find a map of the site enclosed in this pack. There will also be a list of the various locations that your groups must visit to find the trail stops. Each group leader will follow the map and take their group to each location. Groups can either start at staggered time or from different locations.

At each location will be a coloured plastic box or a plastic envelope, which will contain information and any equipment to complete the set activities.

Instructions for each activity are also contained in these notes.

Please leave all boxes tidy for the next group and replace the lids securely.

Check list for group leader

- ✓ Decide on group numbers
- ✓ Photocopy the correct number of workbooks (either 1 per child or 1 per group)
- ✓ Bring the correct number of clipboards and writing equipment
- ✓ Photocopy the Teachers' Guidance Notes and map for all group leaders
- ✓ Make any extra arrangements for children with special educational needs

Please note that the trail is outdoors so waterproof clothing and sensible footwear are essential.

What the Museum will provide

- ✓ Activities around the site including instruction cards and equipment

3. Trail Outline

Stage	Location	Topic	Activity Title	Activity Summary
1.	**Coal Mine** Yard by entrance to underground tour	Familiarisation with habitats and life processes	What is your Habitat?	Students look at identification cards for creatures found in a mine and create an identification card for themselves.
2.	**Stables**	Care for the environment and Hazards	Habitat Hazards!	Students identify ways in which the ponies need to be cared for and what hazards there are and think about how these issues are relevant for wildlife.
3.	**Nature Trail** Totem pole at beginning	Different types of habitats (scale and characteristics)	How many Habitats?	Students identify different habitats on the nature trail, looking at scale and characteristics, as well as predicting what would live there.
4.	**Nature Trail** Food chain interactive	Food chains	Who eats whom?	Students sort woodland plants and animals into a food chain
5.	**Nature Trail** Habitat Interactive	Identification using keys	Insect Identification	Students find and identify insects by recording their characteristics and using a key.
6.	**Reed Bed Hides**	Grouping exercise	Bird Groups	Students use identification charts to group birds according to their own criteria.
7.	**Hope Pit**	Relationship between animals and habitat	Nature Detective	Students identify an inhabitant of the Hope Pit site using all of their senses and deductive powers.

4. Site Map

Trail marked in yellow

5. Trail Instruction Cards

These do not need to be photocopied and are for information only.

Activity 1
What is your Habitat?

A **Habitat** is a place where something lives.

There are lots of different habitats at the National Coal Mining Museum.

One of the biggest habitats is underground in the mine. Although it is cold and dark, lots of fascinating creatures live there.

One of these creatures is called a **collembola.**

There are more of these insects in the world than any other. There are lots of different species and they can live in lots of different places.

Challenge!

Have a look at the index card that will tell you more about this creature.
Can you have a go at writing an index card for yourself?

Activity 1

Index Card

Name of creature	Collembola (or Springtail)
Habitat	The entrance to the mine
Type of shelter	Soil / vegetation debris
Diet	Collembola eat fungi
Predators	Mites, ants, spiders and centipedes
Self defence	They have a sort of tail that allows them to spring out of harm's way.
Oxygen needed for life?	Yes
Light needed for life?	No (some types of collembola are blind)

Activity 2
Habitat Hazards!

The pit ponies need to be taken care of. There are horse keepers who spend all of their time looking after them. Today you are going to see lots of plants, animals, insects and birds. This wildlife also needs to be taken care of.

Challenge!

Think as a group about what sort of things the horse keepers do to look after pit ponies. What can you do to look after wildlife?

Write down any things that you can think of in your workbook.

There are always hazards when you are dealing with animals and wildlife. As well as protecting the environment and wildlife you need to protect yourself.

Challenge!

Can you think of a hazard in the stables?
What sort of hazards are there where there is wildlife?

HAZARD means a chance of being injured or harmed.

Activity 3
How many Habitats?

Welcome to the nature trail

On this nature trail you will see lots of different habitats.

Challenge! **As you walk around try and spot as many habitats as you can and write down in the table in your workbook what they are like.**

There will be big habitats, like a field, and small habitats, like a stone.

Challenge! **Think about what types of plants and animals live there.**

Plants and animals live in the places that give them the right nutrition, shelter and protection. These silver birch trees grow really well on the waste from the coal mine, whereas other plants and trees would not grow so well.

Activity 4
Who eats whom?

Do you know what a food chain is?

A food chain shows what animals eat.

	I get eaten by them		I get eaten by them		I get eaten by them	
Dead plants	→	Water worm	→	Water Shrew	→	Kestrel

Have a go at our food chain interactive…

Here are some plants and animals that live in the wood on the nature trail.

Slug **Badger** **Song thrush** **Plants** **Frog** **Rabbit**

Fox **Earthworm** **Hedgehog** **Rotting plants**

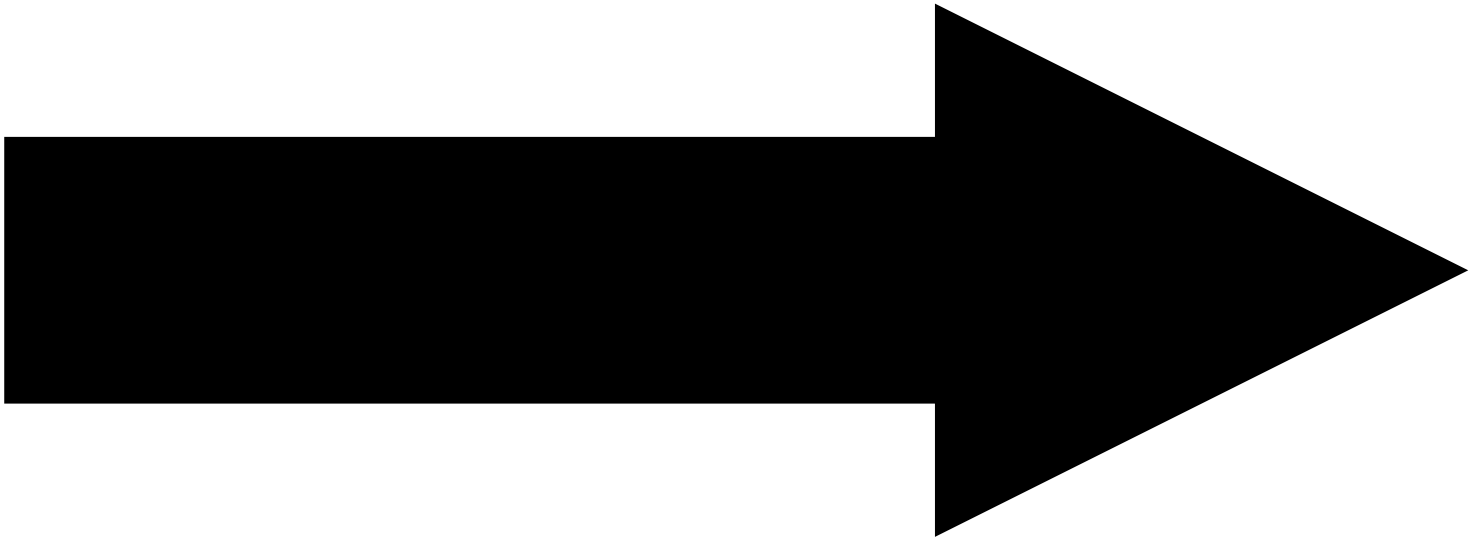
Challenge! **Can you make a food chain using these plants and animals?** Each person can be one of these creatures!

Sort yourselves into a line to show a food chain and hold your 'eating arrow' to show which animal or plant you would be eaten by**.**

There are lots of different possibilities! How many can you find?

NCM
NATIONAL COAL MINING MUSEUM
for England

I GET EATEN BY THEM



Activity 5
Insect Identification

There are lots of different ways to identify a plant or animal. Why not have a go for yourself?

Challenge!

Can you find a small creature in the woods?

You might need to look carefully on the ground, in piles of dead wood or under stones.

Use a paintbrush to put them carefully in the bug observer.

What are they like?

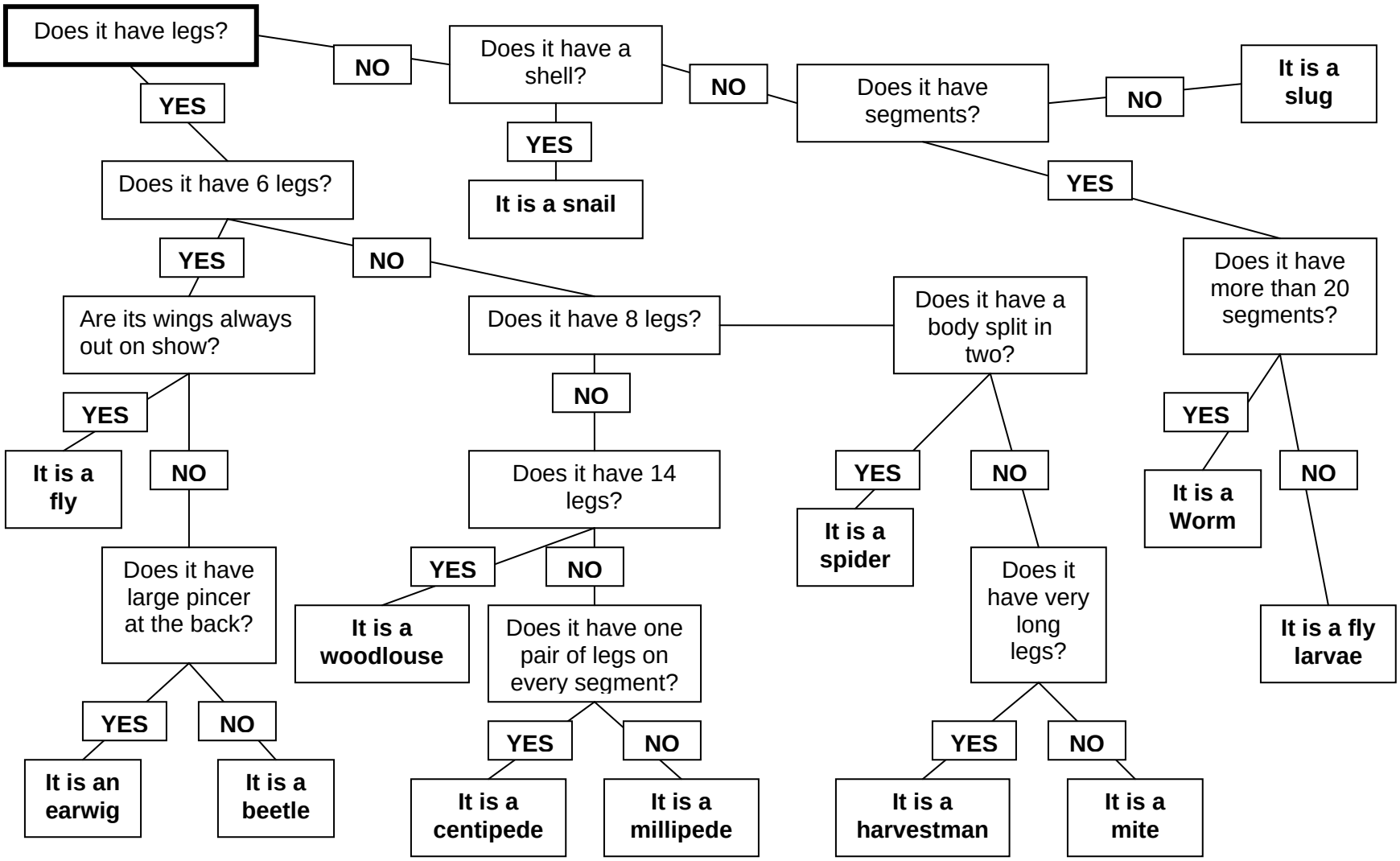
You need to think about whether it has wings, whether it has no legs or lots of legs, what colour it is, whether its body is in lots of joined up pieces (called segments).

Record the details in the table in your workbook.

When you have recorded your observations you can use the Identification Key to identify your creature.

Activity 5

Identification Key



Activity 6
Bird Groups

Look at the identification charts with the pictures of the birds. There are a lot of different birds in Britain so we need to be able to put them into groups.

One way to group things is by colour.

Challenge! **Can you think of other ways to group the birds?**

Decide how you want to group the birds and write or draw the groups in your workbook.

Why not have a look and see whether you can you see any of the birds from the charts around the Reed Beds?

Activity 7
Nature Detective

Hope Pit might look like just a few industrial buildings, but it is also a habitat for lots of creatures and plants. Water birds live in the reed beds (if you are quiet you might see them) and there are also lots of different animals, birds and insects living in the buildings and nearby in the fields, woods and stream.

Challenge! **Look at the clues in the box and see if you can work out which creature lives nearby.**

Here are some questions you can ask:

- What can you see?
- What can you feel?
- What can you smell?
- What can you hear?
- Do you think it is a mammal, a bird or an insect?
- Is it large or small?
- Is it a herbivore or a carnivore?

6. Trail Answers and Information

Activity 2

(these are only some of the possible answers)

Pit ponies need to be

- Fed
- Given water
- Groomed
- Mucked out (Have their stables cleaned)
- Exercised
- Fitted with new horseshoes
- Seen by a vet

Wildlife needs

- To be left undisturbed
- Litter to be tidied away
- Pollution to be reduced
- Food can be left out for birds in winter

Hazards in the stables include

- Ponies biting
- Ponies kicking
- Slippery floors
- Infection from horse manure
- Insects or rodents in stables biting

Hazards with wildlife include

- Bites from animals or insects
- Droppings can carry diseases
- Danger around water, especially risk of falling in
- Larger mammals e.g. badgers can be quite fierce

Activity 3

Sample answer

Habitat	Big or small?	Conditions	Plants and Animals
Wood	Big	Lots of trees Damp Shady Quite a lot of water (stream, pond)	Foxes Rabbits Badgers Hedgehogs Moss Fungi

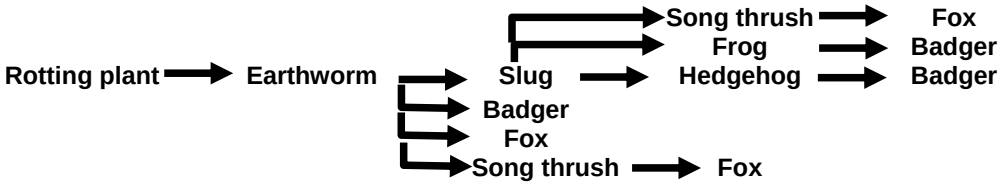
Other habitats on the nature trail include hedges, dead wood, tree, stone, field, stream, pond, soil and debris, undergrowth and tree canopy.

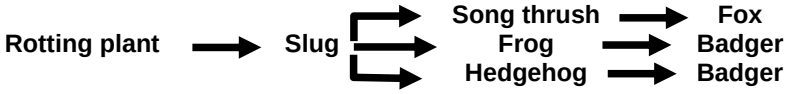
Activity 4 Food chains

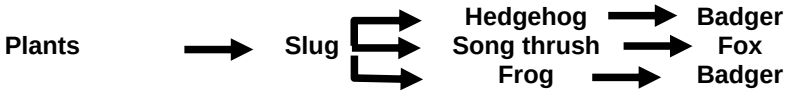
What each animal will eat from options provided

Badger	Earthworms, rabbits, frogs, hedgehogs
Fox	Song thrush , rabbit, earthworm
Hedgehog	Slugs
Frog	Slugs
Rabbit	Plants
Song thrush	Slugs, earthworms
Earthworm	Rotting plants
Slug	Rotting plants, plants, earthworms,
Plants	
Rotting plants	

Some possible food chains







Activity 6

Birds could be grouped by size, what they eat, where they live, how rare they are, markings etc. There can be other groupings too

Activity 7

The animal is a fox