



# Pellet Detectives

## Teacher Notes

### Why Study Owl Pellets?

Owls are very often found at the top of their particular food chain and we know that they have a very significant part to play ecologically, but we still have a long way to go before we know their exact role and just how vital it is. Studying an Owl's pellets can provide us with important information about all sorts of aspects such as prey and habitat.

### What is an Owl Pellet?

Owls are carnivorous and eat a wide range of animals, including birds, voles, mice, rabbits, frogs and insects. Not having teeth, they will either eat their prey whole or tear it into large chunks with their sharp beaks. Once swallowed, the food travels down the owl's oesophagus to the gizzard. Soft parts of the prey are then broken up by enzymes, but the hard bony components and other elements such as hair and feathers remain undigested. These are then 'regurgitated' or coughed up, as a pellet, before the owl can eat its next meal. Pellets are NOT droppings, as they do not pass through the intestine. They are usually quite soft to the touch and are odourless.

### Pellet Dissection

#### ***Equipment required***

Thin rubber or surgical gloves - to ensure hygiene whilst handling pellets

Pellet and Bone Identification Charts

Pen and card - for recording findings

Ruler – for measuring pellets

Tweezers and cocktail sticks (or similar) – for extracting bones from the fur

Magnifying glass – to help identify the bones

Small pot with water and a mild disinfectant in – for cleaning extracted items

Paper towels – for absorbing excess water

A shallow dish or newspaper - to dissect the pellet on

Strong glue – to attach bones to labelled card

Owl Pellets for dissection are for sale from Suffolk Owl Sanctuary - visit [www.owl-help.org.uk/shop](http://www.owl-help.org.uk/shop) or call 03456 807 897 / Option 3 for more details

***Remember - pupils must ALWAYS wash their hands after handling owl pellets and their contents!***

# Pellet Detectives

## Looking at the Outside of an Owl Pellet

### Things to look out for on the outside of your pellet

**Barn Owl Pellets** are generally:

- quite large – about 30-70mm
- rounded in shape
- black in colour
- smooth texture
- sometimes glossy when fresh

**Tawny Owl Pellets** are generally:

- medium-sized – about 20-50mm
- long, narrow and irregular in shape, probably tapering at one end
- greyish in colour
- bumpy texture
- quite furry

**Little Owl pellets** are generally:

- small – about 15-20mm
- long and narrow in shape
- colour varies depending on the prey
- spongy texture
- very light and may crumble when handled

**Short-Eared Owl pellets** are generally:

- quite large – about 30-60mm long
- quite long and narrow in shape, rounded at one end and tapered at the other
- grey in colour and slightly shiny
- smooth texture
- strong and lightweight

**Long-Eared Owl pellets** are generally:

- quite small – about 20-40mm long
- long, narrow and irregular in shape
- grey in colour
- bumpy texture
- strong and lightweight

**Items stuck to the outside of the pellet could give an indication as to where it was found:**

- hay, straw or seeds would very likely come from a barn or farm building
- dirt or bits of tree bark suggest a wooded area
- feathers are most likely to indicate man-made nesting boxes
- pine-needles would imply somewhere where there are evergreen trees in the area
- bits of coarse grass would suggest a coastal area

*It also helps to do a little research on where different types of owl have their preferred habitat, to give you more of an idea what kind of owl pellet you are dissecting.*

**Remember - pupils must ALWAYS wash their hands after handling owl pellets and their contents!**

# WORKSHEET 1

## Pellet Identification Chart

Before you begin to dissect the pellet, have a look at the outside for any clues about what type of owl pellet it is and where the owl might have come from. Have a look at our 'Pellet Detective' page to give you some helpful hints!

<b>Size</b>
<b>Shape</b>
<b>Colour</b>
<b>Texture</b>
<b>Items Stuck to Pellet</b>
From the above, what type of owl do you think the pellet comes from, Where do you think the pellet was found?

*Remember - pupils must ALWAYS wash their hands after handling owl pellets and their contents!*

# Pellet Detectives

## Looking at the Inside of an Owl Pellet

Pellets can be dissected when they are dry, but are sometimes a little stubborn. Often it helps just to soak them for about half an hour before-hand and then pat them dry with paper towels.

### ***Pupils should***

Write their name and the date on a clean piece of card

Using the tweezers and a cocktail stick, tease the pellets apart

With the tweezers, carefully remove anything they find, clean it up and dry it on a paper towel

Match each item they remove with the Bone Identification Chart

Stick the items they have found on to their clean piece of card, carefully labelling each part as they do so. They should remember to write the name of the prey on the card, once they are sure what it is - they may need more than one piece of card, if they think you have found more than one type of prey!

*(Bone Charts and Work Sheets are to be found at the end of this document)*

There may be other things that the pupils find inside their pellets, such as parts of insects or the quills of bird feathers. They should make a note of these somewhere on their chart as all of these things can provide useful information.

Remember, all birds and animals have a preferred habitat and feeding habits, so finding out more about the owl's prey will help them to discover more about the owl.

When they have dissected their pellets and carefully organised what they have found, see if you they answer the questions below.

What did this owl eat; did the pellet contain more than one type of prey?

Was this owl's main prey vegetarian?

Can they work out, from the type of prey, whether this owl hunts at night or during the day?

Does the type of prey give any clues about where this owl hunts?

See if you can construct a food chain using all the information gathered. Where is the owl most likely to be in the food chain







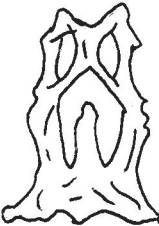
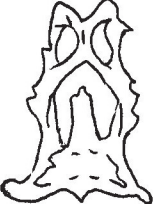

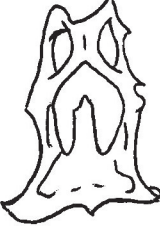










### **Some things to think about**

What would happen if one of the creatures in your food chain disappeared? What effect might it have on the other members of the food chain. What could happen to the local environment?

How might your food chain be affected if the local habitat was damaged or destroyed? Could this have any consequences outside of the local habitat?











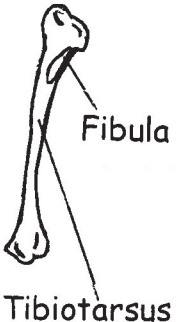
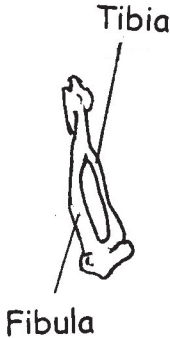


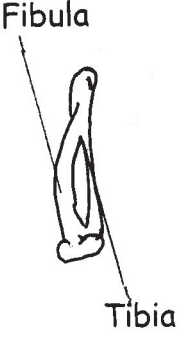





## WORKSHEET 2a

### Bone Identification Chart A

Bone	Bird	Mouse	Rat	Shrew	Vole
Skull					
Pelvis					
Scapula					
Femur					

# WORKSHEET 2b

## Bone Identification Chart B

Bone	Bird	Mouse	Rat	Shrew	Vole
Clavicle					
Humerus					
Fibula & Tibia					
Radius & Ulna					

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## Further Teacher Notes

Dissecting pellets can be a wonderful hands on way for children to learn about various facets of the wildlife in their immediate environment and also in the world at large.

Pellet dissection is a fascinating and informative science activity, which can prompt all sorts of discussion and investigation into varied aspects of nature, such as food chains and habitats. It can also lead to the exploration of much wider topics, including the conservation and care of local and global environments.

As with many such topics, the possibilities for expansion of the subject and the inclusion of other areas of the curriculum are boundless!

### Key Stage 2 Objectives & Outcomes

The Objectives and Outcomes for this activity are taken from those given by the QCA (Qualifications and Curriculum Authority) Standards Site for Science and are only intended as a guide.

#### Year 3

Unit 3A: Teeth and eating

Objectives - that different animals have different diets

Outcomes - identify different sorts of food eaten by the animals

#### Year 4

Unit 4B: Habitats

Section 3: Different animals in different habitats

Objectives - that different animals are found in different habitats; that animals are suited to the environment in which they are found

Outcomes - state that animals and plants are found in some places and not in others and explain

#### Year 5

Unit 5\_6H: Enquiry in environmental and technological contexts

Section 2: Collecting and interpreting data

Objectives - to collect and record data appropriately; to look critically at data collected

Outcomes - collect and record data carefully

#### Year 6

Unit 6A: Interdependence and adaptation

Section 9: Animals and plants in a different habitat

Objectives - that different animals and plants are found in different habitats

Outcomes - name some animals and plants found in the habitat; identify features of animals and plants which make them suited to their habitat.

**Remember - pupils must ALWAYS wash their hands after handling owl pellets and their contents!**