



Harper Adams  
University

# Animals Matters

A degree that matters



Harper Adams  
University



ANIMALS  
MATTER

# How to use this pack

## What is included?

This pack includes:

- 3 X research projects that are taking place at Harper Adams University
- 5 fun activities/projects to be completed
- Careers and courses information

Everyone loves animals, right? This pack will give you a very initial introduction to animals, big and small...and even the creepy crawly ones.

Some sections of this pack might require you to do a little bit of printing, but all the activities are possible without having to print the instructions.

You will need a few resources if you want to complete all activities (but not all are necessary) including:

*Paper*

*Pens/Pencils/Paints*

*Cardboard box (cereal box etc)*

*Plant pot*

*Plastic bottle*

*Scissors*

*String*

*Toilet roll tubes*

*Seeds/chopped veg*

## Crest Awards

The activities in this pack have been designed so they can be counted towards a Superstar CREST award. The awards are fun and easy to complete and you will get a certificate and badge from the British Science Association, which is something wonderful to show off to your teachers and school friends when you go back to school. To get the full award students need to complete 8 x 1-hour challenges. We will provide more than 8 fun activities for you to choose from across our packs. Once completed, just send evidence of your completed work to Harper Adams University ([schoolsliasion@harper-adams.ac.uk](mailto:schoolsliasion@harper-adams.ac.uk)) for verification. Harper will then submit and fund the award to CREST for certification.



### Curriculum Links:

The following pack has been put together with the national curriculum in mind. The following activities and elements of this pack are linked to core national subjects such as reading and literacy skills, mathematics, and science.

The 3 topics selected for this pack run in line with the national curriculum for KS1 & KS2 and cover topics such as geography, literacy, design technology, art and science.

At Harper Adams University we teach people how to be vets, vet nurses and vet physiotherapists. One of the first things our veterinary students have to learn when they start their course is animal anatomy. This means that they have to learn about every organ, every bone, every muscle, every nerve an animal has. They start by learning about cats and dogs.

Luckily for our students, humans and animals have a lot of the same body parts, it's just that they're sometimes in a different place or are a different size.

For example, the bones in our hands are the same in a cat's or dog's paw, a bird's wing, and even a dolphin's flipper. So, if you ever see a dolphin jumping out of the water, they might be waving to you with their flipper hand!

Most of our internal organs are the same as those in other animals, especially mammals. This is because the systems in our bodies work in the same way.

Our **digestive system** is very much like a dog's but it has some very important differences:



[Click here for the AUDIO FILE](#)



# Animal Anatomy



**Mouth** – Our mouths have different kinds of teeth which can chew different types of food like vegetables, grains and meat, because we are omnivores. We can move our jaw in different directions to help us chew. Dogs can only move their jaw up and down, so they need extra sharp teeth to help them chew their food. Dogs started out as carnivores so all of their teeth are very sharp canine teeth which can tear through meat easily.



**Saliva** – Our saliva helps us to break down our food and makes it easier to chew and swallow. A dog's saliva does this too. It also has one other job... antibacterial properties, which means that it can help to get rid of any germs that might be on the dog's food. As carnivores, dogs are able to eat raw meat so the saliva helps them to eat the food without getting ill.



**Stomach** – We swallow our food and it travels down the oesophagus to the stomach. This is the same for dogs. The acid in our stomachs breaks down the food into very small pieces so that it can be absorbed into the body. The acid in a dog's stomach is stronger than in a human. Again, this is because they can eat raw meat which needs to be digested quickly so that any germs can be killed off quickly.



**Intestines** – The broken down food travels through the small intestine, where it is absorbed into the bloodstream. Humans have longer digestive tracts than dogs. Not just because we're bigger but also because we eat plants and grains, which take longer to break down into different nutrients.

# Animal Enrichment

How can you make your pet feel happy?  
And how can you tell they feel happy?

You could play fetch with your dog and they might wag their tail really fast.

You could make a cozy bed for your cat and they might purr really loudly.

But what about if you had a rabbit, or another small animal for a pet? What can you do to make their life more fun and how can you tell that they're happier? One of our students at Harper Adams, Amy, has been doing an experiment to find out.

Giving your pet things to do is called enrichment. Amy studied rabbits and gave them four different enrichment activities. They were:

- a tunnel that they could hide in
- some balls that they could push around
- a box with soil that they could dig in
- piled up boxes for them to jump up on and down from

The rabbits at Harper Adams live in pairs and have large rabbit runs so that they can get lots of exercise every day. Amy studied 8 of the rabbits for her experiment. She put each of the activities in with each pair of rabbits for 5 days to see if the rabbits became happier and less stressed.

You might be wondering how she could tell that the rabbits were less stressed. Well, the answer is... in their poo! When animals (and humans) are stressed, their body has lots more of a hormone called cortisol in it. This can be found in their poo too. Amy tested the rabbit droppings before and after the enrichment activities to see how much cortisol was there.



Amy found that the amount of cortisol in the droppings had gone down by nearly half when the rabbits had the enrichment activities. This shows that the rabbits felt less stressed and were more relaxed and probably happier when they had activities to do.

It is lovely to know that your pets are happy. Happiness is also important for their health because stress can affect animals' immune systems and makes it easier for them to catch illnesses.

If you want to know if your own pet is stressed, you don't have to check their poo. Phew! You can also tell by their behaviour.

How can you tell if an animal is nervous? If a rabbit is nervous, it might hide from humans or it might even bite someone who went too close.

Now that you know how enrichment can help animals, you might want to try to make an activity yourself. Even if you don't have a pet, you can have a go at making a tunnel, or maybe a soil box.

## Research

[Click here for the AUDIO FILE](#)







## Rewilding in Britain

Would you like to see a lynx while you're out on your daily walk?  
How about an elk, or even a wolf?

None of these animals are in the wild in Britain now but hundreds of years ago they were. One of our students at Harper Adams, Georgina, is trying to find out what people would think if they were brought back.

Bringing animals back to the wild is called rewilding. Pine martens, beavers and sea eagles are already being rewilded in Britain.

You might be wondering why those species disappeared all those years ago. Species can disappear from a place because of things like losing their habitats, too much hunting, or disease.

Georgina says that rewilding a species of animal can have an effect on other animals and plants in a place.

For example, when wolves were brought back into Yellowstone Park in America, the number of elk there went down but the number of beavers went up and plants like willow lived for longer. Can you guess why that happened?



Beavers use willow to build the dams that they live in. They keep them safe and warm in the winter.



Wolves mainly eat prey animals like deer, moose and elk.



Elk like to eat plants and shrubs, like willow.

The wolves ate some of the elk. That meant that there were fewer elk to eat the willow. The willow was able to grow more and for longer. This meant that there was more willow for the beavers to use to make safe dams, so more of them survived during the winter. Also, when willow grows by rivers it slows the flow of the river, making the water calmer. This makes it easier for beavers to build their dams.

Do you think that rewilding is a good idea? Does it depend on what type of animal it is?

Some scientists and countryside experts think that rewilding is good for the environment and the plants and animals in a place. They also think that people would go to visit the areas to see the animals that have been rewilded.

What animal would you most like see roaming around in the wild in Britain?

What do you think would happen if the animal lived in your school playground?

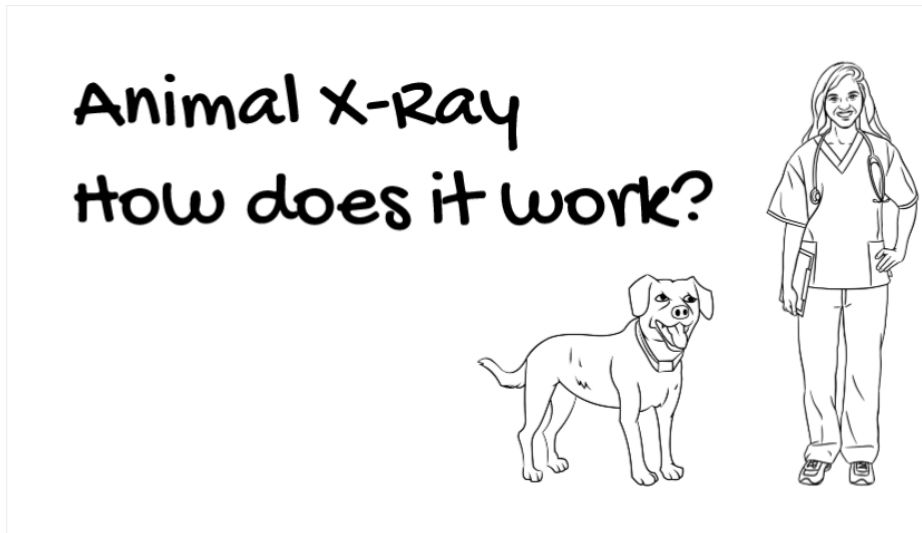
### Research



## Activity 1

### What am I? Animal X-rays...

Click on the picture below to open a link to a short line drawn cartoon video explaining what an X-ray is.



Now...test yourself! These animals, mostly dogs, have all eaten very silly and sometimes dangerous things!



**Open the PowerPoint presentation**

**[“What did I eat?”](#) to play along**

(Don't worry, they were all ok after the veterinary surgeons and nurses fixed them)

## Activity 2

# Animal Enrichment

Now that we have read about how important enrichment is for our animals, let's get crafty and make our own enrichment toys.

The picture key tells you what animals these activities are recommended for. If you don't have a small animal then you can still make these toys and donate them to any friends that have small animals, or pet rescue centres/pet charities.

### Simple tube tunnels



1 - Take a clean toilet roll tube



2 – Simply cut the tube lengthways, so that your small animal can crawl through without getting stuck! Make as many as you like.



1 - Take a clean toilet roll tube and draw around the circle end of another tube



2 - Carefully cut out this circle shape (you may need to ask an adult to help)



3 - Slot a clean toilet roll tube into this cut out circle to make a maze tube. You can build this up as big and crazy as you like!

Activity



# Activity 2 continued - Animal Enrichment

## Activity

### Ring treat ball



1 - Take a clean toilet roll tube and carefully cut it in to 5 equal pieces (ask an adult if you need help with this)

2 - Take two of the pieces and push one inside the other, sideways. Keep layering the pieces at different angles to make a ball shape



3 - Fill the ball with seeds, nuts, or fresh fruit/vegetables that your pet likes to eat and watch them knock it around to release their treat



### Treat roller



1 - Carefully cut lines around each end of the toilet tube, about 1 inch long (you may need to ask an adult to help)

2 - Push in the pieces on one side to close

3 - Fill in from the other end, with seeds, nuts, or fresh fruit/vegetables that your pet likes to eat

4 - Push in the pieces on the other side to close and give to your pet to roll around to release the treats





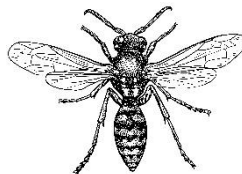
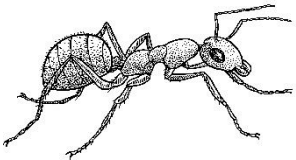
# Activity 3 - Habitats and Micro Habitats

## Activity

A habitat is a natural place where something lives, providing food, water, shelter and space. A human's habitat is its home. Animals and insects have their own habitats. There are 5 main types of habitats; Aquatic, Forest, Grassland, Desert and Tundra. Can you match the animals to their habitats?



There are also micro-habitats, which you might find in rock pools, moss clumps on trees and even in the corners of caves. Can you match these animals to their micro habitats? Either print the page and match up with a line, or write out the animals next to what micro-habitat they live in.



Click here to watch a line drawing video explaining what a habitat is



### Plant Pot Paradise

Let's have a go at making our own micro habitat. These two options create perfect micro habitats for insects and animals that would normally be in your garden.



1) Find an unused plant pot and turn it on its side – this will make it easier for the bugs to crawl in.



2) Fill with sticks, stones, grass, leaves etc. All things that the bugs can use as food, shelter and warmth.



3) Place the pot in a shaded, safe corner of the garden and wait to the insects to start exploring their new home.

### Bug Bottle Hotel

Take a clean empty plastic bottle and ask an adult to cut the top and bottom off. Wrap elastic bands across the width of the bottle, this will help to keep the bits inside. Fill the bottle piece with sticks, leaves, grass and stones and hang in a bush or a fence ready for the insects to explore.



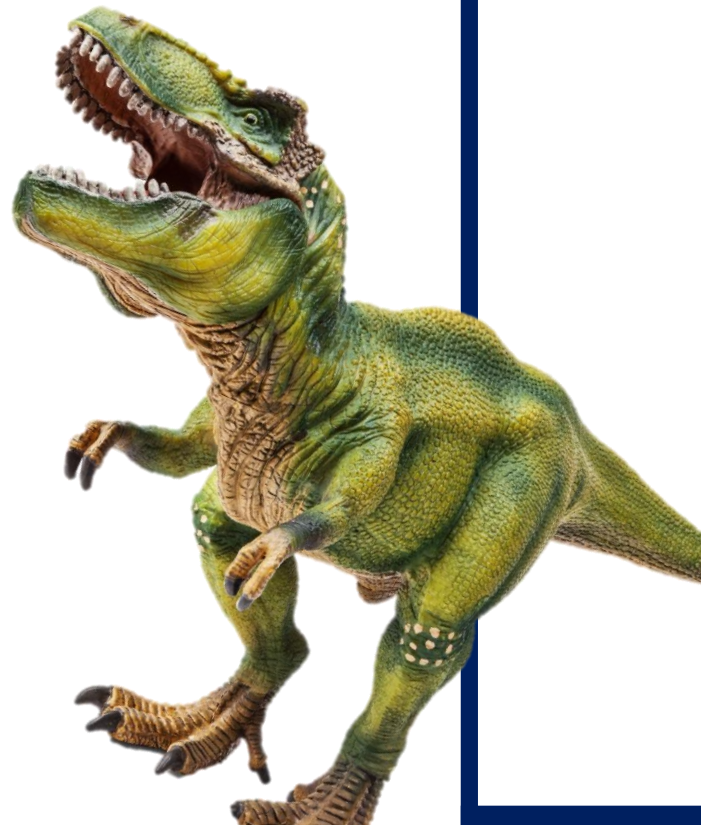
## Activity 5

### Fantasy Habitats



Now it's time to get really creative and design and make your own fantasy habitat. It could be for a mythical creature, or an animal that is now extinct, or even a fairy or a superhero! Just remember, to be a habitat, it will need shelter, food, water and to be comfortable to live in.

Here is a unicorn habitat made from a painted cereal box. This unicorn has a water pool with fish, some stones and grass for a bed, a rainbow, some glitter and of course...a swing!







- Veterinary Nursing – BSc/BSc (Hons)
- Veterinary Nursing with Small Animal Rehabilitation – BSc/BSc (Hons)
- Veterinary Nursing with Companion Animal Behaviour – BSc/BSc (Hons)

## Veterinary Nursing

### Entry Requirements:

96 - 112 UCAS points (CCC – BBC)

A2 Biology – C

BTEC D\*DD (Minimum 13 Units at D)

2 weeks work experience in a Veterinary practice required (with supporting references)

## Veterinary Physiotherapy

### Veterinary Physiotherapy – BSc (Hons)

#### Entry Requirements:

Veterinary Physiotherapy BSc (Hons):

A level – ABB (A2 Biology A/B + another science)

BTEC D\*D\*D\*

5 GCSEs at grade A/B 7/6 (including Science and English) and Maths at grade B/6



## Animal Sciences

**Animal Behaviour and Welfare – BSc (Hons)**

**Animal Health and Welfare – BSc (Hons)**

**Animal Production Science – BSc (Hons)**

**Veterinary Bioscience – BSc/BSc (Hons)**

### Entry Requirements:

Animal Health and Welfare/Animal Behaviour and Welfare:

88 - 104 UCAS points (CCD – BCC)

BTEC MMM - D\*DD

Animal Production Science / Veterinary Bioscience:

104 - 120 UCAS points (BCC – BBB)

BTEC MMM - D\*DD

6 weeks work experience required for all courses

## Zoology

**Applied Zoology – BSc/BSc (Hons)**

**Zoology with Environmental Management – BSc (Hons)**

**Zoology with Entomology – BSc (Hons)**

### Entry Requirements:

104 UCAS points (BCC)

BTEC D\*DD



**Thank you for completing your activities around Animals.  
We hope you enjoyed learning more and getting creative.**

**If you would like to have a look at more of our education packs, please visit our website for more information.**

Do not forget to send us your evidence of completion if you would like to submit your work for the SUPER STAR Crest award.

Please email your work to:

[schoolsliaison@harper-adams.ac.uk](mailto:schoolsliaison@harper-adams.ac.uk)

**Use the subject line 'Animals Matters – CREST award submission'**

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**Harper Adams  
University**



**Harper Adams University**

Newport  
Shropshire,  
TF10 8NB  
T: 01952 815 000

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Shropshire,  
TF10 8NB  
T: 01952 815 000**

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