Year 11 Animal Behaviour Task

10 most endangered species on earth

Sumatran Elephant, Bornean Orangutan, Saola, Malayan Tiger, Hawksbill Turtle, Javan rhino, Vaquita porpoise, Hainan gibbon, Kakapo Parrot, Amur Leopard

There are hundreds of thousands of **endangered species**, many are threatened by human activity such as hunting, land clearance for **agriculture**, and urbanisation. **Conservation** of endangered animals and plants is important to maintain global **biodiversity**. To be able to protect a species in the wild scientists need to know how it behaves and **interacts** with its **environment**. This is the science of animal **behaviour**.

In this task you are going to take on the role of an animal behaviourist and complete a mini-project using your own **observations** and **analysis**. First to make sure you fully understand this topic area complete the glossary of key words below:

Key term	Definition
Agriculture	
Analysis	
Behaviour	
Biodiversity	
Conservation	
Ethogram	
Endangered species	
Environment	
Interaction	
Observation	
Species	

Hint: you will need to research these terms and you can use the following links to help you –

Researchify https://www.researchify.co.uk/

BBC Bitesize https://www.bbc.co.uk/bitesize

What is Animal Behaviour?

Animal behaviour - Is simply what the animal is doing, or how they are reacting.

Ethology – Is the study of animal behaviour.

'Ethos' – character
'ology' – the study of

Choose a topic and species

First you need to decide what species you are interest in and which of the behaviour projects you want to complete from the list over the next pages.

White Stork Preening

See how many times the adult stork preens (grooms/cleans with its beak) its feathers while on the nest.

1) Create a data record table that looks like this:

Date and time	Number of preening behaviours	Other conditions/individuals present

2) Follow the link below and watch the stork next for 5 minutes, counting how many times the stork touches its beak to its feathers, or shows any preening behaviour.

3) Also note down in your table any other information such as weather conditions, number of individuals in the nest.

4) Repeat this at least ten times – this can be on different days or different times of the day (for a better spread of data do this over a number of different days and different times of day.

5) Draw a graph of your results (X axis = date/time; Y axis is number of preening behaviours observed).

6) Describe your results, what patterns do you see? Did you record any preening behaviours?

7) Challenge - Write a conclusion. Why do you think the stork needs to preen its feathers regularly? Think about fleas/parasites.

https://www.birdfood.co.uk/webcams/white-stork-webcam

Peregrine Falcon feeding

See how often adult falcons feed their young.

1) Create a data record table that looks like this:

	First time adult feeds young	Second time adult feeds young	Time between feeds
Time			

2) Follow the link below and watch carefully for when the adult feeds the young, start your timer or note down the time using your watch/clock on laptop/phone.

3) Keep watching the nest until the chicks finish feeding, the adult leaves the nest, or the other parent returns and starts feeding the chicks.

4) Write down the time when the second feed starts.

5) Calculate how long there was between the two feeds you observed.

6) If there are 16 hours of daylight, how many times do the adults feed their young in one day? E.g. if your first feed started at 13:10 and the second feed you saw started at 13:28 there was approx. 18 minutes between the feeds. There are 960 minutes in 16 hours (of daylight), therefore the falcons could potentially be feeding their young 53 times a day (960/18 = 53.3).

7) How many prey animals do the falcons feed their young in one week, if they are feeding one prey animal each time they visit the nest?

8) Challenge - Why are falcons important in their ecosystem? Draw a food web including falcons. What would happen the population of producers in your food web if the falcons disappeared?

https://www.birdfood.co.uk/webcams/peregrine-falcon-webcam

Bald Eagle – create an ethogram

Create an ethogram by watching juvenile bald eagles in their nest and describing the behaviours you see.

1) Create a table that looks like this:

Behaviour	Description

2) Follow the link below and watch the Bald Eagle family for 10 minutes.

3) Write down the different behaviours you see – such as preening, playing, feeding, moving, fighting, resting, flying, moving nest material, defecating, sleeping.

4) Now describe all the behaviours, such as feeding = picking up food and swallowing, ripping/tearing meat from prey animal.

5) Follow the link again on another day or at another time of day (do this at least 5 times – the more you do this the more accurate your ethogram will be).

6) Write down and define any new behaviours you see each time.

7) Now create a table like this:

Type of behaviour	Behaviour	Description
Self-directed	*Preening/grooming feathers*	*Cleaning or smoothing feathers with beak*
	Feeding	*Picking up food and swallowing, ripping/tearing meat from prey animal.*
Interactions	*Playing*	*….*
	Fighting	*….*

8) Note the blue writing is an example and your will look different depending on the behaviours you have seen.

9) Group your behaviours into similar types of behaviour such as – self-directed (anything which does not involve another member of the group and provides self-care to the organism); Interactions (any behaviours that involve other group members; Inactivity (such as resting or sleeping).

10) *Challenge – now watch the live stream again and see if you can count the frequency of each of the behaviours you have defined. What is the most common behaviour? What is the least common behaviour?*

https://www.raptorresource.org/birdcams/decorah-eagles/

Panda – create an ethogram

Create an ethogram by watching pandas in a captive breeding centre and describing the behaviours you see.

1) Create a table that looks like this:

Behaviour	Description

2) Follow the link below and watch the pandas for 10 minutes.

3) Write down the different behaviours you see – such as, playing, feeding, moving, fighting, resting, flying, moving nest material, defecating, sleeping.

4) Now describe all the behaviours, such as feeding = picking up food and chewing, pulling leaves off branches with mouth

5) Follow the link again on another day or at another time of day (do this at least 5 times – the more you do this the more accurate your ethogram will be).

6) Write down and define any new behaviours you see each time.

7) Now create a table like this:

Type of behaviour	Behaviour	Description
Self-directed	*Grooming/licking fur*	*Cleaning fur with tongue or chewing fur*
	Feeding	*picking up food and chewing, pulling leaves off branches with mouth*
Interactions	*Playing*	*….*
	Fighting	*….*

8) Note the blue writing is an example and your will look different depending on the behaviours you have seen.

9) Group your behaviours into similar types of behaviour such as – self-directed (anything which does not involve another member of the group and provides self-care to the organism); Interactions (any behaviours that involve other group members; Inactivity (such as resting or sleeping).

10) *Challenge – now watch the live stream again and see if you can count the frequency of each of the behaviours you have defined. What is the most common behaviour? What is the least common behaviour?*

https://explore.org/livecams/panda-bears/wolong-grove-panda-yard

Puppy pals – can you identify puppy friendships?

Record interactions between different puppies in a litter and see if you can piece together social networks of puppy-friendships.

1) Create a table that looks like this:

Behaviour	Number of times interacted with 'focus' puppy		
	Other puppy 1	Other puppy 2	Other puppy 3
Playing			
Resting/sleeping with			
Touching			
Eating/feeding with			
Other (define)			

2) Follow the link below and pick a 'focus' puppy (most have different coloured collars on, if not find a way to identify different puppies by describing how they look).

3) Identify the 'other' puppies (either by collar colour or other distinguishing features) and write these in the table next to 'other puppy(1,2,3) in the table.

4) Watch the 'focus' puppy for 20 minutes and record how many times it does the different behaviours with the different 'other' puppies.

5) Draw a line graph comparing how many times the 'focus' puppy did the different interactions with the different 'other' puppies (X axis = behaviour category; Y axis = number of times; different coloured lines for each 'other' puppy recorded.

6) *Challenge – Did your 'focus' puppy interact with one specific 'other' puppy more than the others? How could you confirm this? How would you improve this data collecting?*

https://explore.org/livecams/warrior-canine-connection/service-puppy-cam

<mark>**Extension - challenge level activity**</mark>

Chimpanzees and other species of the rainforest

Contribute to real ecology/animal behaviour data collection by following the link below and helping scientists collect data on different species in the rainforest using camera traps (cameras that are triggered by movement and capture short bursts of film). Follow the instructions on the zooniverse website carefully.

https://www.zooniverse.org/projects/sassydumbledore/chimp-and-see/classify