Nature Detectives! suggested lesson plans:

# Introduction:

Welcome to Nature Detectives!

Thank you for joining our wildlife science team. With your help, we can collect really useful scientific data that will help to analyse (that’s a fancy word for measure) how our local wildlife is doing – and have lots of fun along the way!

Here’s a great video which explains why collecting scientific data is so important:

# Video link: [Welcome to Nature Detectives!](https://youtu.be/ayGT5Cjybi0)

P.S. We explain how pupils can upload their records in lesson 4, but if you want to get a head start, you can see a quick guide to setting up your Nature Detectives account [here](https://youtu.be/0ieHGWlSboo).

# Lesson 1 – Biological Recording

Did you know that by investigating and reporting wildlife you are taking part in a scientific activity called ‘Biological Recording’? This video explains what it is, how to do it, and some unusual ways to discover what is living nearby!

Video link: [What is biological recording](https://youtu.be/kgv7Uu-6QWk)

Blog link: [What is biological recording](https://www.wildsheffield.com/about/news/busy-bloggin/naturedetectives/what-is-a-biological-record/)

**Activity:**

In your pack, you can find pictures of some mammals you might be able to see while you’re out and about (we’ll let you off if you don’t spot an orca), and a handy guide to following the tracks and trails some species make – even if you can’t see an animal, sometimes you can still tell it was there, and what it was just by the signs they leave behind! There’s a badger mask too. Try to think like a badger – what do badgers like to eat, and what sort of places do they like to live. See if you can find some badger tracks, or try to make some of your own.

# Lesson 2 – Where does the biological data go and what is it used for?

Today we’re going to be thinking about what happens to your record when you send it to us. Where does it go, and what do we do with it? Watch this video to discover the amazing journey your record goes on!

Video link: [Where does your data go?]](https://youtu.be/_ARq_qSzsh4)

So now you know – your record could be seen by scientists all over the country! If you want to discover more about what they do with it, read today’s blog!

(If you’d like to investigate the websites referred to in the video the links are:

Biological Recording Centre: [https://www.brc.ac.uk](https://www.brc.ac.uk/)
National Biological Network Atlas: https://nbnatlas.org)

Blog link: [What scientists do with the data](https://www.wildsheffield.com/about/news/busy-bloggin/naturedetectives/what-happens-to-your-data/)

**Activity:**

Sounds like a good reason to get spotting and collecting data! To help you see even better, in your pack there’s a guide to making your own binoculars to help you concentrate, and a spotting sheet for garden birds. If you want to encourage even more birds to your garden, you could try making the apple bird feeder and hanging it up. Let us know if you get any visitors!

# Lesson 3 – Teaching computers about trees (Machine Learning)

Think about where are you going to investigate and conduct your detective work. What do you think you might see there? What sort of habitat is it – and how can you find out more about it?

At More Data for Nature, we use very detailed maps to help us. In order to make sure they are accurate we need to make sure that what is on the map matches what is really there. But we have 15 nature reserves, which is an awful lot of land to check in person! One of the ways technology can help us is having a computer to mark out the different types of habitats it can see on photographs taken by a drone. Computers are much faster than people. But even though it is fast, it can’t always tell the difference between a tree or bush. That’s why we have to teach the computer how to recognise different landscapes even though they might look very similar. Just like when you start something new, it takes practice to get it right. Watch this video to see how Sarah teaches computers to recognise trees.

Video link: [machine learning](https://youtu.be/K0_en3_qYkk)

Do you remember from the biological recording video how keeping a note of where species are appearing helped to track the horse chestnut leaf miner moth? Well that’s not the only time biological recording helps. Records like yours can help to track all sorts of alien invaders!

Blog link: [tracking alien invaders](https://www.wildsheffield.com/about/news/busy-bloggin/naturedetectives/detecting-alien-invaders/)

**Activity:**

Being able to tell plants apart is a very useful skill. Test your botanical knowledge by going out to see if you can tell the difference between flowers. In your pack there are some spotting sheets of flowers you might be able to see now, and a lot of them are yellow. What are the differences between the species? How many petals do they each have, and are their leaves all the same?

How about trees? They are plants too. Get to know one close to you with the My Street Tree sheet in your pack. To be really scientific, you could re-assess it at different times of the year to see how it changes with the seasons!

# Lesson 4 – Where does the biological data go and what is it used for?

When you have finished your Nature Detective investigations, the final and most important step is to let us know what you’ve found, by adding your records to our Nature Counts wildlife recording page. You’ll need the recording sheet from your pack to help you remember what you have found.

Here’s a handy video to talk you through every step!

Video link: [Submitting a recording](https://youtu.be/ZfXhCgq9EJA)

You already know that your records can be seen by scientists all over the country, but what do we do here at Sheffield and Rotherham Wildlife Trust with all that data? Well, we use it to protect nature right here on your doorstep! Read the blog to find out more.

Blog link: [Helping us protect nature](https://www.wildsheffield.com/about/news/busy-bloggin/naturedetectives/helping-us-protect-nature/)

If you want to carry on being a Nature Detective that’s great! There are some minibeast spotting sheets in your pack. And if you’d like to conduct another scientific experiment yourself, try out the snail recapture using the guide – you might have to wait until it’s a bit warmer to carry it out as snails don’t like to come out when it’s cold – but do let us know the results of your experiment!

We are running a live Q&A on [social media](http://www.wildsheffield.com/social) from 1pm -2pm on Sunday March 7th – your pupils are welcome to join in! You can ask our wildlife scientists from More Data for Nature all your burning questions about wildlife, habitats, collecting data and what it’s really like counting water voles in a ditch! Get your questions in early by using #AskMD4N on social media. See you there!

# Thank you

Thank you so much for taking part in Nature Detectives!

We hope you and your class have had loads of fun and really enjoyed discovering and recording wildlife. We hope some of them might even grow up to be ecological scientists one day!

Video link: [Thank You!](https://youtu.be/mqR3FyGS7OA)