The topic that you will be studying is: **ECOLOGY**.

The first two attachments to this assignment are the instructions for each of the 6 lessons in this topic.

There is a version to use if you have plenty of access to the internet with YouTube links to watch.

There is a different version if you do not have much access to the internet which refers to your revision guide.

The third attachment is a worksheet to go with lesson 6.

Completed work can be returned to school at the end of each lesson.

**INTERNET VERSION**

**Week 1**

**Lesson 1 - HABITATS**

<https://www.youtube.com/watch?v=ZrSWYE37MJs>

1. Write a definition of the word ‘Habitat’
2. Name 3 habitats and describe the conditions there
3. List the things that a habitat provides for an animal

<https://www.youtube.com/watch?v=xIVixvcR4Jc>

1. Write a definition of the term ‘Ecological Niche’
2. Use your definition to explain why different species can live in the same habitat together

**Lesson 2 - ADAPTATIONS**

<https://www.youtube.com/watch?v=anRp7FQ9CKY>

1. Copy the definition: “Adaptations are features or behaviours of an organism that help it to survive in it’s environment”
2. Choose 3 animals that live in different habitats: one in the forest, one in the desert and one in the arctic and describe how they are adapted to survive there. You could draw or print pictures of your animals and annotate them in your book

**Week 2**

**Lesson 1 – SEASONAL CHANGES**

<https://www.youtube.com/watch?v=VYpGBtR8Lbs>

1. Describe the conditions in each of the 4 seasons in the UK
2. Describe what some animals and plants do during each season
3. Challenge: explain why some animals hibernate in Winter and most breed in Spring

**Lesson 2 – PREDATORS AND PREY**

<https://www.youtube.com/watch?v=IhDS7YN_lII>

1. Write definitions of the key terms ‘Predator’ and ‘Prey’

<https://www.youtube.com/watch?v=RtnLNmB3ZNE>

1. Name 3 predators from the clip and the prey they are chasing.
2. For each predator describe at least one adaptation that helps it to hunt
3. For each prey describe at least one adaptation that helps it avoid being eaten

<https://www.eduweb.com/portfolio/studyworks/predators8a.html>

1. Run the simulation on the website for 30 generations and describe what happens to the numbers of hares (prey) and lynx (predators) throughout.
2. Copy the graph shown at the end of 30 generations and explain the shape of the lines (the information on the screen will help)

**Week 3**

**Lesson 1 – FEEDING RELATIONSHIPS**

<https://www.youtube.com/watch?v=mCHdhXMFhcU>

1. Define the key terms: PRODUCER, PRIMARY CONSUMER, SECONDARY CARNIVORE, HERBIVORE, APEX PREDATOR, DECOMPOSER

<https://www.youtube.com/watch?v=MuKs9o1s8h8>

1. Write a definition of what a food chain is
2. Look out of the window or go into your garden and write 3 food chains that exist outside
3. Describe what the arrows in a food chain represent

<https://www.youtube.com/watch?v=7AZCcf4Fv14>

1. Describe what a food web is
2. Explain why a food web is more realistic than a food chain
3. Challenge – Draw a food web. Imagine one organism was wiped out. Describe and explain how the numbers of 3 other organisms would be affected

**Lesson 2 – BIOACCUMULATION**

<https://www.youtube.com/watch?v=TZk6vcmLcKw>

1. Watch the video
2. Complete the worksheet. If you cannot print then copy the diagrams into your book to complete them and write the answers in full sentences
3. Complete the 3 mini quizzes

**Extension Challenge (Optional):**

Make a poster about a predator and it's prey. You should include the adaptations that help the predator to hunt and the adaptations that help the prey try to escape.
Do on computer or by hand

(if you have Netflix there is a series called 'The Hunt' which is all about predators and prey so it might help or inspire you)

**NO INTERNET VERSION**

**Week 1**

**Lesson 1 – HABITATS**

Use your revision guide and own knowledge to help complete the following tasks:

1. Copy the following definition into your book:
	1. *A habitat is the place where an organism lives*
2. Name 3 different habitats you can see from your house and an organism that lives there
3. List the things that a habitat provides for:
	1. Animals
	2. Plants
4. Say why each of the things named in task 3 is important
5. Copy the following definition into your book:
	1. *An ecological niche is the role an organism plays in it’s ecosystem. This includes where it lives, what it eats, what eats it and how it affects the environment*
6. Describe the ecological niche of:
	1. A caterpillar
	2. A blackbird

**Lesson 2 – ADAPTATIONS**

Use your own knowledge of animals and plants to help complete the following tasks. Watch a nature documentary to get some ideas

1. Copy the following definition into your book:
	1. *An adaptation is a feature of behaviour of an organism that helps it to survive in it’s environment*
2. Draw or stick a picture of an animal that lives somewhere cold in your book and label 3 adaptations that help it survive there.
3. Draw or stick a picture of an animal that lives underwater in your book and label 3 adaptations that help it survive there.
4. Draw or stick a picture of a plant into your book and label 3 adaptations that help it survive (your previous topic on plant reproduction might help!)

Stretch and Challenge – Extend: Explain how each of the adaptations you have described help the organism to survive.

**Week 2**

**Lesson 1 – SEASONAL CHANGES**

Use your science revision guide and your own knowledge to help complete the following tasks:

1. Split a page of your exercise book into 4 and write the name of a season into each (Spring, Summer, Autumn, Winter)
2. In each box describe how the conditions change in the UK.
3. Write each of these events into the correct season:
	1. *Leaves change colour*
	2. *Many baby animals are born*
	3. *Leaves regrow on trees*
	4. *Some animals start to hibernate*
	5. *Some animals gather stores of food*
	6. *Birds migrate South*
	7. *Leaves fall off trees*
	8. *There are lots more insects around*
	9. *Many birds return to the UK*
4. Explain why statements B, D and F happen in the seasons you have chosen.

**Lesson 2 – FOOD CHAINS**

Use science revision guide and your own knowledge to help

1. Copy and complete the following:
	1. *A food chain shows…*
	2. *The arrows in a food chain represent…*
	3. *A food chain always starts with a producer. This means…*
2. Write down an example of a food chain that might exist in:
	1. Your garden
	2. The ocean
	3. The Arctic
3. The organism at the top of a food chain is called a top predator. What adaptations do the top predators in your food chains have to help them catch their prey?

**Week 3**

**Lesson 1 – FOOD WEBS**

Use your science revision guide to help

1. In your book copy the following definition:
	1. *A food web shows how multiple food chains are linked together*
2. Explain why a food web is more realistic that a food chain
3. Draw the food web into your book and copy and complete the following sentences using the information given to help:
	1. *The waterweed is a producer because…*
	2. *The tadpole is herbivore because…*
	3. *The tadpole is also a primary consumer because…*
	4. *The minnow is an omnivore because…*
	5. *The water beetle is a consumer because…*
	6. *The perch is a secondary consumer because…*
	7. *The pike is a tertiary consumer because…*
	8. *The carnivores in the web are… This is because..*
	9. *The otter is a top carnivore because…*
4. Read the blue box about what happens if an organism is removed from the chain. Now imagine all the pike have been removed by over-fishing. Describe and explain what will happen to:
	1. The otters
	2. The perch
	3. The tadpoles (harder)

**Lesson 2 – BIOACCUMULATION**

Use your science revision guide to help

1. Copy the definition into your book:
	1. *Bioaccumulation is where toxic (poisonous) materials get into a food chain and build up in the organisms further up the chain.*
2. Explain why each small bird has more poison in it that each bit of wheat crop
3. Explain why the bird of prey has more poison in it than each small bird.
4. Complete the worksheet. If you cannot print then copy the diagrams into your book to complete them and write the answers in full sentences