

# Spring Term 2

## Year 7 Ecosystems

### Extended Homework Assignment



Name: \_\_\_\_\_

Teacher: \_\_\_\_\_

#### Instructions

**Please complete all sections**

**You will need to complete sections as you work through the topic**

A printed copy should be handed into your teacher.

# Ecosystems

## Redonda Island at risk of extinction

### Aims

You need to use your knowledge of food chains and flower structure to complete these tasks.

**Read the information before attempting the tasks.**

### Information

Redonda Island is a tiny island in the Caribbean.

- At one time the island was covered in forest but now it looks more like a lunar landscape.
- The island is uninhabited now but once had a small community who introduced goats to the island over one hundred years ago.
- The rare, long-horned goats have eaten most of the vegetation and are beginning to starve to death. The goats are referred to as an invasive species.
- Trees are needed to stabilise the ground and stop the rocks from crumbling into the sea.
- Redonda has several rare species of animals and plants, including a lizard that is not found anywhere else in the World. Some lizards are herbivores, others eat insects as well.
- Many sea birds nest on the island. They eat fish from the sea. Fish feed on plankton (tiny water plants).
- Rats were accidentally introduced. There are now 5000 aggressive black rats living there. The rats prey on the island's wildlife, especially the ground-nesting birds and lizards. The rats on Redonda also eat plants and invertebrates, such as insects.
- In order to return the island to its previous state, their Government are going to remove the goats and take them to nearby Antigua where they will be cared for and allowed to breed.
- Finally, the rats will be killed using pesticide bait that is not harmful to other wildlife.
- Scientists are hoping that the native plants will start to grow quite quickly. Once the plants are growing, the numbers of insects and other wildlife should also increase. They also expect birds and bats to bring seeds and nutrients from other islands.

## **Task 1**

Draw an island food web that includes the rats, goats, island plants, insects, lizards, sea birds, fish, and plankton.

## **Task 2**

A farmer has too many goats on his farm. He decides to take some of his goats to a small island that has plenty of vegetation and no predators.

Write a letter to the farmer, describing what could happen to the island over a long period of time if he leaves the goat population to increase without removing them.

## **Task 3**

The Redonda scientists used a pesticide that would not harm other wildlife when killing the rats.

Some of the pesticide will be washed into the sea with the crumbling rock.

Use your food web to explain how small quantities of a toxic pesticide in the sea could become fatal to sea birds or humans that ate the fish.

## **Task 4**

Explain how birds and bats can help to reintroduce plants to Redonda.

## **Task 5**

If you have time, you could draw a simple food web to suggest how the relationships of animals and plants of Redonda Island might look in 20 years' time.