



## **Science at Moorside**

The following examples are from children who staff at Moorside Primary School have declared as 'expected'. A comment has been added to each example to show progression and coverage.

## Biology

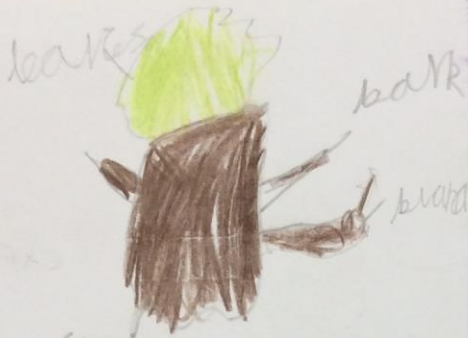


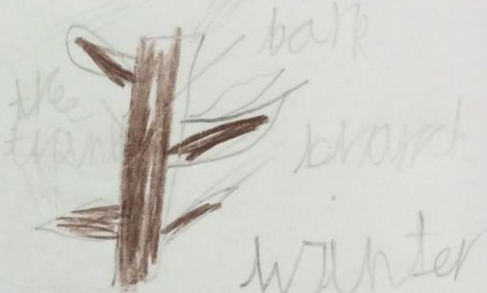
### Living Things and Habitats

#### Year 1

Observe changes across the four seasons. (Term 1)




Observe changes across the four seasons **Term 3**

 <p>leaves bark branch</p> <p>spring</p>	 <p>summer</p>
 <p>leaves branch leaves</p> <p>Autumn</p>	 <p>bark branch winter</p>

In Autumn the leaves fall off the trees and they change colour. In December summer and Autumn they change colour. In spring the leaves grow back and there is new life. In winter all the leaves fall off the trees except evergreen trees and deciduous trees their leaves fall off.

Knowledge



Observe changes across the four seasons.

Observe and describe weather associated with the seasons and how day length varies.

So much is so hot. ✓ Atom is freezing  
Animals hibernate in spring ✓  
Some think it snows in winter  
on spring the leaves come out  
in Atom the leaves <sup>fall</sup> go down ✓  
In summer the sun comes up  
in Atom the flowers <sup>die</sup> die ✓  
in Atom the <sup>eyes</sup> eyes start to change ✓  
in winter some things start to change  
in 600s. The animals start to dig  
in order the <sup>colour</sup> leaves start to change  
in Atom the leaves go down. ✓



Explore and compare the differences between things that are living, dead, and things that have never been alive

23/4/23  
Explore and compare the differences between things that are living, dead, and things that have never been alive.

As a scientist I sorted things into living, dead, never lived and not sure. Living things go together because they can all move. Dead things go together because they cannot breathe. Living things can breathe, move, grow, sensitivity and reproduce.


To explore and compare the differences between things that are living, dead, and things that have never been alive.

1. False because when plants grow they move. Plants also seed, reproduce, eat and react to their surroundings, breathe.
2. True because we grow, animals grow and plants grow.
3. False because fire and water are not alive.
4. True because you plant the seeds and they grow.
5. False because we eat and breathe and plants breathe.

Identify that most living things live in habitats to which they are suited and describe how

different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other

### How Do Polar Bears Survive Arctic Conditions?



1. Polar bears drink seawater.
2. They have a thick layer of fat under a thick coat of fur.
3. Under their fur, they have black skin.
4. They have sticky paws to grip on the ice.

1. False because sea water is so salty so they won't like it. they eat snow

2. True because fat is like bladder and you need bladder to survive. ✓ it keeps them warm when swimming

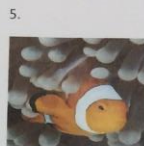
3. not sure because I don't know what it looks like under their skin. it is true because the skin is transparent

4. True because ice is really slippery. they have sharp claws

✓ 22.06.23



I can describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.



1. A hermit crab lives in an ocean habitat so it can camouflage with the seabed.  
2. A weaver bird lives in a woodland habitat so they can build a safe nest for their babies eggs.  
3. A squirrel monkey lives in a rainforest and to because it plays there is a lot of food to eat.  
4. A black lion lives in a savannah because it has a lot of places to sleep on.  
5. A clown fish lives in an ocean habitat because it has an anemone for a clown fish to hide in from.  
6. A lion lives in a savannah because it has things like zebras to hunt as they sp.

Identify and name a variety of plants and animals in their habitats, including micro-habitats

12.06.23



Identify and name a variety of plants and animals in their habitats, including micro-habitat  
Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).




A habitat is a place where plants and animals have all they need. Plants and animals need food, air, water and shelter to survive. The sea is an example of a habitat. Seahorses, coral, crab, shark, ~~walrus~~ whale, starfish survives in this habitat. ✓





Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food


19.06.23


I can describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other.


1.  


2.  


3.  


4.  


5.  


6.  


1. The hermit crab lives in a rather creatures eshel for a shelter to survive. ✓

2. The weaver bird lives in a place that is made of grass and leaves in the habitat in order to reproduce. ✓

3. The primate monkey lives in a habitat that has fruit trees in it. ✓

4. The black rhino has got in his habitat leaves the leaves are his food. ✓

5. The habitat of the clown fish is the sea anemone the anemone is protection it from predators and it is there. ✓

6. The lion's habitat is the savanna for example they kill zebras as food but

they do eat so use other animals to

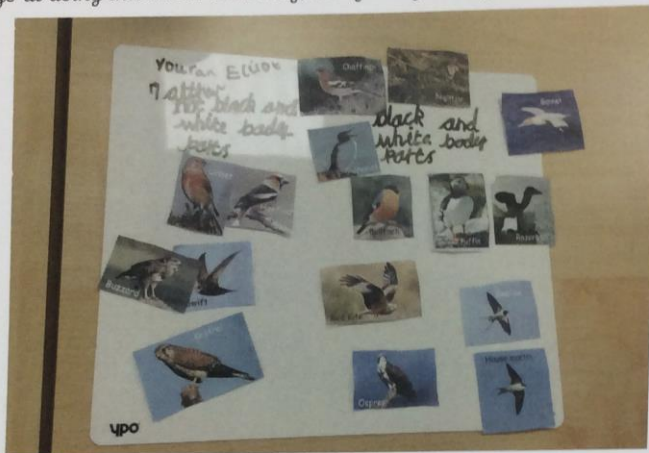
### Year 3

Recognise that living things can be grouped in a variety of ways.

LO - To group and classify birds according to characteristics

11.9.23  
~~5.10.21~~

We discussed how scientists **compare and contrast** to help them **group** and **classify** animals. First of all, we had a go at doing this in our own way, using categories of our own choice:



We found out that some birds fitted into more than one category, so we learned how to use Venn diagrams to **group** them into more scientific categories.



At the end of the lesson, we learned about how birds' bodies are adapted to help them get the food they eat.

LO: To group and classify birds according to characteristics.

12.9.23

Hunts Meat

Kestrel



Buzzard



Osprey



Red Kite



I know that these birds hunt meat because they have curved beaks so they can crack into the prey.

Excellent!

Eats seeds

Chaffinch



Hawfinch



Bullfinch



Linnet



I know that these birds eat seeds because they have stronger beaks.

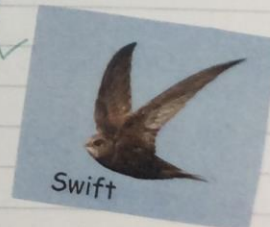


Catches fish in the sea



I know that these birds catch fish because they have ~~sharp~~ hooked beaks.

Catches insects in flight



I know that that these birds catch insects in flight because they have a surface area for catching insects.

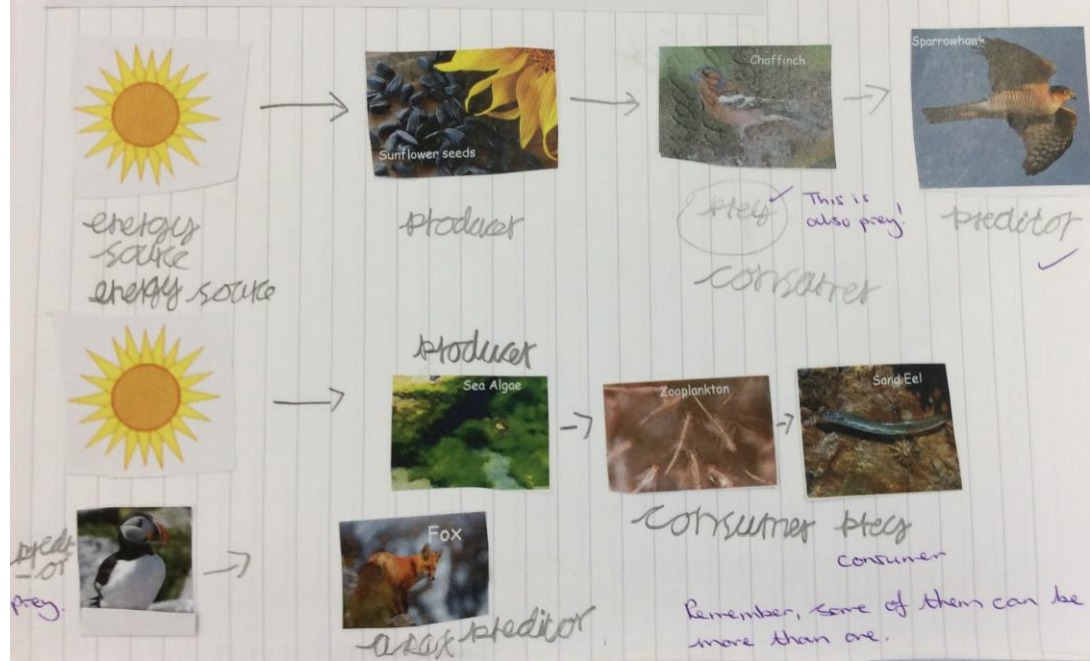
Great scientific explanations.

Construct and interpret a variety of food chains, identifying producers, predators and prey.



Date:

LO: To construct and interpret a variety of food chains, identifying producers, predators and prey.

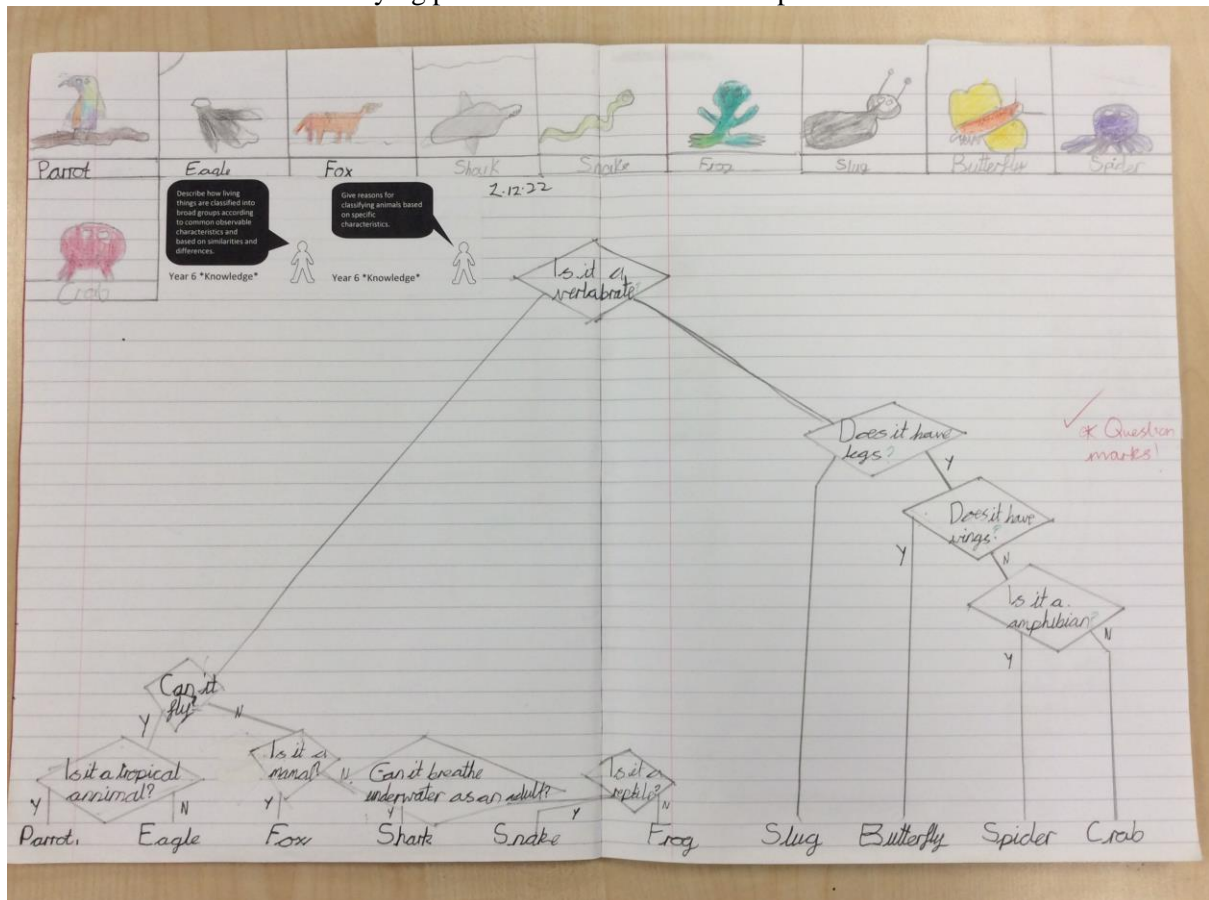


**Photos pending**

**Year 6**

Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.

Give reasons for classifying plants and animals based on specific characteristics.



Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.

Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.

Year 6 \*Knowledge\*

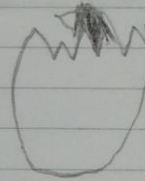


### The life cycle of an Osprey

The female bird lays an egg and a chick starts to develop in it.



After a while, the chick will crack out of its egg and the parents will take care of it and bring it food.



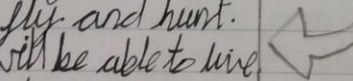
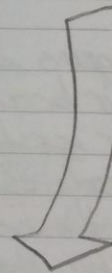
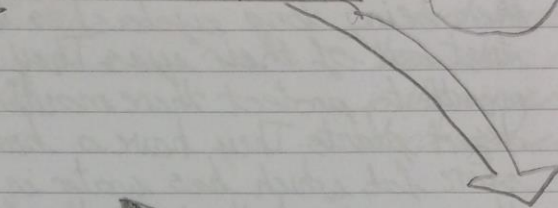
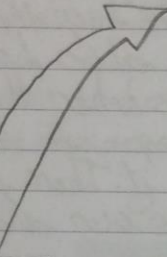
The chick will start to learn how to fly which is very hard for them. This stage in a bird's life is called a fledgling.



The fledgling will slowly learn how to fly and hunt. It will be able to live on its own.



The adult bird continues on its life, ready to make the next generation of bird.



## Evolution and inheritance (Year 6)

Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.



Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

**What do you think?**  
**Do you agree with Lamarck or Darwin?**

**Year 6 Knowledge:**

- Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.
- Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Lamarck believed that animals adapted through 'Use' and 'Disuse.'

By straining their necks to reach the leaves, the giraffes 'used' their necks, causing them to elongate.

The giraffes were then able to reach the leaves on the high branches.

The giraffes then mated and their offspring also have long necks.

Darwin believed that certain giraffes had been randomly born with a genetic mutation causing a longer neck.

A longer neck was advantageous, making the giraffe more likely to survive and therefore reproduce, passing on the gene.

Over time, only the long-necked giraffes remain.

The offspring also have long necks.

Lamarck is incorrect since ~~no one~~ <sup>no one</sup> can just change ~~form~~ <sup>body type</sup> and that to evolve it takes many generations.

Darwin's theory is correct since evolving takes a very long time and happens slowly. He also thought that only the fittest would survive.

Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.



Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Date: 10.1.22

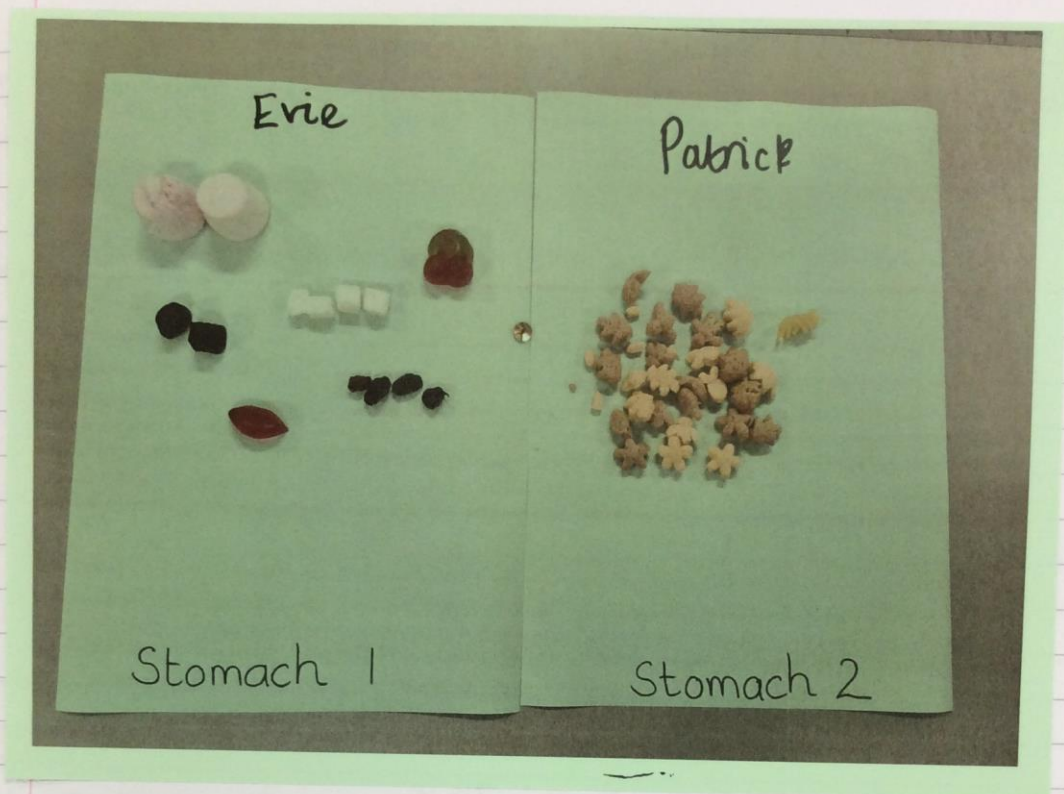


I think these birds all have different beaks so they can survive in their environments. This means that the birds adapted their beaks as they can eat their prey easier.

I think that some of them went through genetic mutation which so they would have an advantage and survive better.

I think the birds with smaller beaks would be eat insects and worms since they don't need sharp beaks to hunt.

I think the more aerodynamic birds would be hunters since they would be able to catch the prey.



My beak was shaped as a pin which means that it could only pick up soft and small ~~objects~~ foods.

In habitat 1, we could get a large variety of food and if it were to live there, it would survive quite well since if one food source would disappear, it could go to a different food source.

In habitat 2 however, it could not thrive and it ~~was~~ would die from starvation since it only could eat one food (cereal). The food was a lot harder in paragraph 2 than 1 and the small pin could not penetrate the hard food enough to be able to carry it back to its nest.

Over all, the food in habitat 1 was better than the food in ~~par~~ habitat 2 for the beak.



# MINKEY

## Physical Description

It is a mammal covered in fur from head to toe. It can grow up to two metres in height and length. Its legs alone can grow up to 1.25 metres. Huge! It is warm blooded, so they don't need to rely on the environment to regulate its body temperature. It has a short but important tail. Since it eats meat, it has dozens of razor sharp teeth so it can demolish its prey. Although it has four legs, it can stand up on two; the tail helps it to balance when on it alone. That tail's cool, isn't it? Standing on two legs means it can climb as well as a monkey. It has brown fur, so it can camouflage into the trees.

The minkey is a mammal that can be found in the warm savannah and near jungles. Its rapid pace means it can get away from predators with ease. The minkey has four powerful legs which means it can climb trees very well. It is a ~~very~~ rare sight to see but if you do see it it will either be in a den with its family or hunting its prey. Read on if you want to learn more about the magnificent minkey!

## Habitat and Adaptations

It will not come as a surprise to you, that the minkey's habitat is flat with some forests around it since this climate and surroundings gives it the best chance of survival. This habitat has lots of food and water. These animals make a den (by trees) using sticks and leaves. They also choose to build their den out of sticks and leaves so they camouflage into the forest. Scarier sharp claws have been passed on throughout generations - there only getting sharper! Their huge and scary are getting stronger so they can climb trees quicker.



## Behaviour

Within their den you will be able to find

a pack of 4-5 minkeys living together. The male in the family goes out and hunt for food while the female stays in the den or just outside it, teaching the offspring how to survive in the wild. During night, the minkeys will be found sleeping in their cosy den! You may think that would be hard to communicate but the minkey communicates by body language and hand movement. The minkey is only similar to a lion and a monkey but whenever they come across each other they will just act normal.

## Diet

This wonderful creature eats lots of meat to ensure it doesn't die from starvation and lack of vitamins, since it uses lots of nutrients and calories in just one day. The minkey eats plenty of cows, pigs and sometimes even birds! This clever creature has a very smart way of catching lots of prey, since it will kill one animal by using its sharp talons and leaving it out to attract more animals to just kill them. However this strategy is good, if a more powerful animal appears then it will lose all of prey. Once it has collected enough food, it will drag the prey back towards its base so the rest of its family gets to eat. Unsurprisingly, this animal will hunt in day light because there are more animals for it to hunt. Because this animal is a mammal the mother will feed milk to its offspring until it can hunt and go out of the den for water.



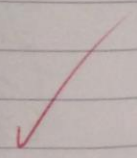
LO: Independently plan investigation and explain planning decisions, identify variables to change, measure and keep the same in order for a test to be fair.

LO: Identify how animals and plants are adapted to suit their environments in different ways.

Fair test.

- Only one worm at a time.
- Everyone has the same beads.
- An equal amount of time.
- Only 1 hand.
- Only looking in 1 area

Color	Tally
Pink	
Black	
Peach	HHH
Orange	
Blue	HHH
Green	
Yellow	
White	
Purple	HHH



16.1.23

Color	Number
Light Pink	<del>39</del> 44
Peach	<del>45</del> 3
Purple	38
Dark Pink	21
Black	0
Orange	43
Yellow	43
Light Blue	57
Dark Blue	35
White	32
Greens	45

Since the worms came in a big variety of colours, some had a better advantage to survive than others. The season was winter so the ground ~~would~~<sup>was</sup> be covered in dark brown leaves and dead bushes and trees. This means that the black coloured worms would camouflage in so it was very hard to find them in the leaves. Light blue and Peach stood out in the black leaves so they would most likely be eaten in the winter.

This will all change if a few months pass on and the grass and bushes will be green so the green worms will survive.



20.1.21.20

## An investigation into what coloured worms have an advantage to survival.

An experiment took place in the school orchard by the Moorside Year 6 children. They did this to investigate what coloured worms had the best chance of survival and thriving. The worms were represented by little pieces of coloured string. The worms were collected by the children and wooden pegs were used as beaks.

The test was kept fair because some rules were established. These were: a specific amount of time (20 minutes) was allocated to the people taking part, only one worm was allowed to be collected at once, all of the beaks used by the participants were the same and one area was used to locate the worms.

Once the allocated time lapsed, all of the worms were counted and recorded. A discussion happened about why there were numerous more light blue worms than black, which there was zero of. Since no black worms were found by the participants, they would thrive in the environment and go onto reproduce and have offspring. The offspring will inherit the good traits and likely survive. If this experiment took place in the summer, the green worms would have a huge advantage since they were camouflaged into the grass and go onto be very successful.