

# DESIGNING A SUPER-PRIMATE

## AIMS AND OBJECTIVES

- To learn that animals have evolved to suit the habitat in which they live.
- To understand how different adaptations can help or hinder an animal.
- To understand how and why human influences contribute to primates becoming endangered or even extinct.

## BACKGROUND INFORMATION:

All living things have evolved to be well adapted to their environment, from what colour they are to how many babies they have. Every animal is perfectly adapted to their way of life. The problem with this is that it takes hundreds of thousands, if not millions, of years for a species to evolve, and in just a few minutes their home can be destroyed by us. Global warming, habitat loss and hunting are new problems for these animals, and they cannot evolve quickly enough to survive. Humans are taking these animals out of the forest and contributing to their extinction because of hunting and poaching for the pet trade, amongst other things. So how could these animals outwit the hunters?

## ACTIVITY:

To design a new species of primate – one that can survive the pressures us humans are putting on it. The children need to look at the 3 primate species and their special adaptations for survival. They then need to use the best of these features, or create new ones, to make their own new 'super-primate' that can outwit the human hunters and survive. They need to say why they have chosen each feature.

If time allows, the children can then have a 'primate-off' where they come to the front of the class and say why their primate is best.

Things they need to consider:

- How will it hide from predators and hunters?
- How will it attract a mate without predators/hunters seeing it?
- How will it escape predators and hunters if they find it?
- Will it have any extra special features that will help it survive?

## ADDITIONAL RESOURCES:

This pack also includes

- **Further Information** which can be used to give inspiration if children are struggling for ideas
- **Adaptation Handouts** on 3 of the primates found at Dao Tien showing their incredible adaptations
- **Fill in the Gaps Activity** which can be used as a preliminary or follow-up exercise with the students.
- **Examples** of Super Primates designed by Year 6 Students at the ABC School in Ho Chi Minh City, Vietnam.

## **FURTHER INFORMATION**

If the children are struggling for ideas you can ask them the following questions to give them inspiration:

### HABITAT

Where will your animal live?

1. In the trees – you are safe from predators up here, but you must be very good at climbing and/or moving through the trees so that you don't fall down. Also what happens if humans chop down the trees?
2. On the ground – You aren't going to fall here, but it is easier for predators and hunters to catch you.
3. Somewhere else – Where? Why?

What will your animal eat?

1. Fruit - very nutritious, but what do you eat when the fruit is not in season?
2. Insects – very nutritious, but how do you catch them?
3. Leaves – lots of leaves around in the forest – but you would need to eat lots and lots of leaves to get enough vitamins and nutrients to survive.
4. Lots of different things – What? Why?

Will your animal be awake during the day or at night?

1. Nocturnal – my animal will sleep during the day and be awake at night.
2. Diurnal – my animal will sleep at night and be awake during the day.

### PHYSICAL FEATURES

Will your primate have a tail?

1. Yes – a tail can be good for balance, communication and good for social animals as a flag to help others from your group spot you.
2. No – a tail can get in the way if you swing through the trees or walk on the ground. Also a bright tail might make it easier for predators and hunters to spot you.

Will your animal have long arms, long legs or neither?

1. Long arms – they help you swing through the trees like a gibbon.
2. Long legs – they help you leap from tree to tree like a douc.
3. Neither – the primate will move through the trees or on the ground on all fours like a loris.

What colour will your primate be?

1. Well camouflaged colours so predators and hunters can't spot you. But will other primates be able to see you if you are too well camouflaged?
2. Brightly coloured to attract a mate and show how healthy. But this will make it easier for predators and hunters to spot you.

How will your animal spot predators?

1. Sight – it will have big eyes and good eyesight which means it will be able to see predators and hunters.
2. Smell – It will have a good sense of smell to spot predators and hunters at night or well camouflaged predators.
3. Sound – It will have big ears and really good hearing to hear predators and hunters at night or well camouflaged predators.

What will your primates eyes be like?

1. Close together, like humans. This gives you 3D vision so you can judge distances (good when moving about in the trees).
2. On the side of the face, like a rabbit. This helps you spot predators and hunters all around you.

## BEHAVIOURAL FEATURES

How will your primate respond to predators?

1. Run away – this is good to escape but means you have to leave your home.
2. Stay and try and scare it – how? Shout? Bad smell? Another way?

How will your primate attract a mate?

1. Singing – this can be heard over really long distances, but may also attract predators and hunters.
2. Bright colours – this is a great way to look attractive, but makes you easier to spot.
3. Smell – your primate could lay a scent trail like a loris so mates can follow it to find you. This works well if you are nocturnal, but also means that predators may find you easier too.

How many babies will your primate have?

1. Lots – this increases the chance of more surviving but means you won't be able to look after them so well.
2. Just a few – so will be able to spend more time looking after them.

Will your animal be social or solitary?

1. Social – safety in numbers, plus you can learn more from each other. But it does make it easier for predators and hunters to spot you.
2. Solitary – easier to hide, but does mean that if a predator finds you, you have less chance of escaping.

## SPECIAL FEATURES

Animals often have special features that help it survive in its environment.

Will your primate have extra special features? What are they?

For Example

1. Swimming – Doucs can swim, which is great in wet seasons and to escape predators/hunters.
2. Grooming nail – Loris have a special grooming nail. Because they are solitary they don't have other animals around to groom them. This nail means they can groom themselves.
3. Colour change – Gibbons change colour as they get older. When they are babies they are born yellow – the same colour as their mum, then when they get older they go black, and then when they become adults females go yellow again.
4. Smell – Lorises are incredibly smelly animals. They use smell to attract a mate, and also if they want to scare off predators they give off a really stinky smell – like rotten flesh!!

# DOUC LANGURS

## LIVE IN BIG GROUPS

Safety in numbers (more eyes to spot a predator).

## LONG TAIL

For balance and act like a 'flag' so all members of the group can see each other.

## EYES CLOSE TOGETHER

Gives them 3D vision so can judge distance (know where the next branch is).

## BRIGHT COLOURS

To attract a mate. The brightest, most colourful ones are the most attractive!

## LONG LEGS

These help them jump over long distances from tree to tree.

## BIG 4-CHAMBERED STOMACH

Douc langurs eat leaves which are really hard to digest. To get all the nutrients out of them Douc langurs have very special stomachs to break down the tough leaves.





# GIBBONS

## DENSE FUR

This helps protect them against the rain in the rainy season

## LONG ARMS

These help them swing through the trees.

## EYES CLOSE TOGETHER

Gives them 3D vision so can judge distance (know where the next branch is).

## NO TAIL

A tail would only get in the way when swinging through the trees.



## CHANGE COLOUR

Gibbons change colour as they get older. When they are babies they are born yellow – the same colour as their mum, then when they get older they go black, and the when they become adults females go yellow again.

## FAMILY GROUPS

Gibbons live in family groups of mum, dad and young offspring. Living together as a family helps defend territory and raise young.



## LOUD CALL

This helps them warn off other gibbons who might try and get in their territory, attract a mate, and strengthen the bond between a pair.

## LONG FINGERS

These work like hooks to help them swing from branch to branch.

## HAND LIKE FEET

This means they can carry things with their hands AND feet.



# LORISES

## SOLITARY

Loris mainly eat insects, which are quite hard to find. Because they live alone they don't have to share their food.

## GROOMING NAIL

Because they live alone loris don't have anyone to groom them. Instead they have one long nail so they can groom themselves.

## SMELLY!

Loris can be really smelly animals. When they are scared they release a horrible smell (like rotting flesh) to scare off any predators. They also use smell to attract a mate.

## BIG EYES

Loris are nocturnal, which means they sleep all day and are awake at night. They have big eyes so they can see in the dark.

## GOOD SENSE OF SMELL

Loris use their good sense of smell to find food and to find a mate.

## STRONG GRIPPING HANDS AND FEET

Loris have strong muscles in their hands and feet to give them a really good grip. This means they can grasp branches tightly for a long time without getting tired.



# ANIMAL ADAPTATIONS

Fill in the gaps using the words in the boxes below:

## HOW ARE GIBBONS ADAPTED TO A LIFE IN THE FOREST?

- Gibbons swing through the trees from branch to branch so they have.....to help them reach.
- Gibbons live in..... Living together like this helps them defend their territory and raise their young.
- Gibbons change colour as they get older. Babies are born with yellow fur so they are well..... When they get a little bit older they turn black. When they are adults females turn yellow again.
- Gibbons have ..... to protect them from the rain in the rainy season.
- Gibbons have..... so they can carry things with their hands and feet.
- Gibbons have a ..... which helps them warn off other gibbons who might try and get in their territory and attract a mate. It also strengthens the bond between a pair.
- Gibbons have eyes close together, just like us humans. This gives them .....so they can judge distances between branches when moving through the trees.
- Gibbons have .....which are used like hooks to help them swing through the trees.

Long arms	Family groups
Dense fur	Long fingers
Hand-like feet	Camouflaged
3D Vision	Loud call





## HOW ARE DOUC LANGURS ADAPTED TO A LIFE IN THE FOREST?

1. Douc langurs eat leaves. To help them get all the goodness out of the leaves they have a .....
2. Douc langurs are..... This helps them attract a mate.
3. Douc langurs have eyes close together, just like us humans. This gives them .....so they can judge distances between branches when moving through the trees.
4. Douc langurs live in ..... This makes it easier to spot predators.
5. Douc langurs have ..... to help them jump long distances between trees.
6. Douc langurs have ..... which act like a 'flag', making it easier for other members of their group to spot them.

Long legs

Big groups

3D Vision

Big stomach

Long tail

Brightly coloured





## HOW ARE LORISES ADAPTED TO A LIFE IN THE FOREST?

1. Loris have .....to give them a really good grip. This means they can grasp branches tightly for a long time without getting tired.
2. Loris are ....., which means they don't have to share their food. They mainly eat insects, which are quite hard to find.
3. When they are scared, loris give off a ..... to scare off any predators. They also use smell to attract a mate.
4. Because they live alone loris don't have anyone to groom them. Instead they have a ..... so they can groom themselves.
5. Loris use their good ..... to find food and to find a mate.
6. Loris are ....., which means they sleep all day and are awake at night. They have big eyes so they can see in the dark.

Nocturnal	Solitary
Strong gripping hands and feet	Sense of smell
Grooming nail	Horrible smell



## EXAMPLES OF SUPER PRIMATES

By Year 6 Students at the ABC School in Ho Chi Minh City, Vietnam.

