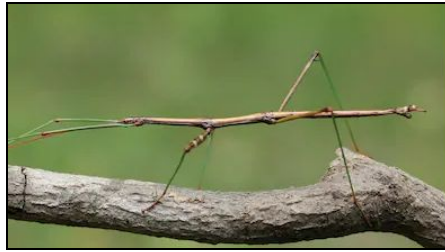


Camouflage and Mimicry		Grade 2 Life Systems
Lesson Plan	Safety Notes	Adult supervision and assistance is recommended
<p>Description Students will gain an understanding of how animals use camouflage and mimicry as adaptations in their habitat.</p>		
<p>Materials</p> <ul style="list-style-type: none"> • White Paper • Markers • Butterfly template • Scissors • Tape 		
<p>Science Background</p> <p>Camouflage and mimicry are two ways that some animals have adapted. This means that over many years, these animals have changed in their development, or the way they grow over years and years, in order to suit their needs in their habitat. A habitat is where the animal lives.</p> <p>In the animal world, animals are basically classified in two categories, the predator and the prey. The predator is the hunter, an animal that eats other animals. This is an animal like a wolf, that hunts and eats other animals. The prey is the animal that is being hunted. A deer is the prey to a wolf, because a deer is hunted by and eaten by wolves. Since animals need to hunt and eat each other, they need a way in order to protect themselves.</p> <p>A very simple solution for many animals is to camouflage. Camouflage is being able to blend in with certain aspects in an environment. This could be down by patterns on skin or fur, colours, behavior, or movements. There are two main reasons why the animal may need to use camouflage.</p> <ol style="list-style-type: none"> 1. Prey avoiding predator. The prey, or animal being hunted, needs to hide from the predator. The white-tailed deer is brown to blend in, or camouflage within its surroundings. It keeps its tail low, until it senses danger, and then flashes the bright white tail as a warning signal to other deer that there is danger. The flash of white is bright and obvious because it doesn't camouflage with the deers surroundings as much. Other animals, such as the snowshoe hare, are actually able to change the colour of their fur in order to camouflage with an always changing habitat. In the summer, the hare is brown in order to blend into the woods that they live in. However, in the summer, the snowshoe hare changes to white, in order to blend in with the snow. The snowshoe hare and the white-tailed deer are both a favourite prey to many bigger animals, and so they need to use camouflage to stay alive. 2. The other reason an animal may use camouflage is when a predator is hunting prey. A lot of predators sneak up on their prey in order to catch them with the element of surprise. This 		

means that they need to blend in with their surroundings in order to sneak up close enough to their prey to catch it. Some animals, like the Canadian Lynx, can change the colour of their fur, just like a snowshoe hare. In the summer, the lynx is an orangey colour, and changes to white/grey in the winter. This helps them blend in with the changing seasons as well, and lets them sneak up on their prey without being seen.

On a much smaller scale, we can also consider insects to be masters of camouflage. Some insects can camouflage not only in the way they look, but also the way they act. Some insects, called stick insects, can camouflage in their habitat, because they look like a stick! They can be brown or green, and long, very similar to a stick!



Other insects like the leaf bug look more like a leaf; green, large and flat! When this insect walks, the way that its body rocks makes it look like a leaf blowing in the wind! Many of the leaf insects predators are not able to tell the difference between it and a real leaf!



Mimicry is a similar type of adaptation used in the animal world. This is when an animal has features that appear similar to that of another animal, in order to survive. For example, the Viceroy Butterfly has features that look almost identical to the Monarch Butterfly. They do this because Monarchs are poisonous to other animals, but the Viceroy isn't. The Viceroy pretends to look like the Monarch in order to trick birds and other predators into thinking that they'll be poisonous, too! This is a common mimicry tactic for animals who are not poisonous, as a way to defend themselves.





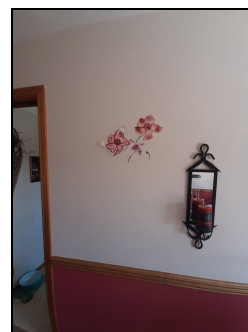
Another mimicry tactic is to pretend to have another animal's features. For example, many bird and fish species mimic spots that look like other animals' eyes. This frightens the predators into thinking that the bird or fish is much larger and scarier than it really is! A fish called the four-eye butterflyfish is named because it has a large spot on each side of its tail, to make it look like it has giant eyes! This confuses predators, who think that the large spots are its real eyes, and that it will swim in the opposite direction!

Activity Procedure

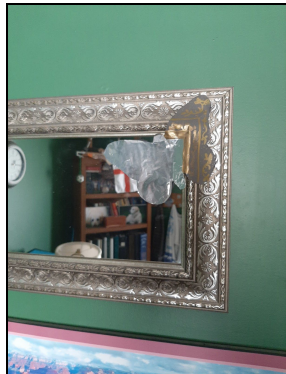
1. Trace butterflies by placing the butterfly template under a piece of white paper, and taping it to the window. *Note: Taping this to the window is not necessary if the lines of the butterfly are visible from under the white paper. The light from the window will make it easier to see the lines.



2. Draw as many butterflies as many butterflies as wanted/needed. *Note: ensure there are enough to use some as camouflage and some as mimicry demonstrations. Try to save paper! you can fit two butterfly tracings on one piece of paper!
3. For camouflage butterflies, colour in the butterflies to blend in with things around the house (eg walls, pictures, etc) look for patterns and do your best make the picture as close as possible to what you're camouflaging with.



4. Cut out each butterfly and tape it to where it is camouflaging in its habitat. Try to use other items from around the house on your butterfly such as paint, tin foil, craft foam, stickers, and anything else that might help!

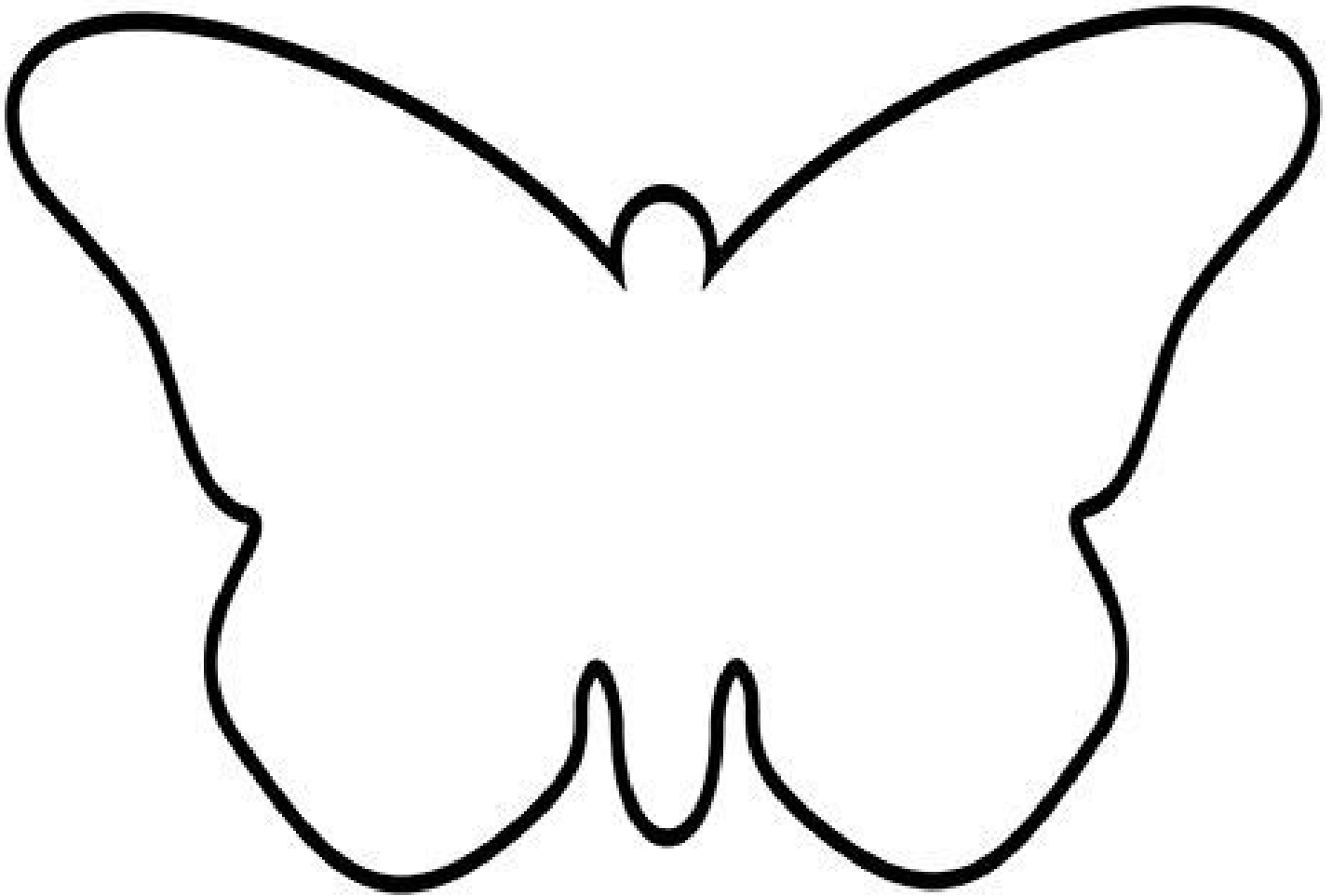


5. Try to get someone else to find all the butterflies you have hidden!

Debrief

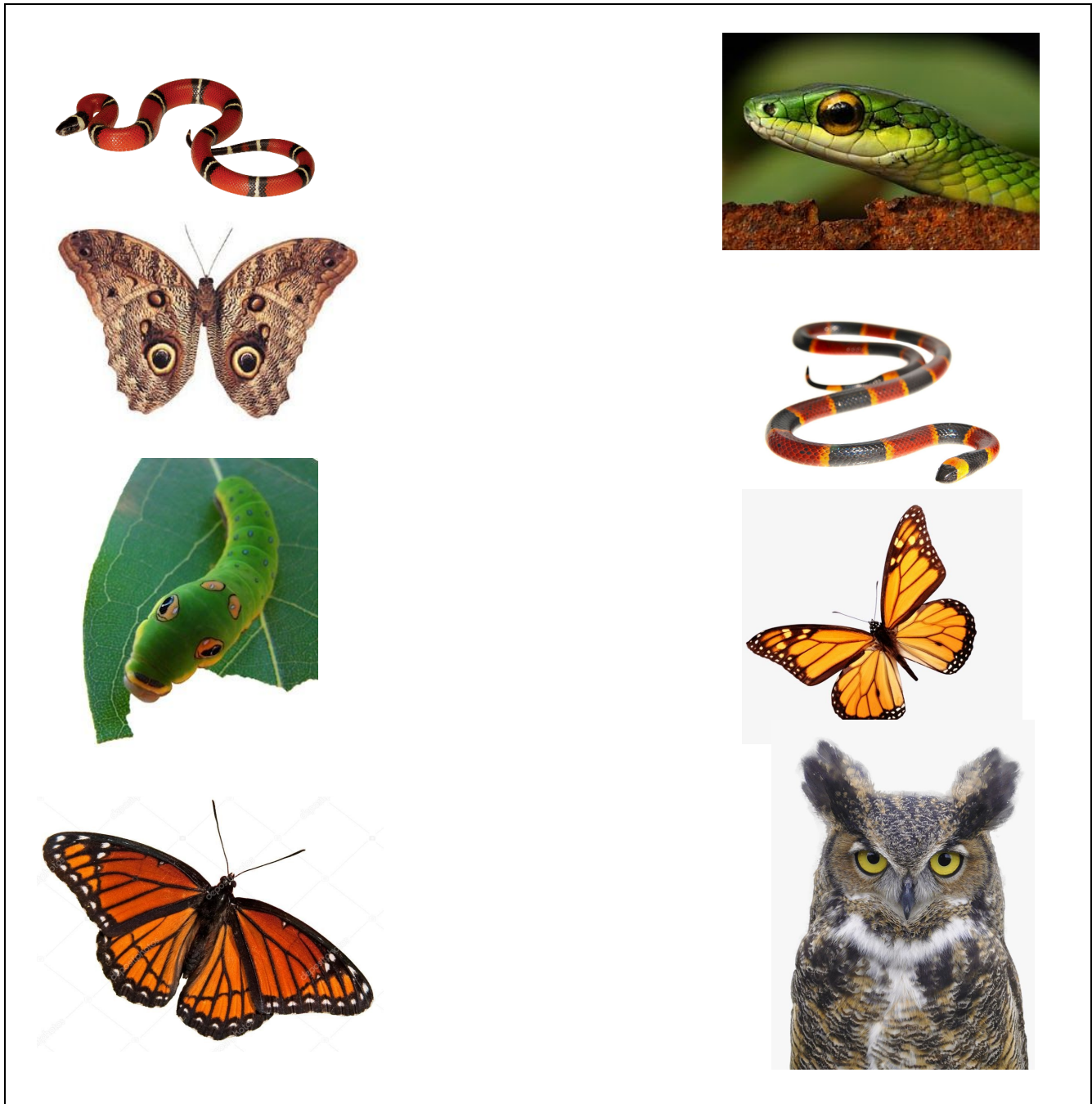
You have just learned to camouflage butterflies in their unique habitats! As a follow up, please complete the attached worksheet.

Butterfly Template



Camouflage or Mimicry?

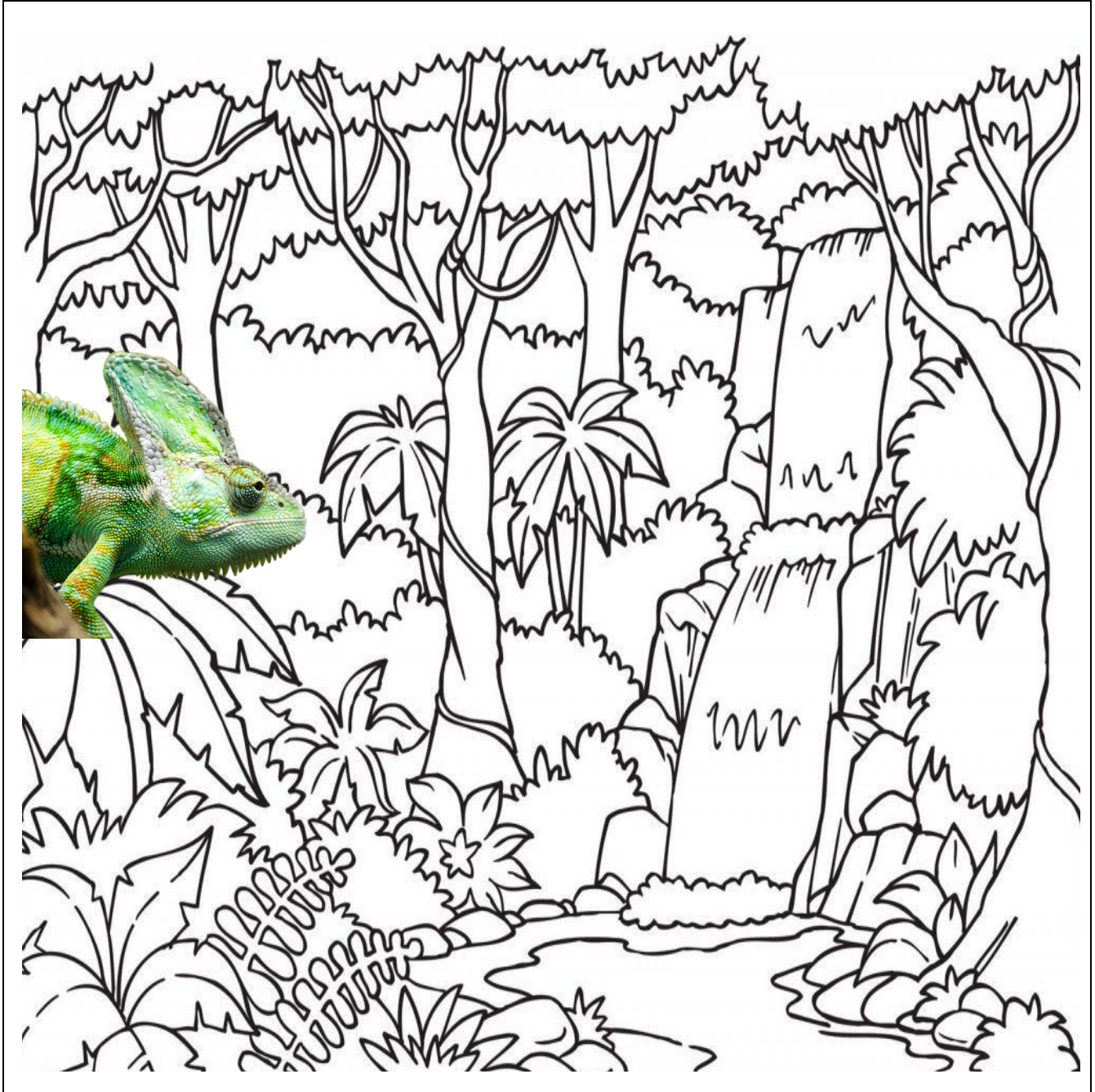
Draw a line between the animals that are mimicking each other!



Why do animals mimic each other?

Why do animals need to camouflage?

Chameleons are experts at camouflage! Colour the background so the chameleon can camouflage from its predators!



Camouflage or Mimicry?

Draw a line between the animals that are mimicking each other!

The diagram shows six animal images arranged in two columns. On the left column, from top to bottom: a red and black striped snake, a brown butterfly with eye spots, a green caterpillar with eye spots, and a monarch butterfly. On the right column, from top to bottom: a green snake, a black and red striped snake, a monarch butterfly, and an owl. Three black lines connect the images: one from the red and black striped snake to the black and red striped snake, one from the brown butterfly to the owl, and one from the green caterpillar to the green snake.

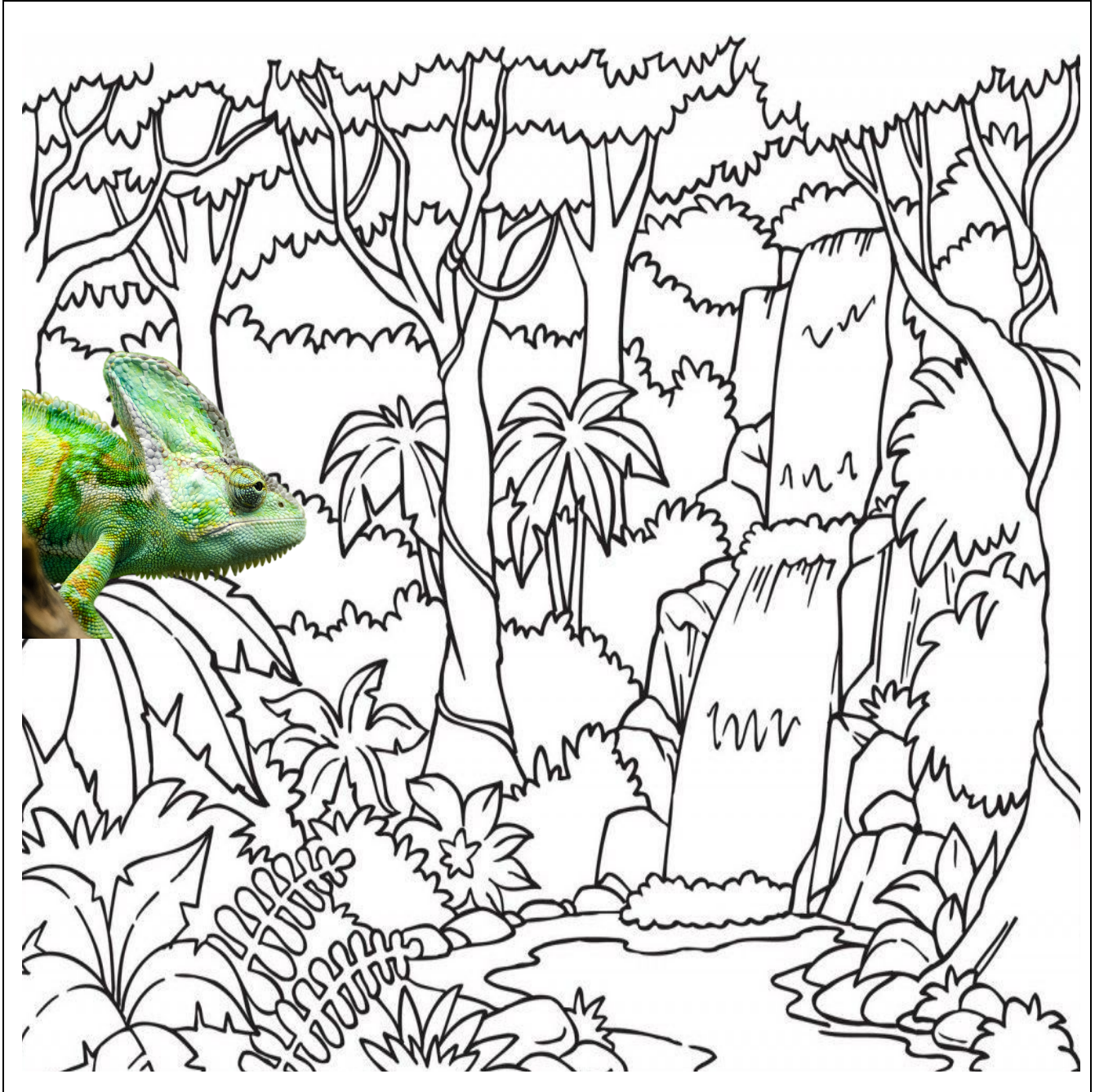
Why do animals mimic each other?

- to draw attention to a less vulnerable part of the body
- to confuse predators
- to fool predators into thinking they are a different animal
- to pretend to be poisonous, dangerous, etc

Why do animals need to camouflage?

- to blend in to their surroundings
- to hide from predators
- to hide and sneak up on prey

Chameleons are experts at camouflage! Colour the background so the chameleon can camouflage from its predators!



(Colour the background green!)