



Animal Mimics: The Original “Copy Cats” By Beth Frede



Screech owl photo by Danielle Brigida/USFWS

Novelist OSCAR WILDE famously said, “Imitation is the sincerest form of flattery.” That might be so for humans, but in the animal kingdom, imitation can mean the difference between survival and DEMISE (death). CRYPSIS is the ability of an animal or a plant to avoid observation or detection by other animals by using the way it looks, sounds, or even smells to disguise itself. Today we’ll examine ANIMAL MIMICRY (imitation): what it is, how it works, and five animals whose daily EXISTENCE relies upon it.

SPELL: IMITATION MIMICRY EXISTENCE

Who famously said, “Imitation is the sincerest form of flattery”? OSCAR WILDE

What word was used that means death or the opposite of survival? DEMISE

What did I say mimicry meant? IMITATION

What word from the lesson means an animal’s ability to avoid observation or detection by disguising itself? CRYPSIS

Animals or plants use crypsis which means they change the way they do what? SOUND, SMELL, LOOK

Do you agree or disagree with Oscar Wilde’s statement that “imitation is the sincerest form of flattery”? Briefly explain.

In BIOLOGY (the study of living organisms), mimicry is described as the PHENOMENON of one animal or organism closely resembling another organism that is unrelated to it TAXONOMICALLY. In other words, the two organisms resemble each other but belong to two different CLASSIFICATIONS (or hierarchical groups based on SIMILARITIES and dissimilarities). Another form of mimicry is when an animal mimics an object in its natural habitat. By mimicking another organism or object, the animal can blend in with its surroundings, hunt, and avoid PREDATORS.

SPELL: CLASSIFICATIONS SIMILARITIES PHENOMENON

I said that biology is the study of what? LIVING ORGANISMS

The text says that mimicry is described as the phenomenon of one animal or ____ closely resembling another. ORGANISM

Besides an animal mimicking another animal, I said that some animals mimic objects from where? THEIR NATURAL HABITAT

From the lesson when two organisms resemble each other but belong to two different classifications, it means they are unrelated how?

TAXONOMICALLY

I mentioned three ways that mimicry helps an animal. Name one.

HUNTING, AVOIDING PREDATORS, BLENDING IN WITH SURROUNDINGS

One creature with a talent for imitation is the MOCKINGBIRD.

Mockingbirds have special VOCAL CHORDS called the SYRINX (pronounced SEERinks), which allow them to mimic not only other birds, but other animals like squirrels and dogs, or INANIMATE (non-living) objects such as sirens or dripping water. Scientists believe these masters of mimicry protect their territory by fooling other birds into thinking that an area is already heavily POPULATED with their species. This helps the mockingbirds limit other birds with whom they would compete for food and shelter.

SPELL: MOCKINGBIRD SCIENTIST VOCAL CHORDS

Mockingbirds have special vocal chords called the what? SYRINX

What is the word I used for non-living objects? INANIMATE

One inanimate object from the text that mockingbirds can imitate is dripping water. Another is what? SIRENS

I read that mockingbirds trick other birds into thinking an area is heavily blank with their species. POPULATED

I said that mockingbirds try to limit other birds from moving into their territory, so they have fewer birds to compete with for what? FOOD, SHELTER

Name a bird known for mimicking that some people have as pets. PARROT, PARAKEET, COCKATIEL

VAKT: listen to these mockingbird songs: (3.08 min.)

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

Other birds are mimics too... listen to an Australian lyrebird imitate construction sounds: <https://www.youtube.com/watch?v=C0Zfflh0-NA> (2 minutes)



Mockingbird. Photo by Brian McGee.
[Mcaulay Library ML 55537981](https://www.mcaulaylibrary.org/ml/55537981)

Besides protecting their territory, mockingbirds use mimicry to attract partners. The more songs a male mockingbird has, the more attractive he is to the females. This is because his large song REPERTOIRE (collection) signals to them that he has the most territory. Thus, the males are constantly expanding their VOCALIZATIONS. It's common for a male mockingbird to have between 250 and 350 songs ready to sing at a

moment's notice. No wonder this bird's Latin name is MIMUS POLYGLOTTOS, meaning "many-tongued mimic"!

SPELL: VOCALIZATIONS EXPANDING MIMICRY

The Latin name for mockingbird is? MIMUS POLYGLOTTOS

What does *Mimus polyglottos* mean? MANY-TONGUED MIMIC

It's common for a male mockingbird to have how many songs? BETWEEN 250 AND 350

If mockingbirds have between 250 and 350 songs, what's the average number of songs mockingbirds have? Show how you'd solve this. $250 + 350 = 600$ $600 \div 2 = 300$

The text says that the more songs a male mockingbird has, the more what is he to the females? ATTRACTIVE

I used a word that means collection, like the mockingbird's collection of songs. What was the word? REPERTOIRE



Walking leaf - photo from <https://www.britannica.com/animal/leaf-insect>

The WALKING LEAF is another brilliant imitator. Walking leaves, or LEAF BUGS, belong to more than 50 species of flat, usually green insects that look amazingly like actual leaves. These masters of disguise prefer to INHABIT dense, leafy areas which enables them to hide in plain sight from predators. Besides CAMOUFLAGE, the plants provide these insects with

FOOD. When walking, leaf bugs sway in the wind like leaves, although most of the time they stay perfectly still. Walking leaves are found across parts of south and southeast Asia, PAPUA NEW GUINEA, and AUSTRALIA, as well as islands in the Indian Ocean.

SPELL: INHABIT APPEARANCE ISLANDS

One place I said you would find walking leaves is on islands in which ocean? INDIAN OCEAN

Name one other place the lesson says you might find walking leaves.

SOUTH ASIA, SOUTHEAST ASIA, PAPUA NEW GUINEA, AUSTRALIA

What is one way I shared that walking leaves hide in plain sight? THEIR APPEARANCE, SWAYING WHEN THEY WALK

The text says that walking leaves prefer to inhabit what kind of areas? DENSE, LEAFY

I said there are more than how many species of leaf bugs? 50

What word describes an animal that feeds on plants? HERBIVORE

What's another word that means "to inhabit"? RESIDE, DWELL, OCCUPY

Name another insect that blends in with its surroundings. KATYDID, PRAYING MANTIS, WALKING STICK

Name an insect that does not blend in with its surroundings. LADYBUG, BEE

VAKT: Circle Australia on the world map. Point to the Indian Ocean. What direction do you have to go in to get from Australia to Papua New Guinea? Spell it (NORTH) and draw with your finger from Australia to Papua New Guinea.



The LEAF-TAILED GECKO is another animal imitator that uses VEGETATION (plants) in which to hide itself. This MADAGASCAR NATIVE (someone/something born in a specific place- in this case, Madagascar) is a NOCTURNAL (nighttime) hunter. While it feasts on crickets, flies, spiders, cockroaches, and snails by night, by day it hides from birds, snakes, and rats who would love to eat *it*. Sometimes these geckos try to scare off predators by waving their tails, EMITTING loud cries, or trying to bite. They can also jump off branches into leaf DEBRIS (remnants or waste) below. Blending in with its surroundings is this creature's best defense.



Satanic leaf-tailed gecko - [https://www.wired.com](https://www.wired.com;);

SPELL: EMITTING

NIGHTTIME

REMNANTS

The lesson says that leaf-tailed geckos are ___ meaning they hunt at night.
NOCTURNAL

Birds, snakes, and what other animal was mentioned that prey on leaf-tailed geckos? RATS

Leaf-tailed geckos are native to which country? MADAGASCAR

The text lists three ways these geckos can scare off predators. Name one.

WAVING THEIR TAIL, EMITTING LOUD CRIES, TRYING TO BITE

Name two things from the paragraph that leaf-tailed geckos eat.

CRICKETS, FLIES, SPIDERS, COCKROACHES, SNAILS

What's another word meaning native? LOCAL, INDIGENOUS, etc.

The country of Madagascar is part of which continent? AFRICA

VAKT: trace the outline of this leaf-tailed gecko with a pencil:



Right: Leaf-tailed gecko - <https://rainforests.mongabay.com/0306.htm>

Another master mimic, the non-poisonous MILK SNAKE, uses its eye-catching colors to ward off predators which include skunks, RACOONS, hawks, and owls. Milk snakes are harmless to humans but look a lot like CORAL SNAKES which are VENOMOUS and potentially deadly. So, if you come across a snake with red, black, and yellow bands, how will you know if you should run or just keep walking? There's an old saying that can help you tell them apart: "Red against yellow: kill a fellow. Red against black: friend to Jack."

SPELL: VENOMOUS POTENTIALLY RACOONS

I said that the milk snake resembles which poisonous creature? CORAL SNAKE

Which snake from the lesson has red bands next to black bands? MILK SNAKE

The story said that predators of the milk snake include raccoons, hawks, owls, and what? SKUNKS

What is a predator of milk snakes? SKUNKS, RACOONS, HAWKS, OWLS

Milk snakes use their _____ to ward off predators. COLORS, EYE-CATCHING COLORS

VAKT: Point to the milk snake.



Previous page photos: on left- <https://weeklysafety.com/blog/coral-snakes>;
on right- https://en.wikipedia.org/wiki/Mexican_milk_snake

VAKT: In the air, draw a large snake shape made of S curves starting above your head and ending at your feet. Now draw it from left to right with your right hand, and from right to left with your left hand.

Have you ever touched a live snake? If you have, what are three words you'd use to describe its texture? If not, what three words describe how you think it might feel?

While some animals imitate appearance or vocalizations, others use scent imitation, or CHEMICAL MIMICRY, for protection, attraction, or trickery. CUCKOO BEES, for example, use scent to DUPE other bees into becoming their hosts. Cuckoos neither collect pollen nor build their own nests but rely on pollen-collecting host bees for these necessities. The cuckoo bees hide their eggs in the host bees' nest, and when each cuckoo LARVA (immature form of the bee) hatches, it consumes the host larva plus the POLLEN BALL that was meant to feed it. The host bees don't even recognize the intruders because the cuckoo eggs chemically mimic the scent of the host's own eggs.



Cuckoo Bee - photo by Thomas Onuferko

SPELL: RECOGNIZE INTRUDER NECESSITIES

Cuckoo bees use scent to fool other bees into becoming their what?

HOSTS

Cuckoo bees don't build their own nests or do what? COLLECT POLLEN

Cuckoo bees hide their ___ in their hosts' nests. EGGS

The immature form of bees (and other insects) is called the what? LARVA

Another term for scent imitation is _____? CHEMICAL MIMICRY

What is one of the three reasons mentioned that some animals use chemical mimicry? PROTECTION, ATTRACTION, TRICKERY

HOST'S LARVA, POLLEN BALL

What is a scent that many people dislike? SKUNK, ROTTEN EGGS, COOKED BROCCOLI, etc.

Scientist CARL SAGAN said, "Somewhere something incredible is waiting to be known." He was referring to outer space, but his words certainly apply to the world of animal mimicry too. Today we just touched upon the many varied creatures that EMPLOY (use) this TECHNIQUE for their survival. Whether they disguise themselves among rocks, camouflage underwater, or mask themselves among tree trunks, nests, or lush vegetation, these creatures have EVOLVED in some pretty impressive ways. Pay close attention to the world outside and you might catch a glimpse of one of these imitation marvels!

SPELL: TECHNIQUE EVOLVED EMPLOY

Who said "Somewhere something incredible is waiting to be known"?

CARL SAGAN

The paragraph mentioned that Carl Sagan's profession was what?

SCIENTIST

What is one place mentioned in the paragraph that animal mimics are found? UNDERWATER, AMONG ROCKS, TREE TRUNKS, NESTS, LUSH VEGETATION

What's another word for "use" or "employ"? UTILIZE, IMPLEMENT, etc.

VAKT: Check out these underwater animal mimics that use appearance and chemical crypsis: (4 min.)

<https://www.youtube.com/watch?v=yalRGgrm3ac>

CREATIVE WRITING:

What are some ways humans mimic other humans? Please give an example or two, and explain what you think the purpose of that mimicry is.

If you could mimic another person perfectly, would you? If you said yes, who would you imitate, and why? If you said no, why not?

Beth Frede is an S2C Practitioner based in New Hampshire where she lives with her husband and dog. She loves painting, puttering in the kitchen, and learning about new things while writing lessons.

RESOURCES:

<https://www.britannica.com/science/mimicry>

<https://www.scienceabc.com/nature/animals/why-do-animals-mimic.html>

<https://www.nytimes.com/1986/11/11/science/q-a-803886.html>

<https://www.britannica.com/animal/leaf-insect>

<https://rainforests.mongabay.com/0306.htm>

<https://animals.howstuffworks.com/snakes/milk-snake.htm>

<https://en.wikipedia.org/wiki/Mockingbird>

<https://www.wired.com/2014/07/absurd-creature-of-the-week-satanic-leaf-tailed-gecko/>

<https://gisgeography.com/high-resolution-world-map/>

<https://www.bbc.com/news/science-environment-44045331>