



Leo's Colorful Story

Overview: The Tiger Swallowtail Butterfly is an excellent example of a familiar animal that uses many of the defenses discussed in the lesson. In this activity, students will listen to a story of how a butterfly changes its defenses as it goes through its life cycle. They will not be told that the creature is a butterfly; instead they will follow instructions in the story to fill out a color-by-number, eventually revealing the butterfly.

Subjects: Science and Art

Key words: Camouflage, Instincts, Defenses, Predator

Grades: K – 3

Length: 20-30 minutes

Materials:

Crayons/Markers in the following colors:

Red, Blue, Yellow, Green, Black, Brown

Color-By-Number sheets

(2 versions attached; select basic or complex difficulty level)

Teacher-read story

Procedure:

- 1) Prior to lesson, review story. Select one version of color-by-number sheet and make enough copies for all students. Since each student will be using the same color at the same time, each should have their own set of colors.
- 2) At start of lesson, explain to the students that they will be learning about an animal and how it defends itself while they are coloring a color-by-number illustration. **Emphasize that students are not to start coloring until they receive directions, which will be in the story.**
- 3) Distribute color-by-number sheets and crayons/markers.
- 4) Read the story below, pausing at the directions and going slow enough to make sure everyone keeps up.
- 5) After the story, review the coloring directions if necessary and make sure everyone has completed their butterfly picture.
- 6) Discuss the story with the students, and review what defenses the butterfly used as it grew. Review the life-cycle of a butterfly, if necessary.
 - a. Guiding Questions: Were you surprised when you found Leo was a butterfly? Leo used several defenses, which one was your favorite? Can you think of any other creatures that change their form like Leo?

Leo's Story

Today we're going to hear a story about a wild animal who you might've seen before, right around here. But I'm not going to tell you what kind of animal it is until the end. The animal's name is Leo, and the story will be about how Leo uses many different defenses to stay alive. Throughout the story, I will stop and give you directions for the color-by-number sheet, so you can color as you listen to the story. You might be surprised when you learn what Leo is!

- Color the Number 1 areas of the picture Red

When Leo was born, he was very small. He couldn't move very fast. He didn't have any family to take care of him, but that was okay to Leo. He was born with instincts, which told him how to take care of himself. There were many other wild animals that were much bigger than him. These bigger creatures could even eat him! But luckily, his skin kept him safe. It was black, and white, and very lumpy. Sitting on a leaf, he looked just like a smear of bird poop. It was so convincing, a hungry bird would never eat him, because even though many would eat him, they didn't even recognize him. When a bird landed on the very same branch as Leo, Leo followed his instincts. He held very still, and pretended he wasn't alive. The bird saw Leo, but it ignored him, because he didn't look like anything good to eat. After a few long moments, it flew off to search elsewhere.

- Color the Number 2 areas of the picture Green

Leo happily nibbled the leaves of the tree he lived in, and like most young animals, he was always hungry. He ate a lot, and grew very quickly. One day, he found he'd grown so much his black-and-white skin was too tight! So, he wiggled out of his old skin and grew a larger one. His new skin was still white and blackish, but less lumpy, and there were two new spots on either side of his body. He was also more greenish. Now bigger, he could move around faster, but a bird might still try to eat him. But Leo had a new trick. If something scared him, he would hide his head by tucking it underneath. But he wasn't hiding! With his real head hidden, his body now looked like a snake's head. The two spots on his side looked like a snake's large eyes. The pretend-snake's "mouth" (which was really the back of Leo's head) even had a pretend tongue! Leo could push out a small reddish bit from behind his head, an odd, special little thing that looked just like a snake's tongue! It was even forked at the tip, and smelled bad – like snake breath! Now, Leo had never seen a real snake, and probably didn't know what a snake was, but he could pretend to be one, because that's what his instincts told him to do.

- Color the Number 3 areas of the picture Brown

As I'm sure you know, many birds are afraid of snakes, so if they came too close to Leo, they wouldn't see a yummy treat, instead they'd see a snake's head, and fly away.

One afternoon a large blackbird flew past Leo's tree, and it spotted him. It circled back and landed on Leo's branch. But Leo used his snake-trick, so the blackbird, instead of seeing a meal, saw a predator. It squawked with alarm and flew off, frightened. Leo used his snake-trick several other times, when his instincts told him too. He lived happily in his tree, and ate more leaves. He even ate some leaves that were poisonous to other animals, but not to Leo. His instincts told him the leaves were good for him. Finally, one day, Leo's skin felt too tight again. But this time was different, he also felt very full, and sort of tired.

- Color the Number 4 areas of the picture Blue

Leo went to the trunk of the tree, and his old skin split again. He wiggled out, and into a new skin that was very different. For the first time ever, Leo wasn't hungry anymore. Good thing too, because now he didn't have a mouth to eat with! In fact, this skin didn't have legs either, or even a head! It was brown and bumpy, and looked just like the tree's bark. Instead of hungry, now Leo was just very, very sleepy. Leo fell into a deep sleep inside this skin, and stopped moving. Now he looked just like the tree trunk he slept on! The color blended in, and it even had the lumpy shape of a bit of tree bark. A blue jay flew right past Leo, it didn't even see him. His bark-like outer skin was perfect camouflage.

- Color the Number 5 areas of the picture Yellow

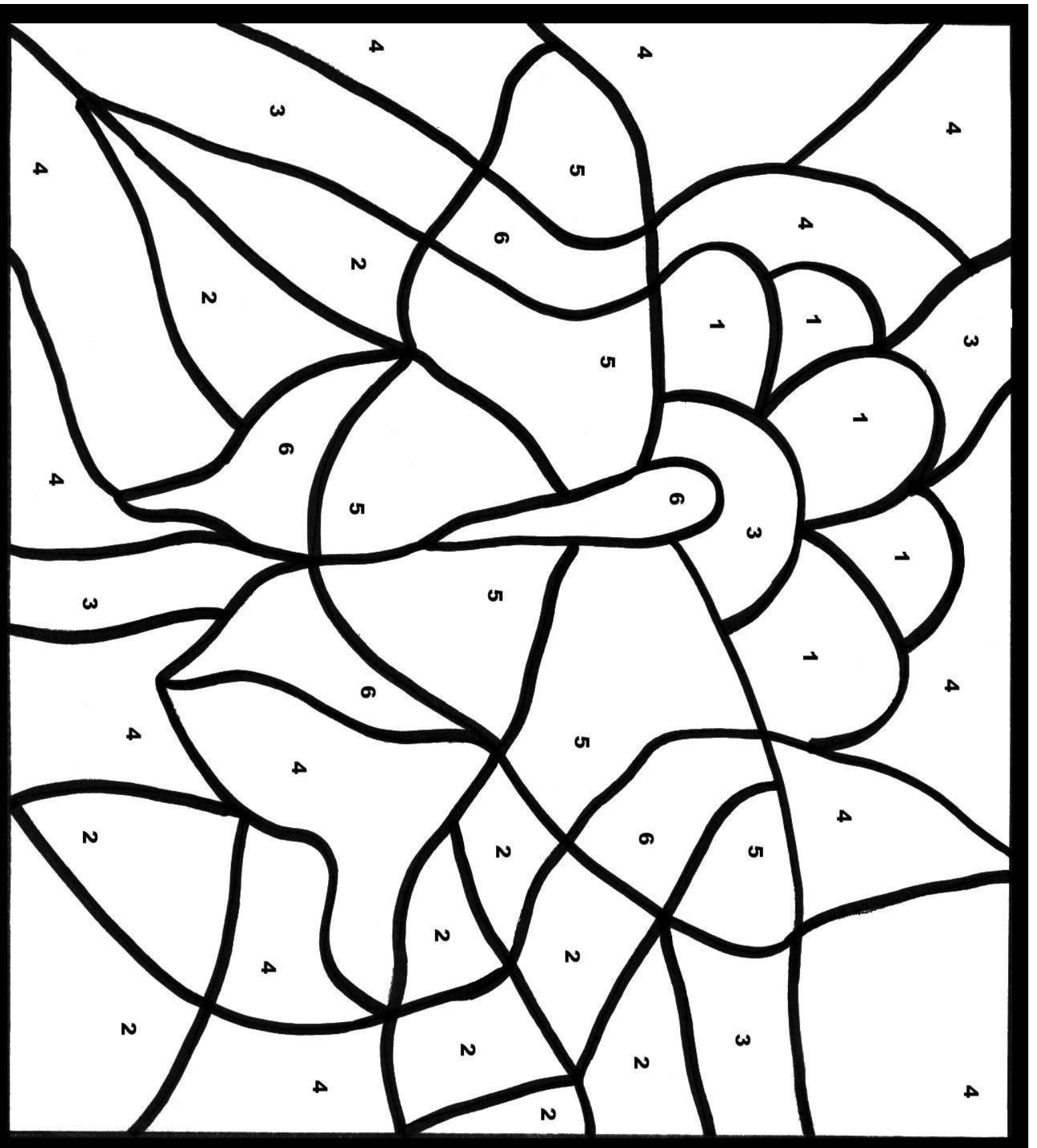
Deep inside, Leo's body changed as he went through metamorphosis. His eyes got bigger. His mouth, which had been for chewing, changed to a mouth for sipping. He grew six new legs, longer than his old legs. He changed color to yellow and black. He grew wings! Also, his body had saved up all the toxins from the leaves he ate, and now those toxins were put into his new skin, to protect him.

- Color the Number 6 areas of the picture Black

Finally, one day Leo woke up. He squeezed out of his old skin, and rested on the tree's trunk. He slowly pumped blood into his new wings, until they were the right shape. He carefully coiled up his new mouth, which was a tube for sipping nectar. Then he let his new skin dry off in the sunshine. Now he was a colorful Tiger Swallowtail Butterfly! His wings were bright yellow and black, warning colors to tell birds to stay away. If any bird did try to eat him, they'd learn he tasted very bad because of the toxins in his skin.

After flapping his wings a few times for practice, Leo jumped off the tree that had been his home, and flew away in search of a flower to drink sweet nectar from.

The End.



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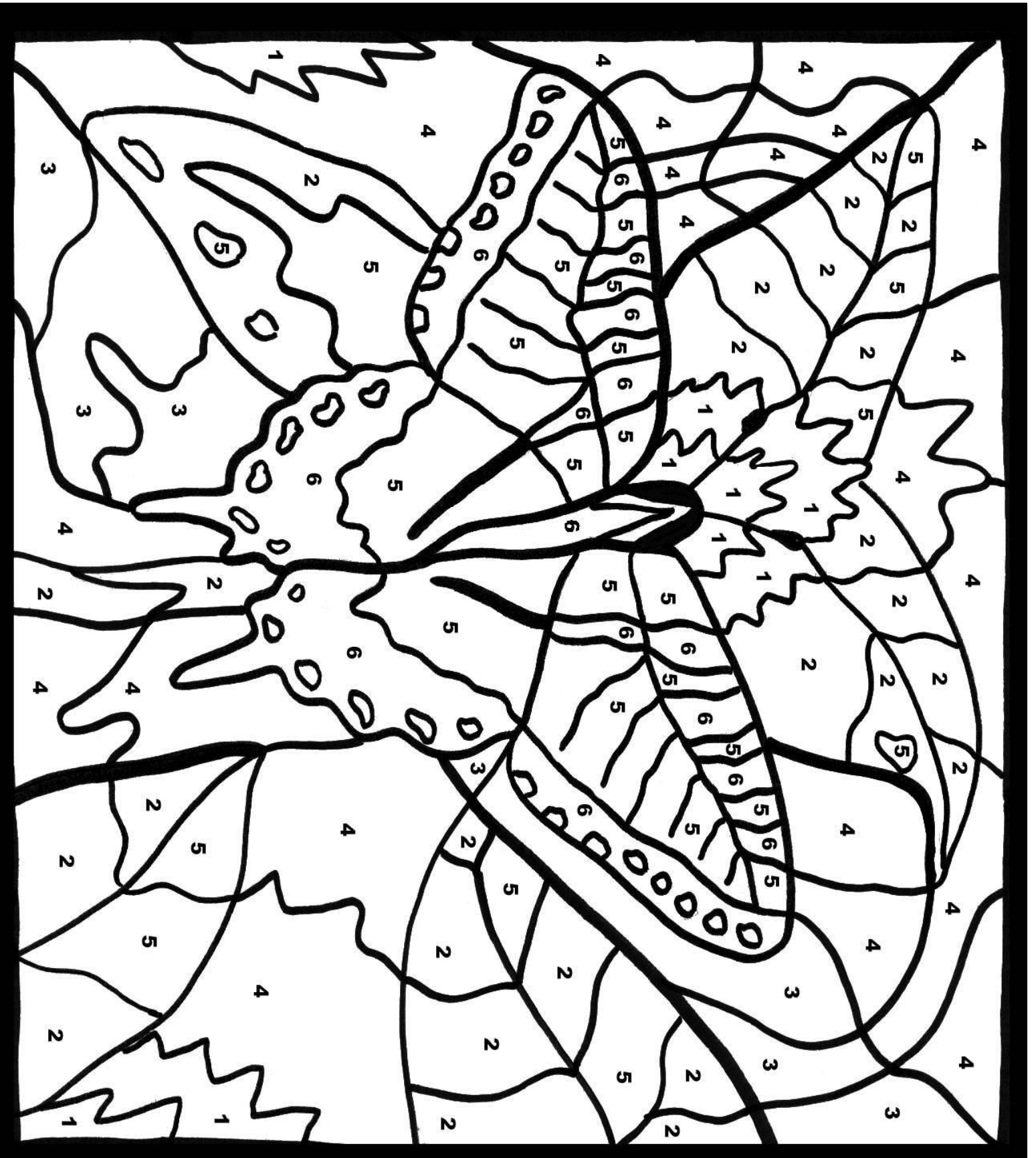
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