



## Animal Structures Help Them Survive

### What I Will Be Learning In This Mastery Badge:

In this mastery badge we will discover how animals use their physical structures (body parts) to survive and even thrive in their respective environments.

### What This Packet Includes:

It is important that you complete all aspects of this packet so that you gain the knowledge and skills that we are working on.

I. **Discovering Lab**

A discovering lab is a fun, introductory lab, where we discover the knowledge on our own.

II. **Video Instruction**

You will watch a video presented by Mr. Bertoch, and answer questions about it.

III. **Literacy Practice**

Reading and writing are critical life skills, and also very important to science. You will read the assigned article and complete a writing prompt.

IV. **Applying Lab**

An applying lab is how you pass off the Mastery Badge. It serves as the quiz. It is a hands-on demonstration that you have mastered the skills and content of this badge.

### Key Things We Will Learn In This Mastery Badge

Some of the most important things we will learn in this mastery badge:

- Animals are adapted to their environments
- Animal structures are unique to their environments
- These animal structures allow them to thrive in their environments

Name: \_\_\_\_\_

Date: \_\_\_\_\_



# Discovering Lab

Learning Through Hands  
On Activities



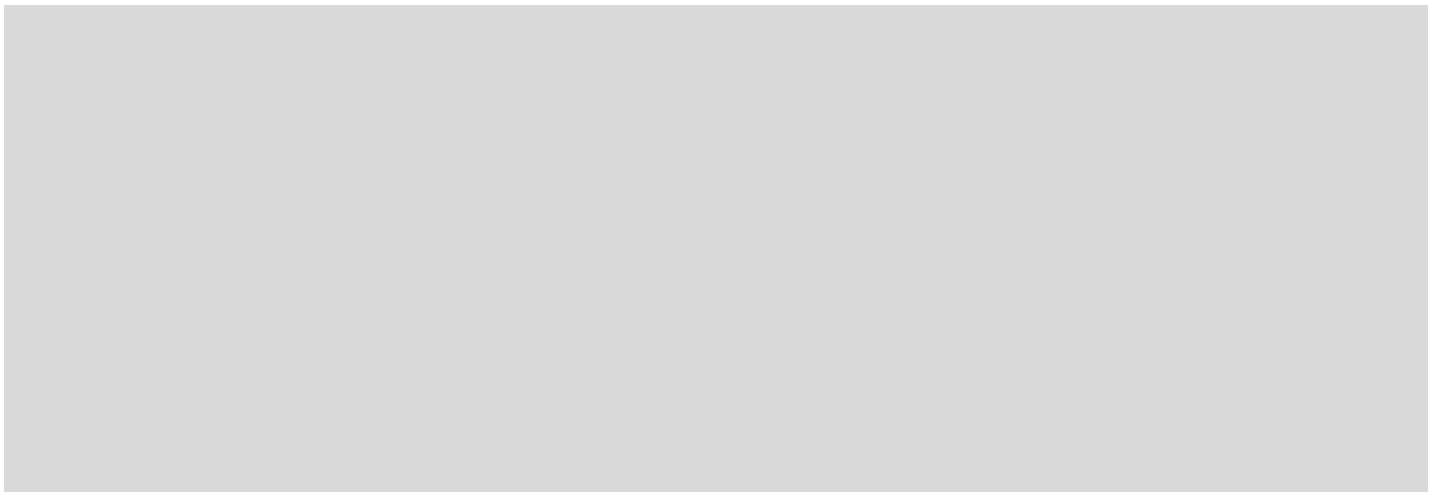
## Discovering Animal Structures

Making your own discoveries.

Scan This QR Code To Watch Mr. Bertoch Give You Directions For  
This Assignment



1. Draw a picture in the box below of your favorite animal. Make the picture as detailed as large and detailed as possible.
2. Label as many of the structures (body parts) of your animal as you can think of.



On the last page you drew a picture of your favorite animal, and you labeled its body parts (structures). Select five of the body parts you labeled, and explain how the animal uses them.

<b>Body Part (Structure)</b>	<b>How The Animal Uses It</b>
Example  <b>Legs</b>	<b>Used For Walking</b>



## Questions That Make You Think:

Always answer thinking questions using complete sentences.

1. What body part do you think is most important to your animal? Explain why.

2. How would losing some of its parts (structures) affect your animal's ability to survive? Explain your answer.

3. What might happen to your favorite animal if it was removed from its environment and placed into another environment?

Example: If a fish were placed in a tree.

4. Why do you think that animals have the structures (body parts) that they do?

# Video Instruction

## Reviewing The Teacher's Instruction At My Own Pace



## Handsome Science Teacher One Take Videos



**Good Job On Completing The Discovering Lab!**  
Now let's connect your discoveries to the vocabulary. Mr. Bertoch has created a video for you to watch.

**Take Your Time, Pause And Rewind As needed**  
You are not in a hurry! It is more important that you understand the video than that you finish it quickly. Take your time. If you don't understand something, pause the video and discuss with an adult.

When you finish this video, you should have a good understanding of the concepts that have been taught. If you find yourself confused, rewind, and rewatch.

## The Video For This Mastery Badge Can Be Opened Using This QR Code

This Mastery Badge includes one video:



Watch The Assigned Science Video  
Scan This QR Code To Open And Watch The Assigned Video For This Mastery Badge

### Check Point

**I watched the video carefully, and understood what Mr. Bertoch taught me.**  
(If not, that is okay. Watch the video again, and discuss it with an adult)

## What I Learned From This Video



One very powerful way to help yourself remember what you learned from the video is to summarize it in your own words and in the form of pictures.

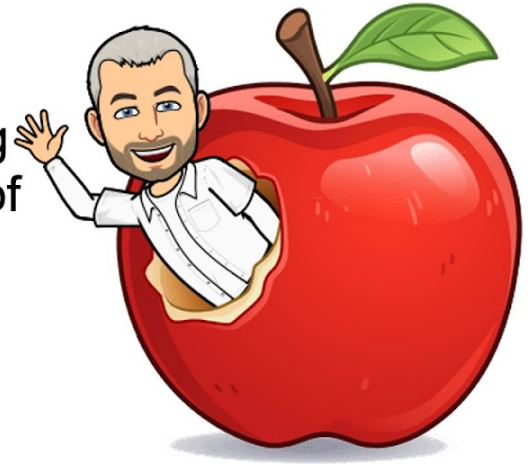
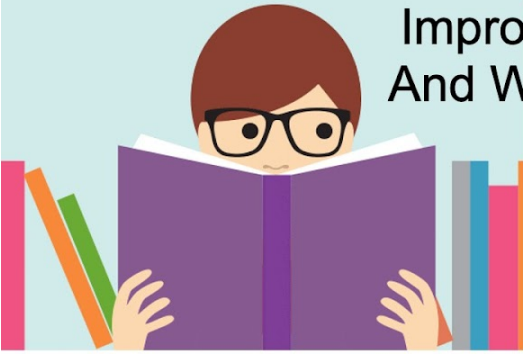
Write one sentence in your own words explaining what you learned from the video. Then draw a picture of something you learned from the video.

What I learned from this video (One Sentence):

A picture of something I learned from the video:

# Literacy Practice

Improving Our Reading  
And Writing In Search of  
Knowledge



## Activity: Reading And Writing



**Directions:** Reading and writing are very important life skills. Good scientists must be able to learn through reading and communicate their own discoveries through writing.



Scan This QR Code To Watch Mr. Bertoch Give You Directions For This Assignment

### 1. Practice Reading For Understanding

Read the article below **for understanding**. Reading for understanding means that you take your time and monitor your own learning. If you get to the end of a sentence and you do not remember or understand what you read, **re-read it**.

### 2. Practice Writing To Communicate

Complete the writing prompt below. Do your very best to write clearly so that others will understand what you are saying. This means using correct spelling, grammar, and writing, taking your time to think about the best ways to clearly communicate to others the main ideas that you are trying to get across to them.



Read The Assigned Article Carefully For Understanding.

<https://handsomescienceteacher.com/Online-science-classes-kids/animals-are-adapted-to-their-environments/>

Scan This QR Code To Open And Read The Article That Goes With This Mastery Badge



### Check Point

Let's make sure that you really did read for understanding!

Remember that it is important to hold yourself accountable to a high standard and to take pride in your own success as a learner.

**I Read For Understanding. I did not skim the article. I understood the material that the article discussed.**

### Quiz Time

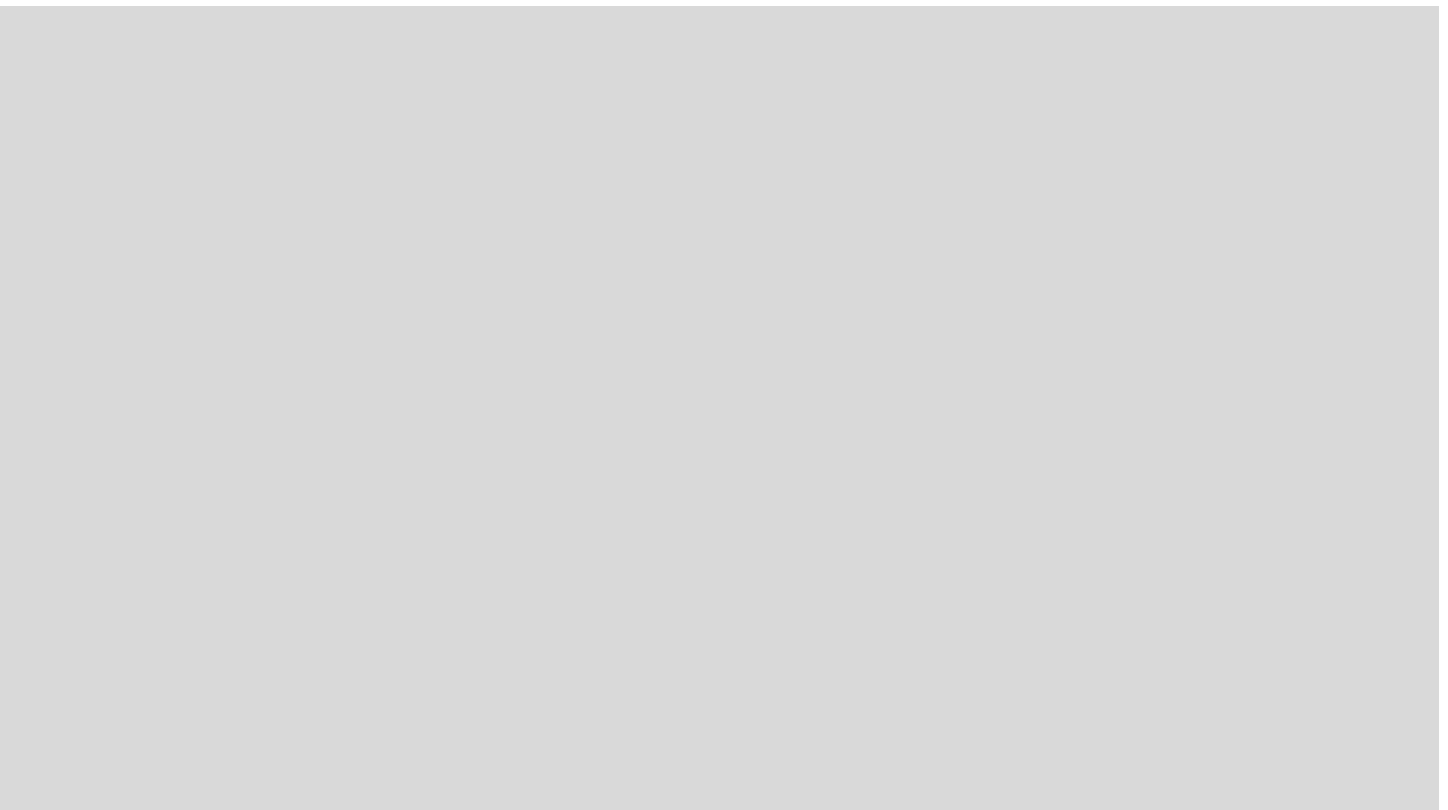
Complete the quiz at the end of the article and post your score in the box below. Your goal is to get at least 75% on the quiz. Did you accomplish this goal?

%

### Now Let's Write To Communicate

Remember that when you write to communicate you are taking your time, and explaining the topic in a detailed and concise way. Don't rush! You are not in a hurry. Think about what you are going to say, and plan how you will say it. So that someone else who reads your sentences will understand them easily.

**Writing Prompt:** Write two sentences describing how animals use their structures (body parts) to survive.





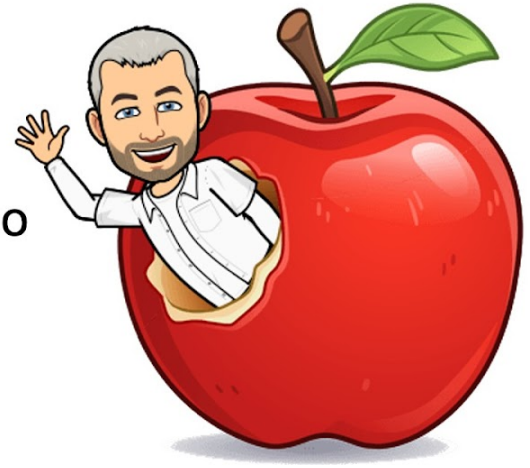
Name: \_\_\_\_\_

Date: \_\_\_\_\_



## Applying Lab

Proving That We Can Do  
It Ourselves



## Applying Animal Structures

Applying What We Have Learned.

Scan This QR Code To Watch Mr. Bertoch Give You Directions For This Assignment



## Welcome to The Mars Terraforming Expedition!

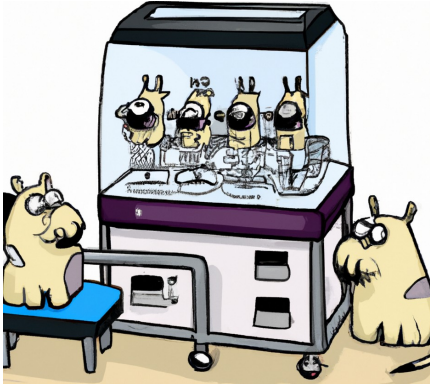
You have been selected as the lead scientist because we were told that you are the very best at creating new types of lifeforms! We know that you won't let us down.

### Note:

Rumors that our last lead scientist was eaten by a zombie bunny are highly exaggerated. They were not eaten! They were just... err... chewed on a little bit.. They were mostly fine, and anyway, you are here now, so that shouldn't happen again... Right!

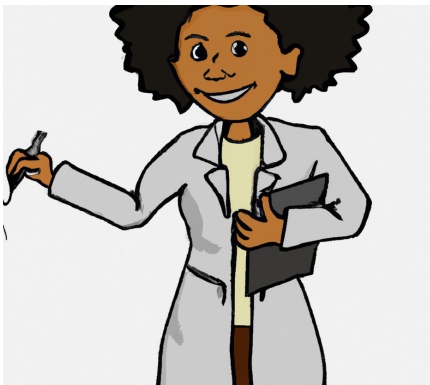
**Problem 1: Design an animal that can survive in underground caves**

Scientists have discovered a cave in Sector G4-731 that has small amounts of underground water. The cave is very cold, but some liquid water can be found in pools by breaking through thin layers of ice. We have already placed algae in the pools that can be used as a food source for the animal that you create.



**Describe the structures** (body parts) that your animal will need in order to survive. Be detailed so that the Animal-Clone-Omatic 4000 will know how to build it.

Blank area for describing the animal's structures.



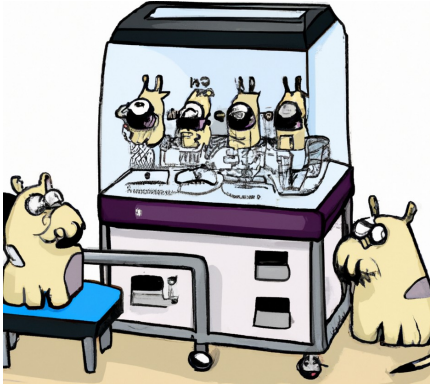
**Draw A Picture** of your animal. Be detailed so that the Animal-Clone-Omatic 4000 will know how to create it.

Blank area for drawing the animal.

**Good job!** We will now feed both the description and the picture into the machine, so that the animals can be mass produced and then released into their new environment. Fingers crossed that none of them come out like those bunnies... err I mean, this will totally work out fine... Nothing to worry about. Let's move on to the next problem!

## Problem 2: Design an animal that can turn algae and sand into soil

The surface of Mars will not be usable to grow plants until we can turn the sand into soil. We have released algae into the sand, but we need an animal that can eat the algae and poop out good soil. This animal will have to be tough, because it will be exposed to harsh conditions on the surface of the planet.



**Describe the structures** (body parts) that your animal will need in order to survive. Be detailed so that the Animal-Clone-Omatic 4000 will know how to build it.

Blank area for describing the animal's structures.



**Draw A Picture** of your animal. Be detailed so that the Animal-Clone-Omatic 4000 will know how to create it.

Blank area for drawing the animal.

**Good job!** We will now feed both the description and the picture into the machine, so that the animals can be mass produced and then released into their new environment. I know that we promised you some down time between each animal in a spa-like environment, but... the thing about that is, we totally lied to get you here. There are no spas. On to the next animal!

### **Problem 3: Design an animal that can eat zombie bunnies!**

So... remember those zombie bunnies we mentioned earlier? Well, it turns out that they are multiplying really fast, and they now cover much of the surface of Mars. We kind of need you to create an animal for us that can eat the zombie bunnies, and convert their biomass into something useful. Like fertilizer, breathable air, or better yet, chocolate. (My vote is for chocolate, but you are the lead scientist, so you get the final say)



**Describe the structures** (body parts) that your animal will need in order to survive. Be detailed so that the Animal-Clone-Omatic 4000 will know how to build it.

A large, empty gray rectangular area intended for the student to describe the structures of their animal.



**Draw A Picture** of your animal. Be detailed so that the Animal-Clone-Omatic 4000 will know how to create it.

A large, empty gray rectangular area intended for the student to draw a picture of their animal.

**Whew! Great work!!** Best lead scientist EVER! And look, you didn't even get eaten!



**Congratulations! You Have Completed The Entire Mastery Badge**

You have worked really hard to earn this mastery badge. More importantly, you have worked hard to earn your knowledge!

**Time To Evaluate Your Work**

Check each of the following to evaluate your work:

1. Did you do every assignment?
2. Did you read the assigned article?
3. Did you watch the assigned video?
4. Did you answer all the questions using complete sentences?
5. Are your answers accurate?

**My Self-Evaluation:**

Based on the criteria listed above, I believe I have passed off this Mastery Badge because...  
(Be detailed and specific)

**Mastery Badge Counselor Evaluation:**

I have reviewed this student's work. Based on the criteria listed above I hereby certify that they have passed off the Mastery Badge because... (Be detailed and specific) Note: Any adult may serve as a Mastery Badge Counselor, so long as they are committed to ensuring the highest standards of excellence.

\_\_\_\_\_  
Student's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Mastery  
Badge Counselor

\_\_\_\_\_  
Date



## Certificate For Your Homeschool Records

The following certificate which has been awarded through self-evaluation by the student, and also certified by a mastery badge counselor proves that the student listed thereon has completed all the work and has mastered all the concepts for the specified topic.

**Keep this on file as evidence of your successful completion of this topic.**

If audited by the State, these certificates stand as evidence that you have worked on and successfully completed a rigorous science curriculum.

