



The Moon

What I Will Be Learning In This Mastery Badge:

In this mastery badge we will investigate the Earth's moon. Including its formation, its effects on the Earth, and its features.

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:

- What are moons?
- How the Earth's moon is different from most other moons.
- How the Moon formed.
- How the Moon impacts the Earth.
 - Tides
 - Helps protect us.
- Phases and Eclipses
- Facts about the Moon
 - Size, Distance, Dark And Light Areas, Craters

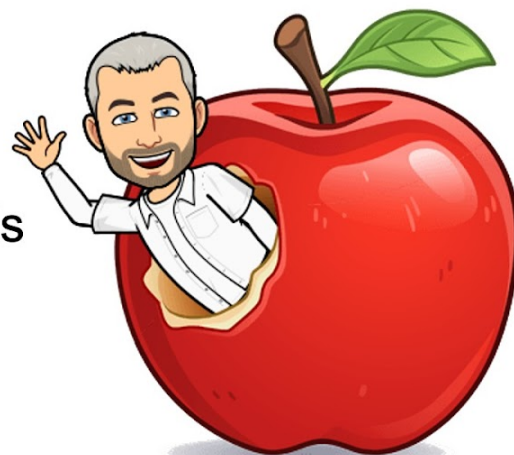
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Discovering Lab

Learning Through Hands On Activities



Activity: Discovering The Moon With My Own Eyes

Directions: Follow the steps below to learn as much as you can about the Earth's moon. If you are unable to go outside, you can complete this assignment by doing online research. Make sure you record all of your answers using complete sentences.



Video Instructions Available For This Assignment. Watch this video to learn how to do this assignment, and why it is important.

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

Goal: To learn as much as you can about the Earth's moon.

Problem:

The President just spoke to the nation regarding a giant white orb that he saw floating in the sky last night. He isn't certain what the giant white orb is, but he promised the country that he wouldn't rest until he got to the bottom of it. As soon as he concluded his televised address, the President promptly turned to you and ordered you to find out what was going on.

You tried explaining to him that it what he saw was just the Moon, but he just looked at you like you were crazy and said "Listen, bub, I don't know what this moon thing is you are talking about, and I don't care! What I want to know is what is the giant white orb in the sky that I saw last night!" The President then turned and walked away.

Your job is to investigate the Moon, and create a report that you can submit to the President.

Making Observations

In science, one of the first things we do when we don't understand something is to observe it and record our observations. We can then use these observations to identify patterns or to provide evidence for theories that we might formulate later on.

Whenever we make observations it is important to keep very detailed notes, as it is difficult to know what may or may not be important later on.

Observing The Moon

Step 1: With a parent's permission, go outside and observe the Moon. Describe what the moon looks like on three different nights. Be detailed.

Night # 1. Date:_____ Time:_____
My observations of the Moon:

Night # 2. Date:_____ Time:_____
My observations of the Moon:

Night # 3. Date:_____ Time:_____
My observations of the Moon:

Improving Our Observations

Often, when we first start a new scientific inquiry, we don't always know the best tools and processes to use. However, as our work continues and we become more familiar with the subject we are examining, we are able to improve our efforts by refining our processes and improving our tools.

How can you improve your observations of the moon?

There are no wrong answers. YOU are the chief scientist here, and this is your study of the Moon. As chief scientist, you are the one in charge. What will you do to get better observations? Examples might include using binoculars, observing the moon at different times of the night to see if there are any changes, Observing the Moon at different times of the month, and so forth.

Create a plan for getting better observations and describe it below.

With parental permission, put your plan into action. Describe your new observations based on the plan that you created.

Night # 4. Date:_____ Time:_____
My observations of the Moon:

Night # 5. Date:_____ Time:_____
My observations of the Moon:

Night # 6. Date:_____ Time:_____
My observations of the Moon:

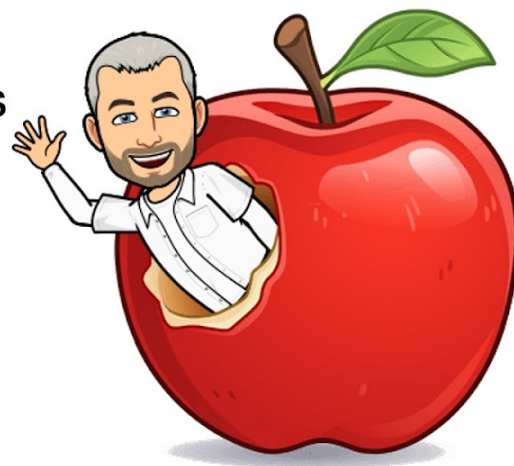
Create Your Report For The President

Now that you have collected six nights' worth of observations, write a report for the President. Base your report on your own observations.



Video Instruction

Reviewing The Teacher's Instruction At My Own Pace



Handsome Science Teacher One Take Videos

Now that you have completed the Discovering Lab let's watch the video that goes with it. In this video Mr. Bertoch will help connect the discoveries that you made during the lab to the broader concepts covered under this badge, and will also introduce the vocabulary that goes with these concept.

Take Your Time, Pause And Rewind As needed

You are not in a hurry! It is more important that you understand the concepts in this video than that you finish it quickly. Take your time. If you don't understand something, pause the video and use the Internet or other resources to look up the concept that has you confused.

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 Videos For This Mastery Badge Can Be Opened Using These QR Codes

This Mastery Badge includes two videos:



Watch The Assigned Science Videos

Scan These QR Codes To Open And Watch The Assigned Videos For This Mastery Badge

Check Point

Let's make sure that you really did take your time and watch the video carefully! 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 watched the video carefully, and paused to look up anything I didn't understand.

Recording Your Learning

On the next page, you will record your learning and connect it to things you already know.

Ten Things I Learned From This Video

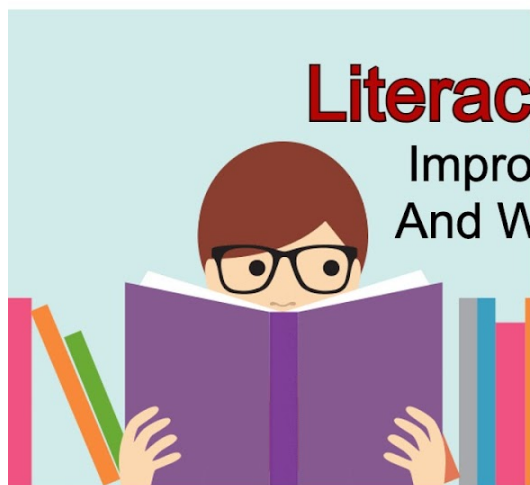
A powerful tool to help you retain what you learn is to take notes. Notes give you something that you can look back at later, to quickly remind your brain reinforcing the memories for the concepts you have learned. Record ten things that you learned or that you perhaps already knew that were discussed in this video.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Now, Let's Connect These New Concepts To Things You Already Knew

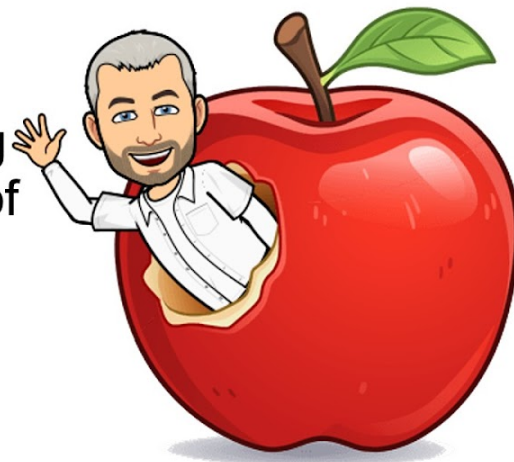
Another great way to help your brain retain new things is to connect these new concepts to other things that you already know. This gives your mind a place to store the new knowledge. Imagine that you are placing the new knowledge on a shelf in your brain next to facts that are already in there.

Write a paragraph explaining how the concepts taught in this video relate to things you already knew. There are no wrong answers. What are some things that you already knew that this video reminded you of?



Literacy Practice

Improving Our Reading
And Writing In Search of
Knowledge



Activity: Reading And Writing About Biomes

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.



Video Instructions Available For This Assignment. Watch this video to learn how to do this assignment, and why it is important.

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.

Article:



Read The Assigned Article Carefully For Understanding.

<https://handsomescienceteacher.com/Online-science-classes-kids/the-moon/>

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 paragraphs will understand them easily.

Writing Prompt: Write two paragraphs in your own words explaining what a moon is, and how they affect their planets.

Name: _____

Date: _____



Applying Lab

Proving That We Can Do It Ourselves



Activity: Applying Our Moon

Directions: You are going to write an article sharing your discoveries about the moon with the rest of the scientific community.



Video Instructions Available For This Assignment. Watch this video to learn how to do this assignment, and why it is important.

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

Goal: To write an article sharing your discoveries about the moon with others.

Step 1: During the discovering lab you created and carried out your own inquiry where you observed the moon. This means that you made your own discoveries. You then wrote a short explanation sharing your discoveries with the President. Scientists also always share their discoveries with others by writing them down in articles that get published in scientific journals. Use your observations to create a detailed article sharing what you observed during your scientific inquiry. Your article should include the following:

1. A description of what you did each of the six nights that you observed the moon.
2. An explanation of what you observed each night.
3. At least one drawing or sketch of what you observed.
4. A conclusion you made based on your observations.
5. At least two outside sources, such as online articles or books that support your conclusions.

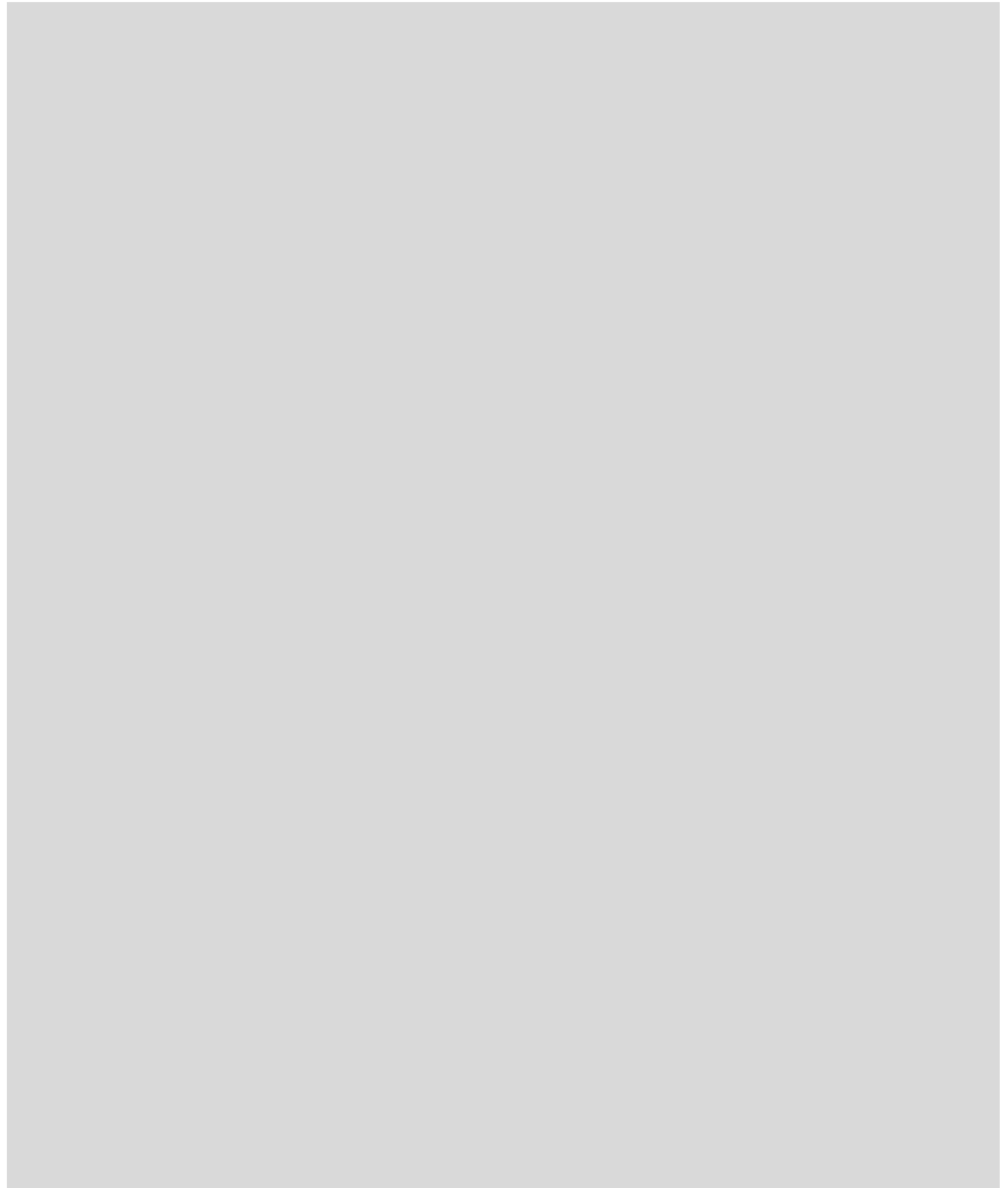
Remember:

You are every bit as capable as anyone else is of doing real science and of making real discoveries. Having a degree isn't what makes you a scientist. Following good scientific practices is. In this lab, you have done real science, and as a result, you have worked as a real scientist.

Write your article with the confidence of someone who knows that they are a real scientist.

Explain your discoveries and observations with authority and confidence.

My Journal Article About The Moon



Final Questions:

Always answer final questions using complete sentences.

1. Why is the Moon's size, as compared to that of the Earth unique or significant?

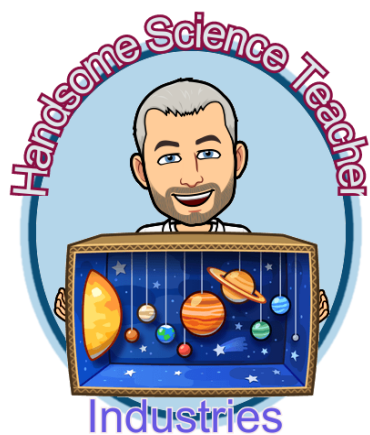
2. How do scientists think the moon probably formed?

3. Why do some scientists consider the Earth and Moon to be a binary planet?

4. How do craters form on the moon?

5. What are maria?

6. List at least two ways that the moon affects the Earth.



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.

