

A NOTE FOR BETA BUILDERS

Thank you for your interest in MICRO DIY!

MICRO creates six-foot-tall museums that transform public spaces into interactive learning environments, increasing access for diverse populations and making world-class museum experiences accessible to all.

MICRO DIY is a new, at-home initiative for builders of all ages to curate their own museum on a single topic, using materials from their own homes. Through free and accessible worksheets and an online toolkit, MICRO DIY encourages builders to think critically about the world and dive deeper into issues that interest them.

Some MICRO DIY Museums may be selected for fabrication into full-sized museums, and all projects will be hosted in our online gallery.

As our team develops MICRO DIY for public launch, we are sharing a Beta Workbook with builders who will be among the first to make their own MICRO DIY museums. ***That's where you come in!***

HOW TO GET INVOLVED:

1. Use the DIY Worksheets to design your own museum.
2. Take photos and videos as your build.
3. When you are finished with your museum, share your experiences and photos through the form on our website. (www.MICRO.ooo/diy).

When photographing, please consider these guidelines:

- Whenever possible, photograph in natural light
- If you are photographing at night, make sure there is ample lighting
- Make sure the photos are in focus
- Try to not cut off limbs

Please email us at **diy@micro.ooo** if you have any questions.

Thank you for your support. We are looking forward to seeing what you create!

Cheers,
The MICRO DIY Team

MUSEUM of

SUCCULENTS
PIZZA
VOLCANOES
AVOCADOS
MAGNETS
ARMADILLOS
SKYSCRAPERS
MICROBES

MICRO DIY

WELCOME TO MICRO DIY

Have you ever wondered what happens to a star when it explodes, why it's so hard to pull a magnet apart, or how octopuses change the color of their skin? We're about to send you on a journey to find the answers to your most curious questions, and dive deep into the world around you. **If you are an explorer of the world, MICRO DIY is your compass.**

WHAT IS MICRO DIY?

Your mission is to create your very own museum exhibit using stuff in your own home. Visit www.micro.ooo/diy to check out a quick video showcasing some great DIY museums.

MICRO DIY was made by the team at MICRO, and we happen to be experts in squeezing great ideas into boxes that can go anywhere. We design 6 foot tall science museums filled with shoebox sized exhibits. You can find MICRO museums in places where people already are, like hospitals, libraries, and DMVs.

WHAT IS A MUSEUM?

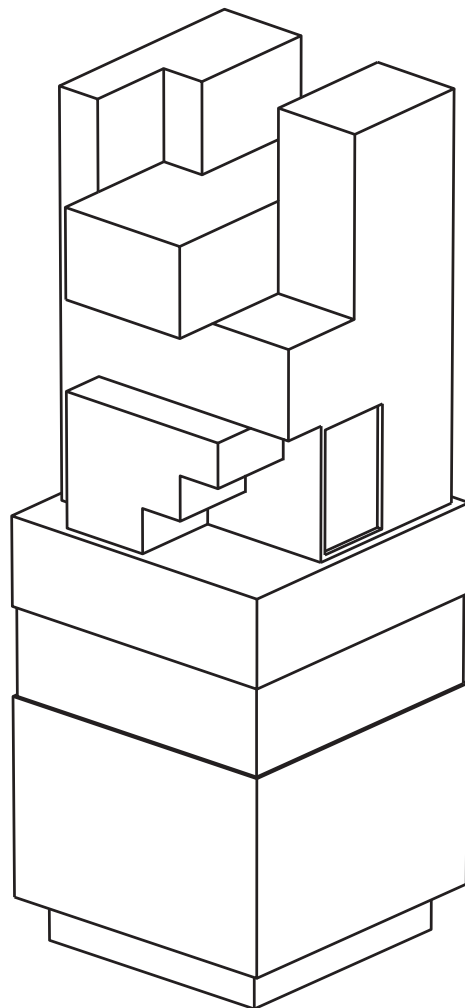
Picture a museum in your head. What comes to mind?

Maybe you see a museum you've visited before. Maybe it's a big building filled with collections of interesting things. Maybe you thought of hands-on experiments, or a six foot tall MICRO museum like the one here!

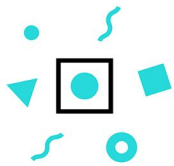
No matter if your museum is as large as an aquarium, or an exhibit you build at home, **all great museums tell interesting stories about facts.**

GREAT MUSEUMS....

- **help people learn from the past, connect to the present, and prepare for the future.**
- encourage questions.
- involve hands-on learning
- make you curious about the world around you
- make you interested in things you didn't know you were interested in
- are welcoming to people of all backgrounds, identities, and experiences.
- share many different voices, so that everyone is represented.

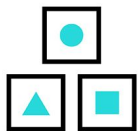


HOW MICRO MAKES MUSEUMS



WE CHOOSE OUR IDEA

MICRONauts (that's what we call our team) sift through hundreds of museum ideas, and select the topics that we think are fundamental for visitors to learn about.



WE LEARN MORE

We work with a teams of over 50 scientists to research our museums. We fact check every single sentence on the museum (yes, every sentence!) against multiple sources to make sure our information is accurate.



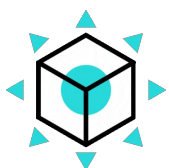
WE WRITE OUR STORY

We work with a teams of storytellers to **write stories about facts**. We build visitor profiles and write stories in a way that is accessible to as many people as possible.



WE BUILD OUR MUSEUM

We turn our story into physical design through stacks of shoebox sized exhibits. From thermal cameras to 3d zoetropes, our exhibits use the senses to raise interest.

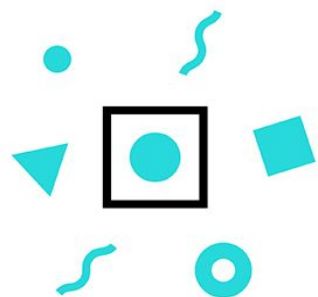


WE SHARE OUR IDEA WITH OTHERS

We place our museums in places where people already are, such as libraries, hospitals, and community centers. Our museums are always free to visit, and open to everyone!

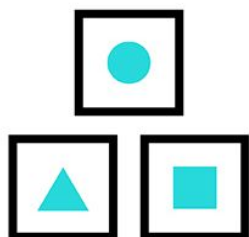
MICRODIY

HOW TO MAKE A MICRO DIY MUSEUM



CHOOSE YOUR IDEA

Pick a museum topic that resonates with you.



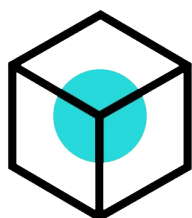
LEARN MORE

Go deep and explore your idea.



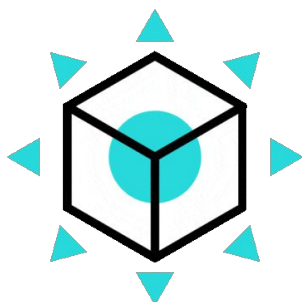
WRITE YOUR STORY

Find the connections between your ideas and craft your museum's story.



BUILD YOUR MUSEUM

Turn your story into a physical design.



SHARE YOUR IDEA WITH OTHERS

Reflect on what you've learned, and share with the world!



CHOOSE YOUR IDEA

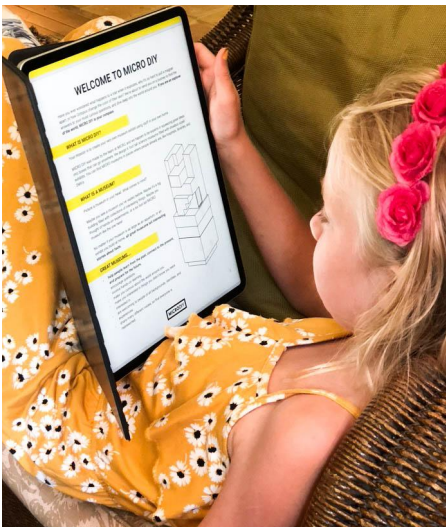
Look for Inspiration



Before you choose your idea, we suggest you look for inspiration.

Start by watching the 30 second video on our website (www.MICRO.ooo/diy).

Soon you'll be able to check out our online gallery featuring museums from other builders. . . .



MICRODIY



CHOOSE YOUR IDEA

Tips from other DIY museum builders

If you think something is important, good storytelling can help others feel the same.

DIY Builders around the world have chosen their idea by thinking about:

- **Things they wanted the world to know about.** Someone built their museum about climate change.
- **Things around their home that they didn't know much about.** Someone built their museum about how refrigerators work.
- **Things they care about, but that other people might not know much about,** like the computers used in space missions.
- **Preserving a history that hasn't been recorded yet,** with a museum of their grandmother.
- **Things that make them smile every day,** like their dog.

Imani uses light bulbs in her house every day, but never thought about how they work, so she read about them online.

Kai loves reading about the moon in their free time, and wants other people to appreciate the moon as much as they do.



Yusuf has seen rainforests in movies, but has never visited one, so he wanted to learn more about them.

Sophia learned about viruses in school, and thinks it's important for everyone to learn about washing their hands to keep each other safe.



CHOOSE YOUR IDEA

What is my museum about?

Fill out these prompts to help you decide which museum to build:

I know a lot about...

I wish I knew more about...

Something that excites me is...

It's important for everyone to know about...

Something in my home that is a mystery...

My favorite subject in school is...

My favorite thing outside is...

A career I am interested in...

Drumroll please...write your museum topic here!

My MUSEUM of

I picked this idea because....



LEARN MORE

Research BINGO

Take some time to learn all you can about your idea. You can use this BINGO board to get started - you may check as many as you'd like, and **make sure to check at least three boxes** (if you check all the boxes, email us at diy@micro.ooo for a digital reward!).

**Search for
articles online**

**Read a book or
article**

**Ask
your teacher**

**Ask a family
member**

**Watch YouTube
videos about it**

Ask an expert

See it in person

**Talk to a
MICRO Explorer**

**Look it up
in an
encyclopedia**



LEARN MORE

Research Notes

Write down what you've learned from research bingo on this page, or on your own sheet of paper.

3 THINGS I ALREADY KNEW ABOUT MY TOPIC...

- 1.
- 2.
- 3.

3 QUESTIONS I DIDN'T KNOW THE ANSWER TO...

- 1.
- 2.
- 3.

3 NEW THINGS I LEARNED IN MY RESEARCH...

- 1.
- 2.
- 3.

EXTRA NOTES:



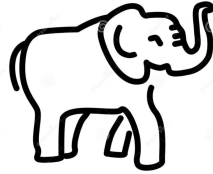
LEARN MORE

Check Your Research with Trustworthy Sources

FACT OR BELIEF?

FACT:

On average, elephants live half as long in captivity as they do in the wild.



BELIEF:

Elephants should not be kept in zoos.

It can be hard to tell if a source is sharing a fact or a belief, and **sources often make the mistake of presenting beliefs as if they are facts.**

- **Facts** can be tested by many different people who all get similar results. Facts are objective, and supported by evidence. This means they are true for everybody.
- **Beliefs** are subjective, and may be backed by evidence but do not need to be. They are the subjective experience of one person. A belief might feel true to one person, but it doesn't make it a universal truth that is true for everyone. Beliefs often are interpretations of facts.

WHO CAN I TRUST?

SODA HAS PROVEN HEALTH BENEFITS!

Study Sponsored by Sugar Water Inc



To tell if a source is trustworthy, ask yourself:

- Does the writer have something to gain by convincing me of something?
- Who sponsored this source? How might they benefit from convincing me of something?
- Are the sources listed? What other sources support their claims?

WHO'S RIGHT?

No one is right all the time. All we can hope for is that we are using the best information available.

- Great sources are willing to say "I'm wrong" and "I don't know," or are **willing to let new evidence change their mind.**
- If you notice that the source is making bold claims, and trying to convince you they have all the answers, they might be presenting beliefs as if they are facts.
- Untrustworthy sources might say words like "always", "never", or convince you "they are right" and the "others are wrong".



LEARN MORE

Verify Your Power Facts

Now, you will pick your two favorite facts about your topic, and do some research to verify the information. We call these **Power Facts**: quick bits of information that make people want to learn more. Examples include: “Did you know there is a snail that can lick through a bulletproof vest?” and “did you know that a burrito contains more energy than a stick of dynamite?” Your two power facts will be the focus of your museum.

Power Fact 1:

Name of Source	Did this source verify or disprove your Power Fact?	Did you learn any new info from this source?
1.		
2.		



LEARN MORE

Verify Your Power Facts.

Power Fact 2:

Name of Source	Did this source verify or disprove your Power Fact?	Did you learn any new info from this source?
1.		
2.		



WHY DOES FACT CHECKING MATTER?

When you share information with others, you should always try to make sure it is true. One method to test that something is true is to collect answers to the same question from different sources. If you find many trustworthy sources have the same answer, it is more likely that the information is true.



WRITE YOUR STORY

SAMPLE STORY | Museum of Octopuses

INTRODUCTION: OCTOPUSES ARE AMAZING.

This museum explores octopuses, a group of **invertebrates** (animals without spines) that have strange and unbelievable superpowers. Humans often think of octopuses as aliens, as different from us as we can imagine, but believe it or not, we're more like octopuses than you might think. In fact, we are related.

POWER FACT 1: OCTOPUSES' HAVE BRAINS IN THEIR ARMS!

Of the animals without a spine (which is more than 90% of all animals on Earth) the octopus is the most intelligent.

Humans have a big brain in our head, protected by our skull. Octopuses have no bones, and no skull - their brain is all over the place. Some is behind their eyes, but most is spread across each of their eight arms. That means each arm can think for itself.

Looking at how octopuses behave, researchers are starting to ask what we can learn from this different type of intelligence. Can you imagine what life would be like if your arms and legs could think for themselves?

POWER FACT 2: OCTOPUS SKIN HAS A HIGHER RESOLUTION THAN YOUR PHONE SCREEN

The same way your phone screen is covered in tiny color changing pixels, octopus skin is covered in tiny chromatophores. Their skin has a higher resolution than your phone screen, which means they can change their skin color really well!

Chromatophores are little colored sacs of pigment (sort of like water balloons!) . An octopus can control each of these balloons to change the color of their skin so that they blend in with their surroundings.

The really amazing thing? Octopuses are color blind. That makes scientists wonder, how do they do it?

CONCLUSION: YOU CAN HELP OCTOPUSES.

Our actions are putting the octopus and all other animals (including us) at risk. We're starting a period called the **6th Mass Extinction** - the first time an mass extinction was caused by another animal (humans).

Animals are dying up to 1,000 times the normal rate. And **mollusks**, (a group of many species of animals that includes octopuses) are dying faster than any other group. What happens next depends on us. Take 10 minutes to learn about octopuses online and find ways that you can help make the world a better place for all of us.



WRITE YOUR STORY

Create your story outline.

Good writing and good design tell a story through words and visuals. Write the outline of your story here. If you need help, look at the next page to see how one builder wrote their museum story.

INTRODUCTION:

Why should people care about your story? How does your idea relate to their daily lives? What information might people need in order to understand your story?

POWER FACT 1:

POWER FACT 2:

CONCLUSION:

What do you want people to know when they leave your museum? What's the message? What is the future of this story?



BUILD YOUR MUSEUM

MICRO's Design Guide

What are the first parts of this page you notice? Is it the yellow color at the top of the page with the title, or then the images below? These are examples of **visual design**: using design to guide people through your story.

The most important rule of great design: **your design should always serve your message**. Good design isn't just putting pretty things on a page, it is thinking carefully about how you can use design to make your point. Below are the principles MICRO's designers use when designing our museums.

HEY YOU!

Make the important stuff stand out! You can draw attention to the most important parts of your design by making them larger than the less important details. Size and colors are great ways to do this.



Help people participate in your design by making it hands-on.
Good design uses many senses - sight, sound, smell, taste, and touch.
Ask yourself, "What's the most engaging way to share my message?"

USE YOUR SENSES

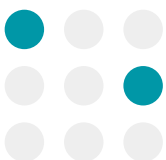


Think of where objects in your design are placed in relation to each other. If you were decorating a room, you probably wouldn't place all the furniture in one corner. **Balance helps convey a clear message.**

KEEP IT
SIMPLE

Sometimes less is more. Your design might look cluttered and be confusing if it has too many parts. Ask yourself, "What is the simplest way to share my message? What are the most important things to include? What can I leave out?" **Great design is often simple.**

CONTRAST

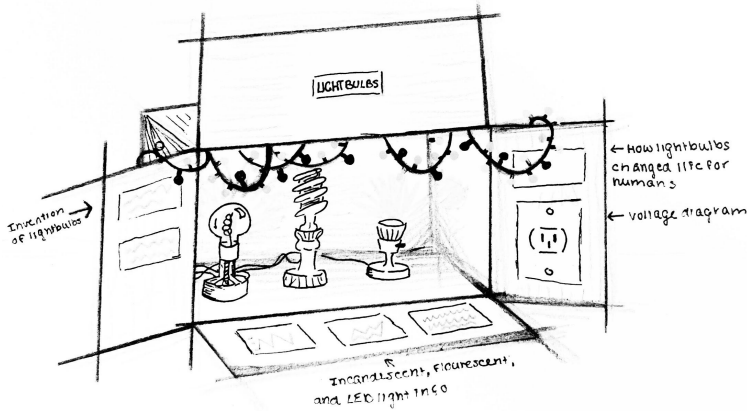


If you want one part of your design to stand out, make it look different than the other parts. **Bright colors and bold text will draw attention to what is most important.**



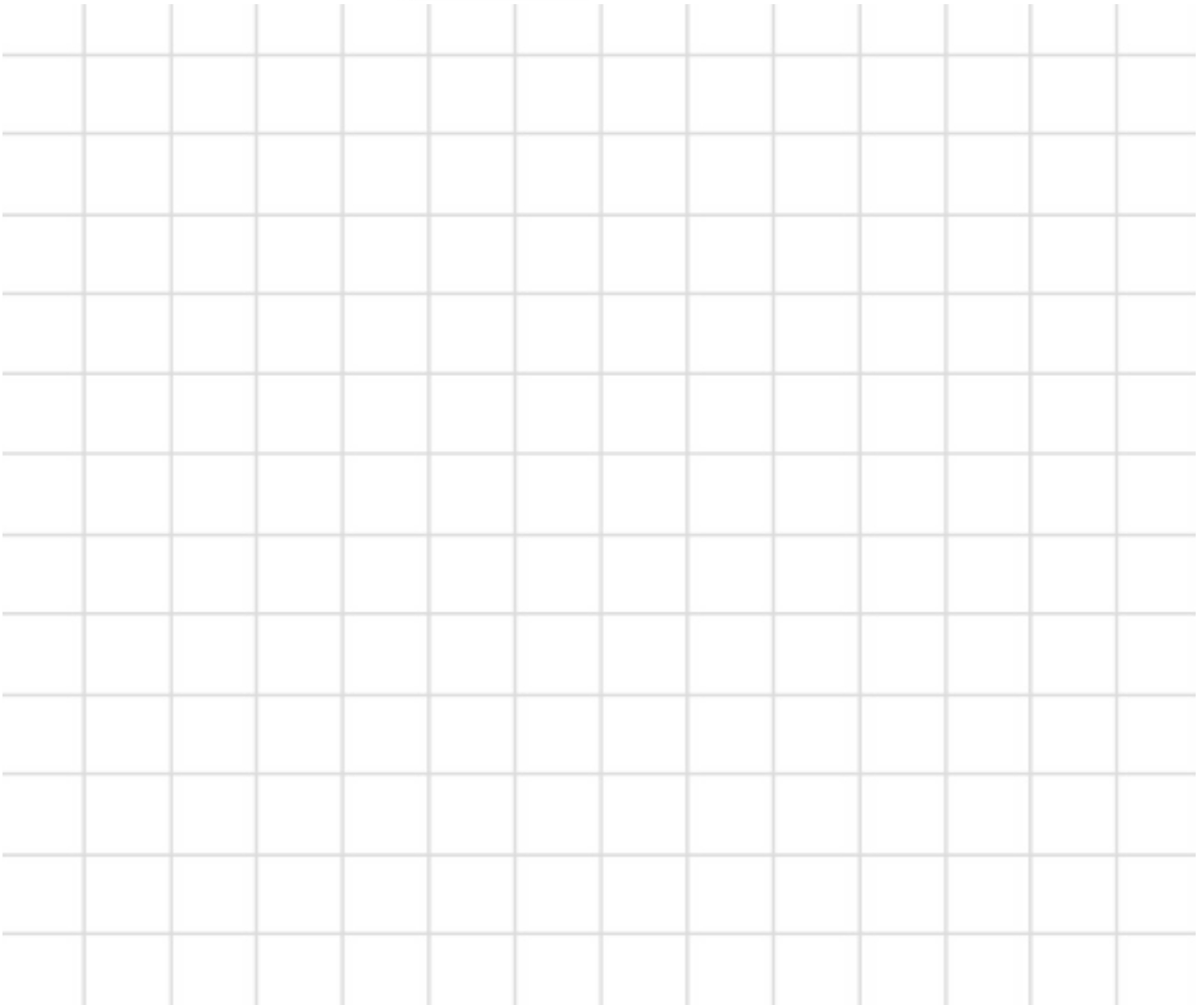
BUILD YOUR MUSEUM

Draw Your Design



It helps to make a plan before you start to build your museum. Where will everything go? Will everything fit? Have you picked the best way to tell your story?

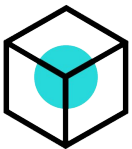
Once you're happy with your design, you can take out your tools and start building. Below and on the next page you'll find some graph paper to sketch out your ideas.





BUILD YOUR MUSEUM

Draw Your Design



DESIGN PRO TIP

Measure the inside of your box. How tall is it? How long is it? How deep is it? You can use the graph paper to make a scale drawing. Pretend that each box on the graph paper represents one inch of height and width in your museum.



BUILD YOUR MUSEUM

Apply What You've Learned

You are now ready to build your museum! We've given you some design tips, but remember, there is no wrong way to build a DIY museum. Try something new. Make mistakes. Think outside the box. Here's how builders across the globe have designed their museums:

Imani **uses her senses** to make her museum exciting to look at. She collects lights from around her house, so that they can twinkle, flash, and surprise her visitors.

Kai uses **contrast** to draw attention to the moon inside of their museum. They color the inside of their box black, and shine a bright light on the moon so it stands out.



Yusuf wants to **keep it simple**. He decides the simplest way to share his message about rainforests is to show what rainforests look like. He collects plants from around his home.

Sophia wants visitors to learn how to use soap, so she uses **scale**. She makes her hand washing station the biggest part of her museum so visitors notice it first.

GRAB SOME MATERIALS

Here are some materials you might want to use as you build your museum. Look around your home for extra supplies and artifacts (objects you use in your museum) you can use to make your museum extra exciting!

- A cardboard box (shoe boxes, delivery boxes, pasta boxes, etc)
- Construction paper
- Colored pencils / markers
- Tape / glue
- A printer (if you have access)
- Artifacts from around your home

PAUSE AND REFLECT

You've designed and built your own museum. Amazing! Let's take a moment to reflect on what you've learned during your museum journey.

MICRO reflects at the end of every project. We call it a **decompression**. During a decompression, we look at what we learned and adapt for the future. Reflecting on your goals, successes, and areas for improvement is an important part of any project, especially museum-making.

Use these questions as a guide for reflection. If possible, ask someone to interview you. If you record your interview, MICRO would be thrilled to see it. If you'd rather write out your answers, you can do so on the next page.

WHY DID YOU BUILD A MICRO DIY MUSEUM?

HOW DID YOU CHOOSE YOUR TOPIC?

WHAT NEW SKILLS DID YOU LEARN?

WHAT DID YOU LEARN ABOUT YOURSELF? ABOUT THE WORLD?

WHAT DID YOU DO WELL?

WHAT COULD YOU DO BETTER NEXT TIME?

WHAT SURPRISED YOU?

WHAT STEP IN THIS PROCESS WAS THE MOST FUN?

WHAT STEP WAS THE MOST CHALLENGING?

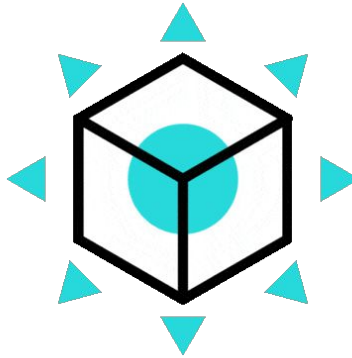
WHAT ADVICE WOULD YOU GIVE TO SOMEONE BUILDING A DIY MUSEUM
FOR THE FIRST TIME?

WHAT DO YOU THINK MAKES A MUSEUM GREAT?

REFLECTION ANSWERS

[illegible]

SHARE YOUR MUSEUM



You've made something awesome. Now go and share it with the world!

▶ **POST ON SOCIAL MEDIA**

Tag @themicromuseums and #MICRODIY on Instagram, Twitter, and Facebook.

▶ **SEND TO THE MICRO COLLECTION**

Share your museum with us. Click on the "Share Your Museum" button on www.MICRO.ooo/DIY

▶ **ADVERTISE**

Make a poster about your museum and hang it in your window or outside for your neighbors to see.

▶ **HIT RECORD**

Film yourself giving a guided tour of your museum, and share it online.

▶ **PUT IT IN PUBLIC**

MICRO puts our tiny museums in the places where people spend their time. Take yours to school, or the playground, or put it in the window for the mail carrier to see.

THANK YOU FOR BUILDING A MICRO DIY MUSEUM!

Many of the projects submitted will be hosted in our online gallery, and some DIY MICRO Museums may be selected for fabrication into full-sized museums.

To submit yours, click on the “Share Your Museum”
button on www.MICRO.ooo/DIY

**MICRO DIY is free to all
thanks to the generous
support from our friends at:**



MICRO DIY