



# Montana Science Center Scout Scientist Patch

Welcome to Montana Science Center (MSC)! We are so excited that you have joined us to learn more about Science & Technology while you earn this special Montana Science Center (MSC) patch.

To ensure you and your group have the most successful (and fun!) time in our space, here are more details on what to expect when you visit:

All booking times to earn your patch(es) must be confirmed with our Front Desk staff on a pre-registration basis only. You will receive a confirmation email from our Front Desk stating your date, time, and number of participants. **We require all participants over the age of 5 to bring and wear a mask, for the entirety of the visit in our space.**

The following activities can be done individually (while with a parent and/or caregiver) or collaboratively with your troop (while with troop leaders. We require a 1:8 ratio of adults to scouts). Once you completed all of the required activities, please see the Front Desk staff. You will then be able to purchase a special MSC patch for \$3.50. The cost of the patch goes to support programming and exhibits at the Science Center. Thank you for your contribution!

**What to bring:** Scouts interested in completing the patch should bring a journal or extra paper and a pencil. Other helpful items to have on hand are colored pencils and cameras if children want to photo-document their discoveries. With our updated COVID-19 protocols, all participants over the age of 5 **must also bring (and wear!) a mask.** Thank you.

**Parents/Leader:** Please look over the list of activities. Choose activities that are appropriate to the age and abilities of the child(ren) and/or scouts. Also, please come prepared to answer the questions of your child/troop.

**Activity Choices:** To earn your patch, complete *at least 3 activities* of your choice from the “Discover & Record” section, *the entire* “Citizen Science” section, and *1 service project* provided on the list.

\*\*The record sheet for the “Discover & Record” section, as well as the record sheet for the “Citizen Science” section can be obtained at our Front Desk.

**Note:** These activities require reading and reflecting upon the questions read. If you are accompanying young children who are still acquiring the skills used to read, please be prepared to read the questions to the child(ren)/troop. Children are welcome to write their answers, or draw their answers, as well, depending on their skill level. Note: We recommend a 1:8 ratio of adults to children when coming in with larger groups, or troops. Have fun!



b. Where are they from?

c. Find the Bubble Builder. Create a plan to get a bubble “out” of the tank. Test it and revise it if needed!

#### **4. Building Brainstorm**

a. Draw a concept of something you’ll build with the Rigamajig; then build it!

b. Name 4 different types of material from which you could build a home.

#### **5. Augmented Reality “Sandbox” (now filled with antimicrobial cork!)**

a. What is topography? How are topographic maps used?

b. What do the different colored contour lines in the AR “sandbox” (now filled with antimicrobial cork!) represent?

c. Make a steep-sided mountain. Describe the distance between the contour lines.

#### **6. Speak to a Scientist (Please contact MSC 1 week in advance to schedule a time to chat with a Scientist in-house!)**

a. What type of Science, Technology, Engineering, or Math does the Scientist you spoke with study?

b. What problems do they aim to solve?

c. What tools do they use?

**7. STEAMLab (Please note ahead our hours for the STEAMLab space. They can be found on our website at [montanasciencecenter.org](http://montanasciencecenter.org))**

a. Design in 3D using TinkerCad

b. Play Minecraft

c. Take apart machines

## **Citizen Science:**

Answer *all of the following questions* to explore Science in your everyday life!

1. Where do you use technology in your day-to-day life?

2. How do you interact with science each day?

3. If you were to invent something, what would it be?

4. Draw your future self as a scientist, engineer, person in tech.

a. What is your job?

b. What problem do you solve?

c. Who do you work with?

d. What equipment do you work with?

## **Service Project:**

To earn a patch, you must complete a service project. Please take note of age-appropriate service projects as listed. Allow 30 minutes to an hour to complete the service project. Examples of service projects include, but are not limited to:

1. Clean an Exhibit Gallery such as Dangerous Nature or Physics Place (ages 5-10).
2. Prep materials for upcoming programming (ages 5+).
3. Sweep Outside of the Science Center (ages 5+).
4. Weather permitting: Shovel the walkways of the Science Center (ages 5+).
5. Organize the classroom space (ages 5+).