

Cascade Mineralogical Society

Youth Program

Merit Badge Manual

Future Rockhounds of America Membership Badge

The Cascade Mineralogical Society is a member of AFMS's program Future Rockhounds of America. All kids belonging to clubs affiliated with Future Rockhounds of America automatically receive the FRA Membership Badge.

The badge program is designed to encourage young Rockhounds to learn further about the hobby of rocks, minerals and/or fossils. It also teaches them confidence in speaking, how to organize their thoughts, writing and presentation skills. Along the way they are awarded badges for their accomplishments and various other forms of recognition for their efforts.

In this packet, we lay the groundwork for twenty badges covering the full spectrum of our hobby, including:

Rocks & Minerals Earth in Space
Earth Resources Gold Panning & Prospecting
Fossils Gemstone Lore & Legend
Lapidary Arts Stone Age Tools & Art
Collecting Rocking on the Computer
Showmanship The World in Miniature
Communication Special Effects
Field Trips Fluorescent Minerals
Leadership Reaching Across Generations
Earth Processes Maps

We try to adjust the level of each activity to match the age range of the kids involved. Take, for instance, the mineral identification project (Activity 1.2). Very young children might be taught only the basics of color and hardness, and the youth leader could guide them through a hands-on session with just a few very common minerals that are easily identified, such as quartz, calcite, sulfur, malachite, galena, mica, pyrite, and hematite. Older kids might be given more of a challenge, using a wider range of characteristics to identify a wider range of minerals on their own or in teams after a basic overview. Don't take the activities at face value; we adjust as necessary!

Read the badge requirements carefully as in some cases fulfilling one badge may also fulfill a requirement in another badge.



Membership Patch



Rockhound Badge



Rock Star Pin



Collecting



Earth Processes



Rocking on the Computer



Maps



Lapidary Arts



Leadership



Stone Age Tools & Art



Reaching Across Generations



Fossils



Field Trips



Gemstone Lore & Legend



Fluorescent Minerals



Earth Resources



Communication



Gold Panning & Prospecting



Special Effects



Rocks & Minerals



Showmanship



Earth in Space



World in Miniature

Achievement Checklist

To keep track of your achievements, put a check mark in the boxes next to each activity. To earn a badge, you should complete at least 3 activities for each category and then have your leader send a signed notice to the AFMS Juniors Activities Chair. You become a "Rockhound" after earning 6 badges and a "Rock Star" if earning all 20!

1. Rocks & Minerals

Date badge earned: _____

- 1.1 Learning the characteristics of minerals.
- 1.2 Making and using a mineral ID kit.
- 1.3 Building a mineral collection.
- 1.4 The three rock types.
- 1.5 Crystal shapes.
- 1.6 Growing crystals and making geodes.
- 1.7 State rocks, minerals, and gemstones.
- 1.8 The elements.
- 1.9 Name that mineral!

2. Earth Resources

Date badge earned: _____

- 2.1 Everyday uses of rocks and minerals.
- 2.2 Minerals in the home.
- 2.3 Collecting everyday objects and the minerals that went into them.
- 2.4 Field trip to a mine or quarry.
- 2.5 Field trip to a hardware store.
- 2.6 Careers in the earth sciences.

3. Fossils

Date badge earned: _____

- 3.1 The geological time chart.
- 3.2 Types of fossilization and making or excavating fossils.
- 3.3 The forms of life.
- 3.4 Collecting fossils.
- 3.5 A fossil-collecting field trip.
- 3.6 Your state fossil.
- 3.7 Dinosaurs.
- 3.8 Fossil and dinosaur names.

4. Lapidary Arts

Date badge earned: _____

- 4.1 Learning about lapidary rocks.
- 4.2 Choosing a lapidary project.
- 4.3 *Workshop safety and maintenance* (required to earn this badge).
- 4.4 *Completing a lapidary project* (required to earn this badge).
- 4.5 Sharing your lapidary project.
- 4.6 Gemstone minerals.

5. Collecting

Date badge earned: _____

- 5.1 Building a collection.
- 5.2 Cataloging and labeling your collection.
- 5.3 Storing a collection.
- 5.4 Displaying your collection.
- 5.5 Reporting about your collection.

6. Showmanship

Date badge earned: _____

- 6.1 Techniques for effective displays.
- 6.2 Holding a workshop on display ideas.
- 6.3 Observing and evaluating displays.
- 6.4 *Making your own public display* (required to earn this badge).
- 6.5 Entering competition.

7. Communication

Date badge earned: _____

- 7.1 Oral report.
- 7.2 Written report or newsletter article.
- 7.3 Bulletin board or poster board displays.
- 7.4 Corresponding with experts.
- 7.5 Holding a symposium.
- 7.6 Writing a field trip guide.

8. Field Trips

Date badge earned: _____

- 8.1 *Field trip etiquette, safety, & AFMS Code of Ethics* (required to earn this badge).
- 8.2 Field trip planning.
- 8.3 *Taking a field trip* (required to earn this badge).
- 8.4 Record keeping.
- 8.5 The indoor field trip.

9. Leadership

Date badge earned: _____

- 9.1 Becoming a youth officer.
- 9.2 Organizing a group display.
- 9.3 Leading a show-and-tell session or presentation.
- 9.4 Planning and leading a field trip.
- 9.5 Overseeing a newsletter column or an entire youth newsletter.
- 9.6 Managing a youth activity booth at a local gem show.
- 9.7 Mentoring.
- 9.8 Recruiting.
- 9.9 Fundraising.

10. Earth Processes

Date badge earned: _____

- 10.1 What is a rock?
- 10.2 Plate tectonics and the rock cycle.
- 10.3 Igneous rocks.
- 10.4 Sedimentary rocks.

- 10.5 Metamorphic rocks.
- 10.6 Making 3D models of geologic features related to plate tectonics.
- 10.7 Earthquakes.

11. Earth in Space

Date badge earned: _____

- 11.1 Modeling the solar system.
- 11.2 Learning about visitors from space.
- 11.3 Effects of meteorites and famous craters.
- 11.4 Collecting meteorites and tektites.
- 11.5 Collecting meteorite dust.
- 11.6 More fun measuring impact cratering.

12. Gold Panning & Prospecting

Date badge earned: _____

- 12.1 Gold as a mineral.
- 12.2 Uses of gold.
- 12.3 Gold throughout history.
- 12.4 Gold resources in your own state or region.
- 12.5 Field trip to a gold mine.
- 12.6 Panning for gold.
- 12.7 Metal detecting for gold, coins, and other artifacts.

13. Gemstone Lore & Legend

Date badge earned: _____

- 13.1 Anniversary stones.
- 13.2 Birthstones and the Zodiac.
- 13.3 Fabled gemstones.
- 13.4 Gems in religion.
- 13.5 Mysticism and minerals.

14. Stone Age Tools & Art

Date badge earned: _____

- 14.1 Rocks and minerals used as tools.
- 14.2 Making stone tools.
- 14.3 Making stone tools and art from clay.
- 14.4 Making rock art.
- 14.5 Recording and interpreting rock art.
- 14.6 Visiting a museum or Native American cultural center.

15. Rocking on the Computer

Date badge earned: _____

- 15.1 *Exploring the web safely and securely* (required to earn this badge).
- 15.2 Reporting on favorite websites.
- 15.3 Making presentations with the computer.
- 15.4 Cataloging your collection electronically.
- 15.5 Maps and GPS to find your way.
- 15.6 Joining an online community.

16. The World in Miniature

Date badge earned: _____

- 16.1 Collecting, preparing, and storing miniature minerals.
- 16.2 Collecting, preparing, and storing thumbnail minerals.
- 16.3 Collecting, preparing, and storing microminerals.
- 16.4 Collecting, preparing, and storing miniature fossils.
- 16.5 Collecting, preparing, and storing thumbnail fossils.
- 16.6 Collecting, preparing, and storing microfossils.
- 16.7 Collecting and classifying sand.
- 16.8 Drawing or photographing microminerals, microfossils, or sand.

17. Special Effects

Date badge earned: _____

- 17.1 Magnetism.
- 17.2 Triboluminescence.
- 17.3 Birefringence, or double refraction.
- 17.4 Chatoyancy: cat's eye and asterism.
- 17.5 Natural fiber optics, or "TV stone."
- 17.6 Phantoms and inclusions.
- 17.7 Other special effects.
- 17.8 The amazing mineral magic show!

18. Fluorescent Minerals

Date badge earned: _____

- 18.1 *What is "fluorescence" and why do some minerals fluoresce?* (required)
- 18.2 Famous fluorescent mineral localities.
- 18.3 Collecting fluorescent minerals.
- 18.4 Creating a fluorescent display case and exhibiting your collection.
- 18.5 *Safety with fluorescent lamps.* (required to earn this badge)
- 18.6 Special effects of some fluorescent minerals.
- 18.7 Making fluorescent minerals with glow-in-the-dark paints.

19. Reaching Across Generation

Date badge earned: _____

- 19.1 *Spending six hours with a senior member* (required to earn this badge).
- 19.2 Five things you learned from a senior member.
- 19.3 The best time you spent with your senior member.
- 19.4 Finding, taking, or drawing a picture of your senior member.
- 19.5 A specimen that is special to your senior member.
- 19.6 Making a memory box.

20. Maps

Date badge earned: _____

- 20.1 Learning about the different sorts of maps and how to read them.
- 20.2 Sources of paper maps.
- 20.3 Making maps.
- 20.4 Using GPS.
- 20.5 Maps on the Web.

To earn your Rockhound badge, you need to earn 6 or more of the 20 badges. Check off activities you've completed. When you have earned 6 or more badges, sign below and have your CMS leader sign and forward this sheet to the AFMS Juniors Program chair to receive your Rockhound badge. Similarly, once you've earned all 20 badges, you should forward the completed sheets to receive an AFMS cloisonné pin as a "Rock Star."

Date completed

My signature Youth leader's signature

Name of my club

Youth Leader's address for receiving the Rockhound badge or Rock Star pin:
