

Mining in Society

Merit Badge Workbook



Merit badges are earned by doing: reading the pamphlet, practicing the skills, and showing your counselor what you have learned.
This workbook gives you a place to organize your notes and track your progress along the way.
Merit badge counselors may not require the use of this or any similar workbook.
You still must satisfy your counselor that you can demonstrate each skill and have learned the information.
Use the space under each requirement to note what you have done and what you want to talk about, not to write out full answers.
When a requirement says discuss, show, tell, explain, or demonstrate, that is what you must do.
No one may add to or subtract from the official requirements found on scouting.org (Guide to Advancement 7.0.4.8).
Scouting America last updated this badge's requirements page on December 31, 2025.
Requirements change from time to time. Double-check scouting.org before you start.

Scout's name: _____ Unit: _____ Date started: _____

Counselor's name: _____ Phone no.: _____ Email: _____

Links marked "Scouting America resources" are the ones Scouting America shares on its official badge page.
This workbook is unofficial and not endorsed by Scouting America.

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1. Do the following:

(a) Select 10 different minerals. For each one, name a product for which the mineral is used.

Scouting America resources: The One Metal All of Humanity Depends On (video) · What Is Tungsten Used For? (video) The Six Elements That Your Life Depends On! | Platinum Group Metals (video) · How Is Aluminum Made (video) Highest Purity Silica from Spruce Pines NC (video)

Ten minerals and their products

Mineral	A product it is used for

(b) Explain the role mining has in producing and processing things that are grown.

Scouting America resources: How Mining Could Help Scale Up Global Food Production (website)

The role mining plays in producing and processing things that are grown

(c) From the list of minerals you chose for requirement 1(a), determine the countries where those minerals can be found, and discuss what you learned with your counselor.

Where my minerals are found

Mineral (from 1a)	Countries where it can be found

What I learned

Requirement 1 completed on _____ counselor initials _____

2. Obtain a map of your state or region showing major cities, highways, rivers, and railroads. Mark the locations of five mining enterprises. Find out what resource is processed at each location, and identify the mine as a surface or underground operation. Discuss with your counselor how the resources mined at these locations are used.

Map I used (attach it) _____ State or region _____

Five mining enterprises I marked

Mine and location	Resource processed	Surface or underground	How the resource is used

Requirement 2 completed on _____ counselor initials _____

3. Discuss with your counselor the potential hazards a miner may encounter at an active mine and the protective measures used by miners. In your discussion, explain how:

Hazards a miner may encounter at an active mine, and the protective measures miners use

(a) The miner's personal protective equipment is worn and used, including a hard hat, safety glasses, earplugs, dust mask or respirator, self-rescue device, and high-visibility vest.

Scouting America resources: 12 Critical Types of PPE for Mining (video)

Personal protective equipment

Equipment	How it is worn and used
hard hat	
safety glasses	
earplugs	
dust mask or respirator	
self-rescue device	
high-visibility vest	

(b) Miners protect their hands and feet from impact, pinch, vibration, slipping, and tripping/falling hazards.

Scouting America resources: Mining Hand and Finger Injuries (website)

Protecting hands and feet

Hazard	How miners protect their hands and feet
impact	
pinch	
vibration	
slipping	
tripping/falling	

(c) Monitoring equipment warns miners of imminent danger, and how robots, drones, and other technology may be used in mine rescues.

Scouting America resources: Why Mining Is More Advanced Than You Think! (video)
IoT Based Coal Mine Safety Monitoring & Alert Using ESP8266 (video) · Inside Rio Tinto's Most Advanced Mine (video)
Smart Mining in Canada: How New Technologies Are Transforming the Mining Industry (video) · How Drones Are Changing Mining (video)

How monitoring equipment warns miners of danger

How robots, drones, and other technology may be used in mine rescues

Requirement 3 completed on _____ counselor initials _____

4. Discuss with your counselor the dangers someone might encounter at an abandoned mine or quarry.

Scouting America resources: Abandoned Mine Safety Training—Stay Out, Stay Alive (video)

Dangers at an abandoned mine or quarry

Requirement 4 completed on _____ counselor initials _____

5. Do ONE of the following:

☐ **(a)** With your parent or guardian's approval and your counselor's assistance, use the internet to find and take a virtual tour of two types of mines. Determine the similarities and differences between them regarding resource exploration, mine planning and permitting, types of equipment used, and the minerals produced. Discuss with your counselor what you learned from your internet-based mine tours.

Mine 1 (type) _____ Mine 2 (type) _____

Comparing my two virtual mine tours

Topic	Mine 1	Mine 2	Similar or different?
resource exploration			
mine planning and permitting			
types of equipment used			
minerals produced			

What I learned from the tours

☐ **(b)** With your parent or guardian's permission and counselor's approval, visit a mining or minerals exhibit at a museum. Find out about the history of the museum's exhibit and the type of mining it represents. Give three examples of how mineral resources have influenced history.

Museum _____ Date _____

History of the exhibit and the type of mining it represents

How mineral resources have influenced history

Example

☐ **(c)** With your parent or guardian's permission and counselor's approval, visit an active mine. Find out about the tasks required to explore, plan, permit, mine, and process the resource mined at that site. Take photographs, if allowed, and request brochures from your visit. Share photos, brochures, and what you have learned with your counselor.

Mine I visited _____ Date _____

Tasks at this site

Task	What it involves here
explore	
plan	
permit	
mine	
process	

☐ Took photographs (if allowed)
☐ Requested brochures
☐ Shared photos, brochures, and what I learned with my counselor

☐ **(d)** With your parent or guardian's permission and counselor's approval, visit a mining equipment manufacturer or supplier. Discuss the types of equipment produced or supplied there, and in what part of the mining process this equipment is used. Take photographs if allowed, and request brochures from your visit. Share photos, brochures, and what you have learned with your counselor.

Manufacturer or supplier _____ Date _____

Equipment produced or supplied there

Equipment	Part of the mining process where it is used

☐ Took photographs (if allowed)
☐ Requested brochures
☐ Shared photos, brochures, and what I learned with my counselor

☐ **(e)** Discuss with your counselor two methods used to reduce rock in size, one of which uses a chemical process to extract a mineral. Explain the difference between smelting and refining.

Scouting America resources: What Is Mineral Processing? (video)
How Gold Is Extracted From Ore | Heap Leaching Explained Step-by-Step (video)
Materials (Part 1: Smelting and Refining Iron and Steel) (video) · Minnesota Iron Mining Process (video)

Two ways to reduce rock in size

Method	Name and how it works
Method 1	
Method 2 (chemical process)	

The difference between smelting and refining

☐ **(f)** Learn about the history of a local mine, including what is or was mined there, how the deposit was found, the mining techniques and processes used, and how the mined resource is or was used. Find out from a historian, community leader, or business person how mining has affected your community. Note any social, cultural, or economic consequences of mining in your area. Share what you have learned with your counselor.

Local mine _____ Person I talked with _____

History of the mine

Topic	What I found out
what is or was mined there	
how the deposit was found	
mining techniques and processes used	
how the mined resource is or was used	

How mining has affected my community (social, cultural, or economic)

Requirement 5 completed on _____ counselor initials _____

6. Do the following:

(a) Choose a modern mining site. Find out what is being done to help control environmental impacts. Share what you have learned about mining and sustainability.

Scouting America resources: How Is Environmental Impact Management in Mining Changing? (video)

Modern mining site I chose _____

What is being done to control environmental impacts

What I learned about mining and sustainability

(b) Explain reclamation as it is used in mining and how mine reclamation pertains to the Leave No Trace Seven Principles and the Outdoor Code.

Scouting America resources: What Happens to a Mine After It Is Closed? (video)

Reclamation as it is used in mining

How mine reclamation connects

Connects to	How mine reclamation pertains to it
Leave No Trace Seven Principles	
Outdoor Code	

(c) Discuss with your counselor what values society has about returning the land to the benefit of wildlife and people after mining has ended. Discuss the transformation of the Summit Bechtel Reserve from a mine site to its current role.

Scouting America resources: From Mine Lands to Forests (video)
Mine Rehabilitation: An Ecological Rehabilitation Case Study at Mount Owen Mine, Hunter Valley, NSW (video)
From Coal to Conservation: The Remarkable Transformation of the Summit Bechtel Reserve (website)

Values society has about returning the land to wildlife and people

Summit Bechtel Reserve: from mine site to its current role

Requirement 6 completed on _____ counselor initials _____

7. Do ONE of the following:

☐ **(a)** Explore the anticipated benefits of interplanetary mining. Learn how NASA and private investors may search for, extract, and process minerals in outer space, and the primary reasons for mining the moon, other planets, or near-Earth asteroids. Find out how exploration and mineral processing in space differ from exploration on Earth. Share what you have learned with your counselor, and discuss the difficulties encountered in exploring, collecting, and analyzing surface or near-surface samples in space.

Scouting America resources: Asteroid Mining: How Would It Actually Work? (video)

Anticipated benefits of interplanetary mining

How NASA and private investors may search for, extract, and process minerals in space

Primary reasons for mining the moon, other planets, or near-Earth asteroids

How exploration and mineral processing in space differ from exploration on Earth

Difficulties exploring, collecting, and analyzing surface or near-surface samples in space

☐ **(b)** Identify three minerals found dissolved in seawater or found on the ocean floor, and list three places where the ocean is mined today. Share this information with your counselor, and discuss the chief incentives for mining the oceans for minerals, the reclamation necessary after mining is over, and any special concerns when mining minerals from the ocean. Find out what sustainability problems arise from mining the oceans. Discuss what you learned with your counselor.

Scouting America resources: Deep Sea Mining for Beginners—How Does Deep Sea Mining Work? (video)

Three minerals from the ocean

Mineral	Dissolved in seawater or on the ocean floor?

Three places the ocean is mined today

Place	Notes

Ocean mining

Topic	What I found out
chief incentives	
reclamation necessary after mining is over	
special concerns	
sustainability problems	

☐ **(c)** Learn what metals and minerals are recycled after their original use has ended. List four metals and two nonmetals, and find out how each can be recycled. Find out how recycling affects the sustainability of natural resources and how this idea is related to mining. Discuss what you learned with your counselor.

Scouting America resources: Deep Sea Mining for Beginners—How Does Deep Sea Mining Work? (video)
Types of Metals That Can Be Recycled (website) · How Mining Contributes to UN SDG Part 1 (video)
Can Recycling Metals Replace Mining? (video)

Recycled metals and nonmetals

Type	Material	How it can be recycled
Metal 1		
Metal 2		
Metal 3		
Metal 4		
Nonmetal 1		
Nonmetal 2		

How recycling affects the sustainability of natural resources, and how it relates to mining

☐ **(d)** With your parent or guardian's permission, use the internet and other resources to determine the current price of gold, copper, aluminum, or other commodities like cement or coal, and find out the five-year price trend for two of these. Report your findings to your counselor.

Scouting America resources: Commodities (website) · Metal Prices—100 Year Historical Chart (website)

Current commodity prices

Commodity	Current price	Date and source

Five-year price trend

Commodity	What the trend shows

Requirement 7 completed on _____ counselor initials _____

8. Explore careers related to this merit badge. Research one career to learn about the training and education needed, costs, job prospects, salary, job duties, and career advancement. Your research methods may include—with your parent or guardian's permission—an internet or library search, an interview with a professional in the field, or a visit to a location where people in this career work. Discuss with your counselor both your findings and what about this profession might make it an interesting career.

Scouting America resources: Careers in Mining (video) · Mining and Minerals Engineering: A Day in the Life (video)
Mining Is Us: Geotechnical Engineer (video)

Careers related to mining

Career	What the job involves

Career I researched | How I researched it

What I found out

Topic	My findings
training and education needed	
costs	
job prospects	
salary	
job duties	
career advancement	

What might make it an interesting career

Requirement 8 completed on | counselor initials

Counselor sign-off

Your counselor signs your blue card or approves the badge in Scoutbook, and your unit records it. This line is for your own records.

Counselor's signature | Date completed

Official Scouting America resources

Scouting America resources: Mining in Society merit badge page (requirements and resources)
Mining in Society merit badge pamphlet (free PDF) · All merit badges



Made by Cole at ScoutSmarts.com, an Eagle Scout who loves helping Scouts.
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