



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

Scouts participating in a Scoutmaster Bucky merit badge opportunity, whether online or in person, should consider using the Mining in Society merit badge pamphlet for discovery and knowledge, along with the class preparation pages for clarifications, insights, and expectations.

<https://scoutmasterbucky.com/merit-badges/mining-in-society/mining-in-society-pamphlet.pdf>

<https://scoutmasterbucky.com/merit-badges/mining-in-society/mining-in-society-cpp.pdf>

VISITING A MINE SITE, A MINING EQUIPMENT MANUFACTURER, OR AN EQUIPMENT SUPPLIER REQUIRES ADVANCE PLANNING. THESE SITES CAN BE POTENTIALLY DANGEROUS. YOU WILL NEED PERMISSION FROM YOUR PARENT OR GUARDIAN AND COUNSELOR, AND THE MANAGER OF THE MINE SITE, OR EQUIPMENT MANUFACTURER OR SUPPLIER. WHILE THERE, YOU WILL BE REQUIRED TO FOLLOW CLOSELY THE SITE MANAGER'S INSTRUCTIONS AND COMPLY WITH ALL SAFETY RULES AND PROCEDURES, INCLUDING WEARING APPROPRIATE CLOTHING, FOOTWEAR, AND PERSONAL SAFETY EQUIPMENT.

REQUIREMENTS 5b, 5c, 5d, 8a, and 8c REQUIRE COUNSELOR APPROVAL.

REQUIREMENTS 5a, 5b, 5c, 5d, 7d, 8a, and 8c REQUIRE PARENT / GUARDIAN PERMISSION OR APPROVAL.

REQUIREMENT 1a: Select 10 different minerals. For each one, name a product for which the mineral is used.

MINERAL	PRODUCT FOR WHICH THE MINERAL IS USED
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

REQUIREMENT 1b: Explain the role mining has in producing and processing things that are grown.

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 1c: 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 from your counselor.

MINERAL	COUNTRY/COUNTRIES WHERE THIS MINERAL CAN BE FOUND
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 2: Obtain a map of your state or region showing major cities, highways, rivers, and railroads.

You will be responsible for obtaining a map as the requirement states. Don't forget to bring it with you.

This requirement must be reviewed with your merit badge counselor.

BE PREPARED!

REQUIREMENT 2: On your map, 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.

MINING ENTERPRISE #1:

Name of Enterprise and Location:

Resource(s) processed at this Location:

Surface or Underground Operation:

How this/these Resource(s) is/are used:

MINING ENTERPRISE #2:

Name of Enterprise and Location:

Resource(s) processed at this Location:

Surface or Underground Operation:

How this/these Resource(s) is/are used:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

MINING ENTERPRISE #3:

Name of Enterprise and Location:

Resource(s) processed at this Location:

Surface or Underground Operation:

How this/these Resource(s) is/are used:

MINING ENTERPRISE #4:

Name of Enterprise and Location:

Resource(s) processed at this Location:

Surface or Underground Operation:

How this/these Resource(s) is/are used:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

MINING ENTERPRISE #5:

Name of Enterprise and Location:

Resource(s) processed at this Location:

Surface or Underground Operation:

How this/these Resource(s) is/are used:

REQUIREMENT 3: Discuss with your counselor the potential hazards a miner may encounter at an active mine.

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 3: Discuss with your counselor the protective measures used by miners.

Notes:

REQUIREMENT 3a: Explain how 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.

Notes:

Hard Hat:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

Safety Glasses:

Ear Plugs:

Dusk Mask or Respirator:

Self-Rescue Device:

High Visibility Vest:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 3b: Explain how miners protect their hands and feet from impact, pinch, vibration, slipping, and tripping/falling hazards.

Notes:

REQUIREMENT 3c: Explain how monitoring equipment warns miners of imminent danger.

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 3c: Explain how robots, drones, and other technology may be used in mine rescues.

Notes:

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

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

DO ONE OF THE FOLLOWING (5A, 5B, 5C, 5D, 5E, or 5F) FOR REQUIREMENT 5

REQUIREMENT 5a: 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.

PARENT / GUARDIAN APPROVAL: IS REQUIRED.

Parent's / Guardian's Name

Phone or Email

Parent's / Guardian's Signature

Date

☐

approval

VIRTUAL MINE TOUR #1:

Mine Name and Location:

Website URL:

VIRTUAL MINE TOUR #2:

Mine Name and Location:

Website URL:

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 5a: 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.

RESOURCES EXPLORATION:

<i>SIMILARITIES</i>	<i>DIFFERENCES</i>

MINE PLANNING AND PERMITTING:

<i>SIMILARITIES</i>	<i>DIFFERENCES</i>



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

TYPES OF EQUIPMENT USED:

SIMILARITIES	DIFFERENCES

MINERALS PRODUCED:

SIMILARITIES	DIFFERENCES



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 5b: With your parent or guardian's permission and counselor's approval, visit a mining or minerals exhibit at a museum.

PARENT/GUARDIAN PERMISSION: IS REQUIRED.

Parent's / Guardian's Name

Phone or Email

Parent's / Guardian's Signature

Date ☐ *permission*

COUNSELOR APPROVAL: IS REQUIRED.

Counselor's Name

Phone or Email

Counselor's Signature

Date ☐ *approved*

Mining or Minerals Exhibit:

Date and Time of Visit:

REQUIREMENT 5b: Find out about the history of the museum's exhibit and the type of mining it represents.

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 5b: Give three examples of how mineral resources have influenced history.

Example #1:

Example #2:

Example #3:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 5c: With your parent or guardian's permission and counselor's approval, visit an active mine.

PARENT/GUARDIAN PERMISSION: IS REQUIRED.

Parent's / Guardian's Name

Phone or Email

Parent's / Guardian's Signature

Date ☐ *permission*

COUNSELOR APPROVAL: IS REQUIRED.

Counselor's Name

Phone or Email

Counselor's Signature

Date ☐ *approved*

Active Mine Name and Location:

Date and Time of Visit:

REQUIREMENT 5c: Find out about the tasks required to explore, plan, permit, mine, and process the resource mined at that site.

Explore:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

Plan:

Permit:

Mine:

Process:

REQUIREMENT 5c: Take photographs, if allowed, and request brochures from your visit. Share photos, brochures, and what you have learned with your counselor.

Bring your photos and brochures to share with your counselor

This requirement must be reviewed with your merit badge counselor.

BE PREPARED!



SCOUTMASTER BUCKY

PARENT / GUARDIAN PERMISSION: IS REQUIRED.

Date ☐ *permission*

Date ☐ *approved*

Page 17 of 32



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 5d: Discuss 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.

Notes:

REQUIREMENT 5d: Take photographs if allowed, and request brochures from your visit. Share photos, brochures, and what you have learned with your counselor.

Bring your photos and brochures to share with your counselor

This requirement must be reviewed with your merit badge counselor.

BE PREPARED!

REQUIREMENT 5e: Discuss with your counselor two methods used to reduce rock in size, one of which uses a chemical process to extract a mineral.

METHOD TO REDUCE ROCK IN SIZE USING CHEMICAL PROCESS TO EXTRACT A MINERAL:

Notes:

ANOTHER METHOD TO REDUCE ROCK IN SIZE:

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 5e: Explain the difference between smelting and refining.

Smelting:

Refining:

REQUIREMENT 5f: 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.

Local Mine Name and Location:

What is/was mine there:

How was this deposit found?



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

Mining Techniques and Processes used:

How the mined resource is/was used:

REQUIREMENT 5f: 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.

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 6a: Choose a modern mining site.

Site Name and Location:

REQUIREMENT 6a: Find out what is being done to help control environmental impacts. Share what you have learned about mining and sustainability.

Notes:

REQUIREMENT 6b: Explain reclamation as it is used in mining.

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 6b: Explain how mine reclamation pertains to the Leave No Trace Seven Principles and the Outdoor Code.

AMERICAN WORKER CONCERN #1:

THE 7 PRINCIPLES of Leave No Trace

1. Plan Ahead & Prepare
2. Travel & Camp on Durable Surfaces
3. Dispose of Waste Properly
4. Leave What You Find
5. Minimize Campfire Impacts
6. Respect Wildlife
7. Be Considerate of Other Visitors

Outdoor Code

As an American, I will do my best to-
Be Clean in my outdoor manners,
Be Careful with fire,
Be Considerate in the outdoors, and
Be Conservation-minded

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 6c: Discuss with your counselor what values society has about returning the land to the benefit of wildlife and people after mining has ended.

Notes:

REQUIREMENT 6c: Discuss the transformation of the Scouting America's Summit Bechtel Family National Scout Reserve from a mine site to its current role.

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

DO ONE OF THE FOLLOWING (7A, 7B, 7C, or 7D) FOR REQUIREMENT 7

REQUIREMENT 7a: Explore the anticipated benefits of interplanetary mining.

Notes:

REQUIREMENT 7a: 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.

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 7a: Find out how exploration and mineral processing in space differ from exploration on Earth.

Notes:

REQUIREMENT 7a: 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.

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 7b: Identify three minerals found dissolved in seawater or found on the ocean floor.

Mineral #1:

Mineral #2:

Mineral #3:

REQUIREMENT 7b: Identify three places where the ocean is mined today.

Location #1:

Location #2:

Location #3:

REQUIREMENT 7b: Discuss the chief incentives for mining the oceans for minerals.

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 7b: Discuss the chief incentives for the reclamation necessary after mining is over.

Notes:

REQUIREMENT 7b: Discuss any special concerns when mining minerals from the ocean.

Notes:

REQUIREMENT 7b: Find out what sustainability problems arise from mining the oceans.

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 7c: Learn what metals and minerals are recycled after their original use has ended.

Notes:

REQUIREMENT 7c: List four metals and two nonmetals, and find out how each can be recycled.

METAL	HOW IT IS RECYCLED
1.	
2.	
3.	
4.	
NON-METAL	HOW IT IS RECYCLED
1.	
2.	

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 7c: Find out how recycling affects the sustainability of natural resources and how this idea is related to mining.

Notes:

REQUIREMENT 7d: 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.

PARENT/GUARDIAN PERMISSION: IS REQUIRED.

Parent's / Guardian's Name

Phone or Email

Parent's / Guardian's Signature

Date ☐ permission

COMMODITY	CURRENT PRICE	UNIT OF MEASURE	FIVE YEAR TREND
GOLD			
SILVER			
COPPER			
ALUMINUM			
CEMENT			
COAL			



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

DO ONE OF THE FOLLOWING (8A, 8B, or 8C) FOR REQUIREMENT 8

REQUIREMENT 8a: With your parent or guardian's and counselor's approval, interview a worker in the mining industry. Discuss the work, equipment, and technology used in this individual's position, and learn about a current project. Ask to see reports, drawings, and/or maps made for the project. Find out about the educational and professional requirements for this individual's position. Ask how the individual's mining career began. Discuss with your counselor what you have learned.

Person's Name:

Association / Position:

Date and Time of Visit:

PARENT/GUARDIAN PERMISSION: IS REQUIRED.

Parent's / Guardian's Name

Phone or Email

Parent's / Guardian's Signature

Date ☐ *permission*

COUNSELOR APPROVAL: IS REQUIRED.

Counselor's Name

Phone or Email

Counselor's Signature

Date ☐ *approved*

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 8a: Find out about the educational and professional requirements for this individual's position. Ask how the individual's mining career began. Discuss with your counselor what you have learned.

Education Requirements:

Professional Requirements:

How this individual's mining career began:

Notes:



Mining in Society Merit Badge Workbook

SCOUTMASTER BUCKY

REQUIREMENT 8b: Find out about three career opportunities in the mining industry.

Career Opportunity #1:

Career Opportunity #2:

Career Opportunity #3:

REQUIREMENT 8b: Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor.

Selected Career Opportunity:

Education Requirements:

Training Requirements:

Experience Requirements:

REQUIREMENT 8b: Explain why this profession might interest you.

Notes: