

Old Miner

Developed by Beth Langham and Angela Belli, Saint Vincent College Environmental Education Center, Latrobe, PA
Leanne Griffith, Westmoreland Conservation District, Greensburg, PA
Nicki Foremsky, Penn State Cooperative Extension, Westmoreland County, PA
Kate Tantlinger, Kiski Conemaugh Stream Team, Johnstown, PA



About This Activity...

Prep Time Required:
15 minutes

Grade Level:
Elementary

Subjects:
History, Science

Duration of Activity:
20 minutes per round

Pennsylvania Standards Addressed:
4.1A C

Setting:
Classroom

Vocabulary:
(See character list)
Barometer
Foreman
Impurities
Sprags
Refuse
Toxic Gas
Ventilation

Prerequisites:
See other History lessons

Summary:

Students will play a card game based on Old Maid in order to learn about the life and community of a miner at the beginning of the 19th century.

Materials:

- Copies of Old Miner cards for each group (Make 2 copies of each page except for page with single Old Miner card....copy this card only once.)
- Description of each character list

Objectives:

Students will be able to:

- Learn the different jobs that are necessary for the process of coal mining in the 1800's.
- Describe the ways of life of the early coal miner.

Background:

Our area has a very rich coal mining history. Many years ago, Pennsylvania was the frontier of this new country. The poorest settlers and immigrants chose to move to the frontier since the land was so inexpensive due to the many dangers of living there. These early settlers were immigrants that came from many different countries; therefore, many of them could not communicate with each other because they spoke different languages. Even though these people came from very different backgrounds, they all had the same goal. They were looking for a way to support their families. Some of these early settlers supported their families through farming. Many others chose to support their families through coal mining. These settlers and immigrants were the roots of the early steel industry of which coal played a big part.

The miners and their families lived in small coal towns called patches. Since there wasn't much in the way of transportation in those days, it was important that the

miners lived close to where they worked. The coal companies provided housing for their employees. The big mine bosses, like the **foreman**, were given nicer housing on one side of town, while the miners and their families lived in small 4-room houses on the other side of town. The foreman was in charge of all the men working in the underground mine. He was more educated than most of the men and had a lot of responsibility. The mine companies set up stores for the miners and their families; however, since there were no other stores nearby, the mine companies could set their prices very high. Between the store prices and rent for housing, the coal companies would get back most if not all of their money. Since the mineworkers were typically poor immigrants who couldn't speak the language, it was easy for the coal companies to take advantage of them.

The early coal mining jobs were extremely difficult and dangerous. The coal had to be removed by hand using shovels and picks. The early miners had to work very long hours for very little pay. Their typical workday consisted of about 10 to 12 hours, 6 days a week. The miners were paid by the amount of coal they produced not by how long they worked. Coal is found underground; therefore, the miners had to work underground where it was very dark and damp. In order to get to the coal, the miners would have to tunnel underground by removing tons of rock. The rock man was the first man called in to use explosives in order to open up a main entry into the mine. Once in the mine, the miners had to worry about being injured or trapped by falling debris. They also had to work with the constant threat of poisonous gases building up and either harming them physically or exploding. Canaries were kept in cages in the mines to help detect any **toxic gas** buildup. Since canaries were so much smaller than the men, they would be affected by the gas much sooner and would thereby act as a warning system. In addition to the canaries,

a fire boss was in charge of checking special instruments called **barometers** before the miners went into the mine for the day. These barometers would let the fire boss know if the gas was moving freely throughout the mine. He would also test before each shift with a flame safety lamp in different areas to make sure that gases were not building up which could cause an explosion. Fans and **ventilation** shafts would circulate the air in the mines to try to reduce the risk of toxic or explosive gases building up. Young boys, who were called trappers, were responsible for opening and closing the underground ventilation doors.

When the miners found a seam of coal, they would dig out the rock that ran horizontally underneath the coal. This is called undercutting. Then they would dig paths through the coal vertically and would use either wedges or explosives to break off the coal. The coal was then shoveled into wooden or steel cars. Workers called trimmers would level the cars off so that none of the precious coal would spill off on the ride to the surface. Once this was done, the cars were pulled to the surface by mules or in the deep mines by steam engines. In the mines that used mules to pull the coal to the surface, a man would be employed to take care of and run an underground barn. He was known as the barn boss. In the mines where locomotives were used, a man called the track boss was responsible for seeing that the track was built and maintained from the area where the miners were working to the surface. The motorman was in charge of running the engine, and the spragger was in charge of slowing the cars down. There were no brakes in those days, so the spragger would have to jam pieces of wood or **sprags** into the wheels to slow the cars down.

Once the cars reached the surface, the dock boss would inspect the coal cars to make sure they were not filled with “dirty” coal or coal that had too much debris mixed in it, such as rock.

Remember, the miners got paid by the amount or weight of coal produced. If a miner was caught putting a lot of heavy rocks in his car, the dock boss could lay him off for a while. Once the coal was inspected, the weighman would weigh the coal and remove the miner’s “check” from the car to give the miner credit for the amount of coal he mined that day. Then the check boy would collect the checks from the weighman to hang them on a pegboard so that the miners could collect them to use again the next day. After the coal was weighed, it was dumped onto a conveyor belt, where boney pickers would then sort through the coal removing by hand any debris or **impurities** mixed in the coal, such as rock or sulfur. Men called slate wheelers would then remove the **refuse** to a dump pile. Now the coal was ready to be loaded onto either wagons or railcars to make its final trip to the customer.

In addition to coal mining being hard and dangerous work, the danger extends to outside the mine as well. Exposure to the mining environment over a long period of time can lead to many health problems. The constant exposure to cool, damp conditions led to different forms of arthritis and other bone and muscle problems. When the coal would drop to the ground in the mines, it would send off a very fine, black coal dust that the miners would take into their lungs. This led to a condition called Black Lung Disease, which over time made it very difficult for the miners to breathe.

Procedure:

Warm-up:

Go over each character and their job. Find a short story that goes over the story of mining. [Coal Mines, Coke Yard, Company Stores](#) (Yellow Book) See for background and warm-up activities.

Characters:

Old Miner
Canary
Frank the Foreman
Track Boss
Boney Pickers
Slate Wheeler
Trimmer
Fire Boss
Mules
Barn Boss
Trappers
Dock Boss
Chuck Check Weighman
Check Boy
Rock Man
Motorman
Stanley Spragger

Activity:

Play a round of Old Miner with the rules from the card game Old Maid.

1. Shuffle cards. Deal one card at a time until all cards are dealt.
2. Each player places, face up on the table, all the matching pairs in his or her hand.
3. The dealer picks a card from the player on his right. If it matches a card in the dealer’s hand, the dealer places the pair on the table, face up. If it does not make a pair, the dealer places it in his or her own hand.
4. The next player does the same, selecting a card from the player on his or her right.
5. The game continues until all pairs have been matched. The player who is left with the Old Miner card loses the game - and becomes the Old Miner.

Wrap-up/Conclusion:

Ask students why wouldn’t you want to be the Old Miner? Why wouldn’t you want to be someone who mined all of his life? How old do you think the Old Miner is? (Health effects like black lung, etc.)

Assessment:

- Show students pictures and have students explain the roles of the characters. Can the mine function without all of the characters? Do you think mining today is similar to back then?

Adaptations:

Set of cards with roles of miners today. Talk about the change of technologies used for mining.

Resources:

Coal mines, coke yards, company stores

Passport to the Allegheny Ridge curriculum

Old Miner Character Descriptions

Canary: In old mining days, canaries were taken in a cage underground, as a warning system. When canaries collapsed or died, miners knew that there was a toxic gas in the mine. Because of a canaries' small body size, they were effected by the gas much quicker than miners would be.

Frank the Foreman: He was in charge of all the men working underground. He had to be a U.S. citizen, of good moral character, at least 23 years old, and able to read and write. They were required to pass a test, and undertook a large amount of responsibility.

Track Boss: He directed the laying of track up the main place where coal was hauled. He laid connections, kept the bolts tight and well bonded so that the "motor" could run.

Boney Pickers: After the weighing of coal, the cars were tipped onto a conveyer belt. Boney pickers had to remove by hand impurities such as slate, rock and sulfur missed by the dock boss.

Slate Wheeler: Took the refuse set aside by boney pickers to the dump.

Trimmer: Leveled cars off neatly, so no coal would spill off on a long and bumpy railroad ride.

Fire Boss: He had a very big responsibility. Each day, he would check a barometer at the lamp house. If the barometer fell, this meant gas was traveling freely through the mine. Then, three hours before each shift, he would inspect each working place with an approved flame safety lamp. If the flame inside elongated when held near the roof, that meant that there was gas present.

Mules: Men working in smaller mines used mules instead of motors. The mules hauled the coal. Some actually lived underground in the mine!

Barn Boss: You guessed it! The Barn boss was in charge of mules in the underground mule barn. This saved time, because it would have taken over an hour usually to drive mules from outside.

Trappers: Young boys who worked as doorboys in old time mines. They were among the lowest paid mine workers, averaging at \$1.60 per day. They were responsible for the opening and closing of underground ventilation doors.

Dock Boss: He was in charge of checking the out coming coal cars for dirty coal. He could lay a miner off for several days if he found enough dirty coal!

Chuck Check Weighman: Company man who weighed the coal and gave credit to the man whose name coincided with the small metal "check" that hung on their car.

Check Boy: Collected "checks" and replaced them on a pegboard for the miners to have the following day.

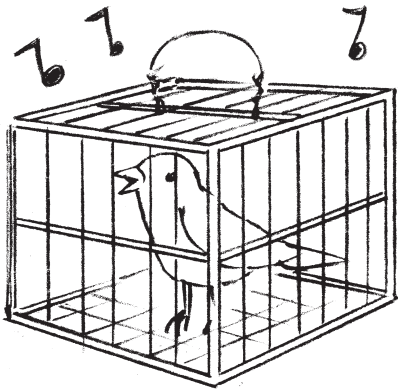
Rock Man: He was called in to blast down enough rock to open up the desired height for the main entry.

Motorman: The man who ran the motor. The motor was a small locomotive run by electricity from trolley wires, used to haul coal.

Stanley Spragger: Helper to the motorman. This term comes from the days before brakes. To stop the cars, the brakeman carried "sprags" (short pieces of wood), which were jammed into the spokes of the wheels.



Old Miner Playing Cards



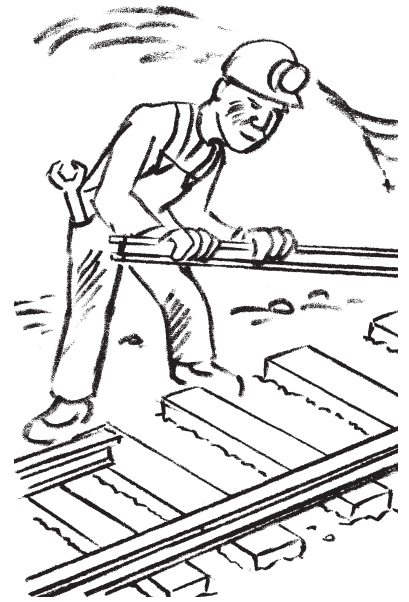
Canary

Nature Interrupted – The Journey of AMD
OLD MINER



Frank the Foreman

Nature Interrupted – The Journey of AMD
OLD MINER



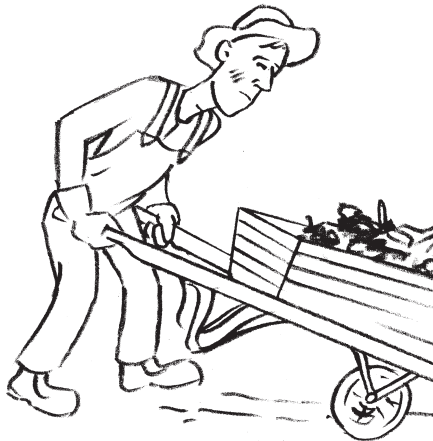
Track Boss

Nature Interrupted – The Journey of AMD
OLD MINER



Boney Pickers

Nature Interrupted – The Journey of AMD
OLD MINER



Slate Wheeler

Nature Interrupted – The Journey of AMD
OLD MINER

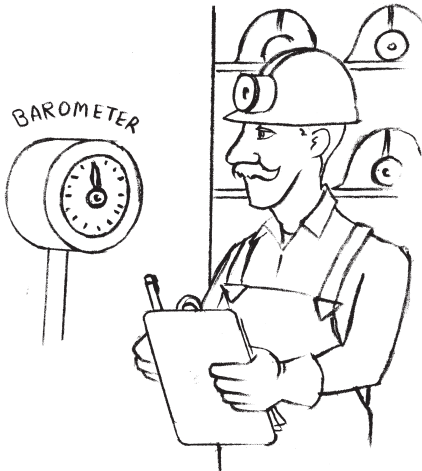


Trimmer

Nature Interrupted – The Journey of AMD
OLD MINER

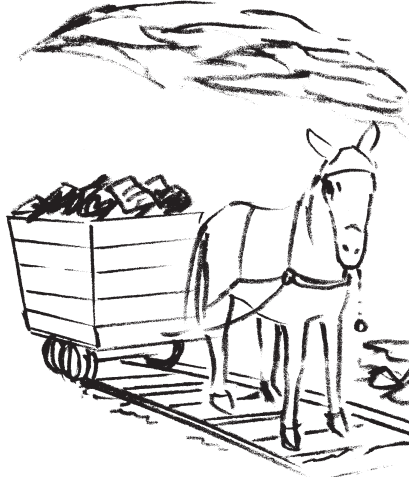


Old Miner Playing Cards



Fire Boss

Nature Interrupted – The Journey of AMD
OLD MINER



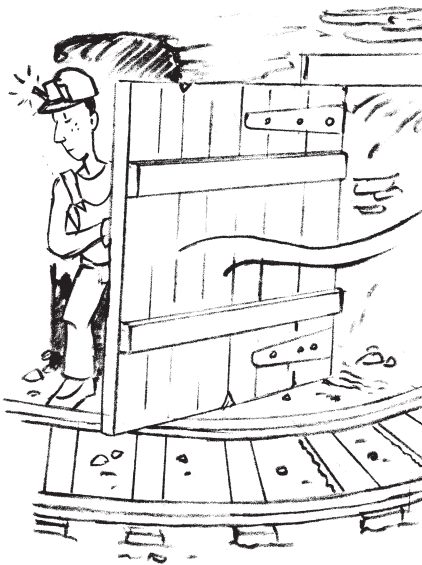
Mules

Nature Interrupted – The Journey of AMD
OLD MINER



Barn Boss

Nature Interrupted – The Journey of AMD
OLD MINER



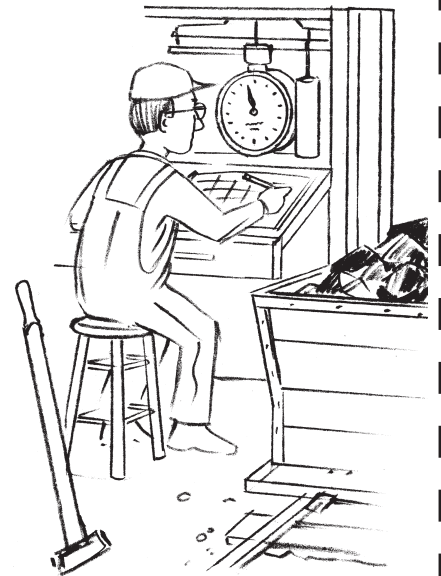
Trappers

Nature Interrupted – The Journey of AMD
OLD MINER



Dock Boss

Nature Interrupted – The Journey of AMD
OLD MINER



Chuck Check Weighman

Nature Interrupted – The Journey of AMD
OLD MINER



Old Miner Playing Cards



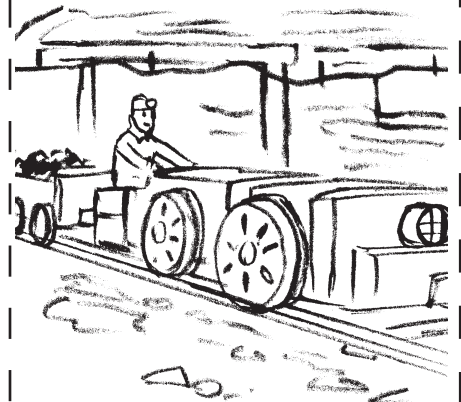
Check Boy

Nature Interrupted – The Journey of AMD
OLD MINER



Rock Man

Nature Interrupted – The Journey of AMD
OLD MINER



Motorman

Nature Interrupted – The Journey of AMD
OLD MINER



Stanley Spragger

Nature Interrupted – The Journey of AMD
OLD MINER



Old Miner Playing Cards



TEACHERS:
Copy this page only once!

