Foxfire
APPALACHIAN HERITAGE
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Thank you for joining us virtually. We hope you enjoy this video:

https://youtu.be/Ut2nO7PKTEQ

closed captioning is available—we recommend turning on subtitles because Micah can be hard to hear at times

Blacksmithing Fact Sheet:

- **What is a blacksmith?**
  - A **blacksmith** is someone who forges with iron.
  - They are called "**blacksmiths**" because iron's surface is usually covered with a black oxide, which is a kind of rust. This black color forms very fast in a blacksmith's fire. Iron is called the black metal in English. A smith who works the black metal is a black-smith. Smith means to strike something.
- **Where does a blacksmith work?**
  - A blacksmith works in a **forge**, which is a type of hearth used for heating metals.
  - A **forge** is usually fueled by coal. Coal is a combustible rock consisting mainly of carbonized plant matter, found mainly in underground deposits (hence all the coal mines). Because of its high density, coal burns longer and more steadily than charcoal or wood. It also tends to burn hotter. A blacksmith needs his or her fire to be above 3,000°F!
  - You'll notice in the video, Micah spends a lot of time turning a crank. This is a type of bellows, which pushes air into the fire to provide oxygen. You might remember from science class that fires feed off oxygen; this helps keep the fire hot and burning for a long time!
- **Why heat metal?**
  - A key aspect of blacksmithing is the heating of metal before it is shaped. Iron and steel are softer when they are hot, and much, much easier to shape and manipulate.
  - The color of metal is important because it tells you hot how the metal is. White-hot iron can metal, which will ruin a project. Blacksmiths work metal when it is orange—roughly 1800°F. When the metal turns red, it's starting to cool down. By the time the metal returns to a black color, it is 600°F.
  - You'll notice Micah continually returning his metal to the fire to reheat it. As he works on the anvil, he watches the color. He knows that once it turns red, it is not soft enough to work anymore.
  - Fun fact, when metal turns orange, it loses its magnetism and structural integrity!

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Some terms you might not know:

Anvil: a heavy iron block with a smooth face, frequently of steel, on which metals, usually heated until soft, are hammered into desired shapes

Hardy hole: a square hole into which specialized forming and cutting tools, called hardy tools, are placed

Cross peen: part of the head of a hammer; a cross peen has a blade-like peen at right angles to the haft

Iron: a strong, hard magnetic silvery-gray metal, the chemical element of atomic number 26

Steel: Iron with carbon in it.

Drawing out: a basic process of forging the stock metal longer and thinner (Micah does this by manipulating his hammering)

Coil spring: high-carbon steel (good for knives, because gets really sharp and holds edge well); iron with over 1% carbon (this is what Micah uses to make his knife)

Some discussion questions, if you have time:

1) What do you think the hardest part about blacksmithing is?
2) Why do you think blacksmithing was important in a community, before stores and commercial goods?
3) Do you remember what Micah used to make the knife? (A: recycled leaf spring from car). Again, thinking back to a time before stores and Amazon, why was it important for blacksmiths to recycle metal? Did they do it just for the environment?

What questions do you have for us? Write down your questions and pass them off to your teacher.

Teachers, feel free to email any questions to asstcurator@foxfire.org!