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FREE LEARNING NOTES FOR ZAMBIA

FORM 1

History

The Beginning and Spread of Iron Working and Farming

Lesson notes for learners · Competence-Based Curriculum

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Iron working is the skill of getting iron out of rock and shaping it into tools and weapons. Farming is growing crops and keeping animals for food. In Zambia you meet both every day: the hoe and the axe in the field are iron tools, and most families in the country depend on farming for food.

AFTER THESE NOTES YOU SHOULD BE ABLE TO

- Explain what iron working is and how iron was made and shaped in early times
- Describe how iron working and farming spread across Africa and into Zambia
- Compare stone tools and iron tools
- Analyse the impact of iron technology on farming
- Explain how iron technology changed settlement and life in a community

KEY WORDS

iron technology	the knowledge and skills used to make iron and turn it into tools
smelting	heating rock that contains iron (iron ore) in a very hot fire until the iron separates from the rock
iron ore	rock found in the ground that contains iron
forge	to heat iron until it is soft, then hammer it into shape
smith	a skilled person who makes iron tools and weapons
bellows	a tool for pumping air into a fire to make it hotter
charcoal	burnt wood that gives a very hot fire
surplus	more food than a family needs for itself

1 Farming and tools before iron

The earliest people in Africa did not farm. They hunted animals and gathered wild fruits, roots and honey. Later, people learnt to plant crops and keep animals. This change is called the beginning of farming.

Early farmers used tools made of stone, wood and bone. Stone tools were heavy and could break. They were slow to use for cutting trees or digging hard soil. Because of this, early farmers could only farm small pieces of land, usually where the soil was soft and the bush was thin.

Small fields on poor soil gave little food, and a field grew less each year as the soil lost its goodness. When this happened, a family often had to leave and clear a new patch elsewhere. So early farming communities were small and moved from place to place.

2 How iron was made

Iron does not lie ready to use. It is found inside rock called iron ore. The smith had to take the iron out of the ore, and this needed a very hot fire.

The smith first made charcoal. He burnt wood slowly in a covered pit or heap, because charcoal gives a much hotter fire than ordinary wood. Charcoal-making and digging the ore were separate jobs, and both had to be done before the smelting.

Then he did the smelting. The ore and charcoal were put in a clay furnace. Bellows pushed air into the fire so that it became very hot. The heat made the iron separate from the rock.

The smith then forged the iron. He heated it again until soft, put it on a stone, and hammered it into the shape he wanted: a hoe, an axe, a knife, a spear or an arrowhead. Last, he cooled the new tool in water and sharpened its edge on a stone so that it could cut well.

Iron working was a skill that took years to learn, so smiths were respected people in the community.

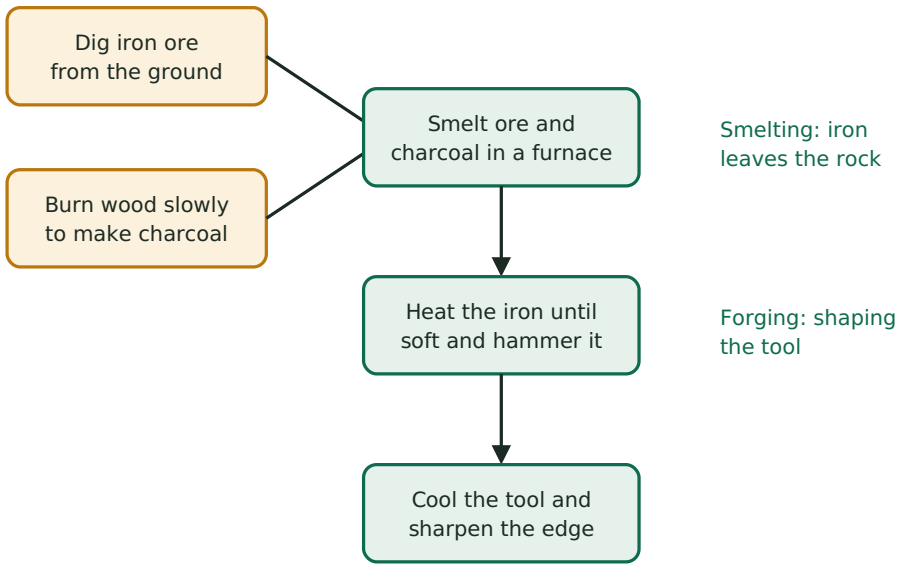


Figure 1. Two jobs come before smelting: digging the ore and making charcoal. After smelting, the iron is forged and finished.

3 How iron working and farming spread

Iron working and farming did not appear everywhere at once. They spread slowly as people moved and met others. Farming communities that knew iron working moved from one area to another, looking for good soil, water and land. This movement is called migration. When these people settled, they brought their crops, their tools and their skills with them.

People also learnt from neighbours. A group that had no smiths could learn from one that had, or could trade for iron tools. In this way the knowledge passed from community to community across the region.

Iron working reached Zambia many centuries ago, brought by farming communities who moved into the region. Historians use the letters AD for years counted after the birth of Christ. Most place the arrival of iron working in Zambia in the first thousand years AD, that is, within the first ten centuries after the birth of Christ. The exact date differs from place to place, and archaeologists are still finding new evidence.

4 Stone tools compared with iron tools

Iron tools were harder and stronger than stone tools. An iron edge could be sharpened again and again, and it did not break as easily. This is why iron tools replaced stone tools wherever iron working spread. The table sets out what this meant for the farmer's work.

Job on the farm	With stone tools	With iron tools
Cutting trees	Slow and difficult	Faster and easier
Digging soil	Only soft soil	Hard soil too
Weeding	Poor; blunt edge	A sharp hoe cuts weeds well
Size of field	Small	Larger

Figure 2. Stone tools and iron tools compared

5 The impact of iron technology on farming

Iron tools changed farming in several ways. First, farmers could clear land faster. An iron axe cut down trees that a stone axe could hardly cut. This opened large areas of woodland for fields.

Second, farmers could dig and weed better. An iron hoe broke hard ground and cut weeds easily, so crops grew well. Fields became bigger and gave more food.

Third, more food meant a surplus. A family with a surplus could store food for the dry season, feed more children and trade the extra. Trade in food and iron tools brought communities into contact with one another.

Fourth, with plenty of food, more people could live together and the population grew. Bigger fields and better digging meant farmers could stay on good land for many years instead of moving on when a small field wore out. This allowed larger and more lasting villages.

Fifth, because farmers could now feed other people, some members of the community could spend their time on other work. Some became full-time smiths, potters or traders.

Finally, a bigger population needed more fields, and more fields needed more hoes and axes. So the demand for iron tools grew, and smiths had more work to do. Iron was also used for weapons such as spears and arrowheads, but the main change it brought to daily life was in farming.

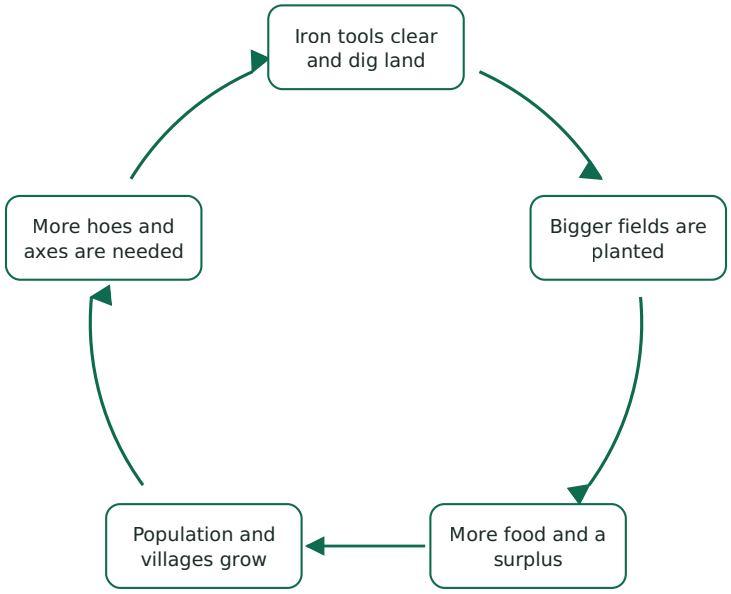


Figure 3. How iron tools led to growth of communities

TRY THIS

Visit a home or a market and look at the metal tools used for farming, such as a hoe, an axe or a machete. Ask an elder or a farmer what each tool is used for and how the same job would be done without it. Write down three jobs that would be slower or impossible without an iron tool.

REMEMBER

- Iron working is smelting iron ore to get iron, then forging it into tools and weapons.
- Before smelting, the smith digs the ore and makes charcoal for a very hot fire.
- Iron working was brought into Zambia many centuries ago, in the first thousand years AD, by farming communities that moved into the region.
- Iron and farming spread through migration, contact and trade between communities.
- Iron axes and hoes let farmers clear more land, dig harder soil, plant bigger fields and get more food.
- A food surplus led to larger and more lasting villages, trade, and new skills such as full-time smiths.

? Check yourself

1. What is smelting?
2. What is the difference between smelting and forging?
3. Why did a smith make charcoal before smelting?
4. Name two ways in which iron working and farming spread across Africa.
5. Give two reasons why iron tools were better than stone tools.
6. How did an iron axe help a farmer?
7. What is a surplus, and why was it important?
8. Why did early farmers with stone tools often have to move from place to place?

ANSWERS

1. Heating iron ore with charcoal in a very hot furnace so that the iron separates from the rock.
2. Smelting takes the iron out of the ore. Forging heats the iron until soft and hammers it into the shape of a tool.
3. Charcoal gives a much hotter fire than ordinary wood, and smelting needs very great heat.
4. Farming communities with iron working moved and settled in new areas (migration), and communities learnt from or traded with one another.
5. They were stronger and did not break easily, and they could be sharpened again and again.
6. It cut down trees and cleared bush faster, so more land could be opened for fields.
7. A surplus is more food than a family needs. It could be stored for the dry season, used to feed more people and traded.
8. Their fields were small and the soil lost its goodness, so they had to leave and clear a new patch elsewhere.

Written by 25Schools to follow the Form 1 History syllabus of the Zambian competence-based curriculum. Free for learners to read, download and share. More notes and quizzes at 25schools.com.