



Manatee Village Historical Park

1404 Manatee Avenue East

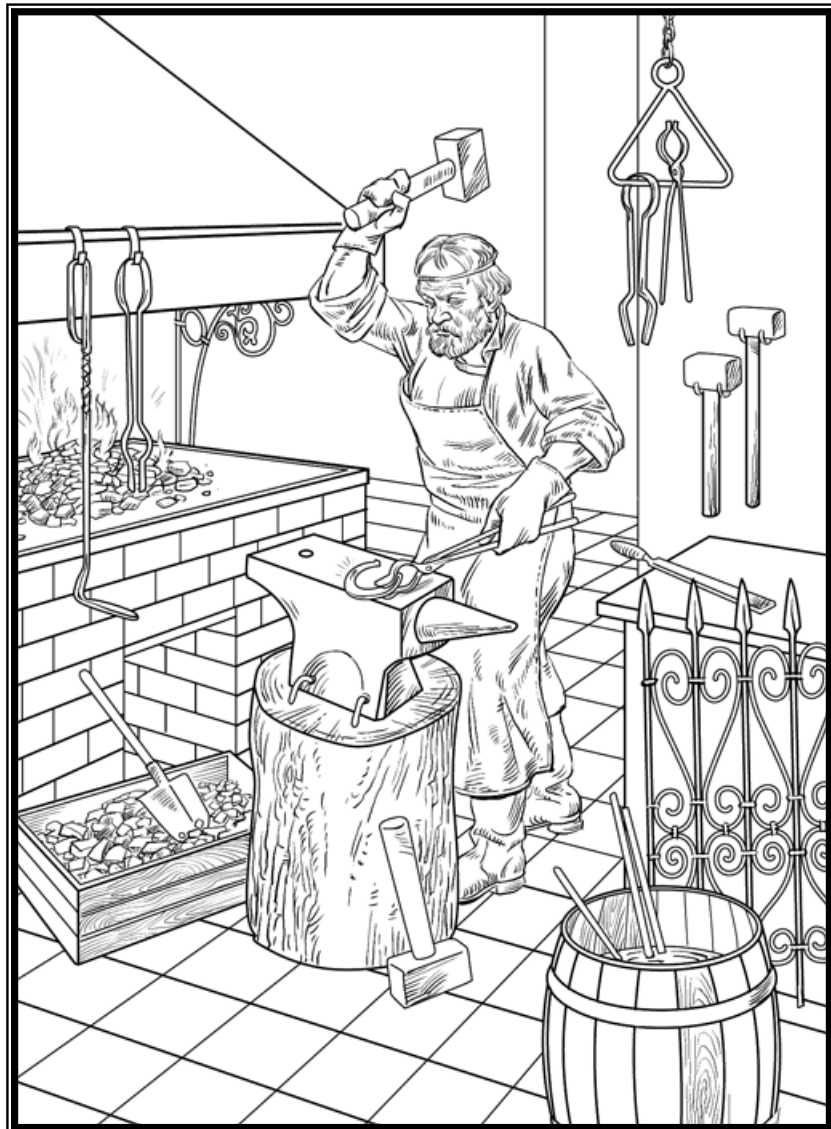
Bradenton, Florida 34208

Manatee County Historical Commission

& Manatee County Clerk of the Circuit Court

Historical Resources Division

Manatee Village Historical Park Blacksmith Activity Book



What is a Blacksmith?



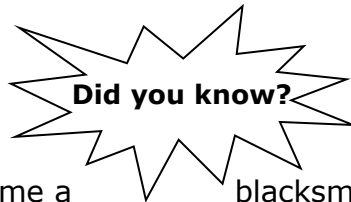
A blacksmith works with **iron** and **steel**. They **forge** metal into tools like horseshoes, nails, hooks, and chains.

Into the 1900s, most villages had blacksmith shops. Walking down the street, you could smell smoke billowing from the chimney of the shop.

If you looked in, you could see a blacksmith in a leather apron reaching into the **forge** with **tongs**. They would pull out pieces of iron glowing hot and turn quickly to the **anvil**.

They would hammer the iron on the anvil, shaping it while it was hot and **malleable**. They would then dip the hot metal into cold water, cooling the iron quickly, making it hard again.

Interesting Facts



- ⇒ It took many years to become a blacksmith. You learned by serving as an apprentice to a master blacksmith. Then when you were old enough and had learned the skills, you could open your own shop.
- ⇒ Blacksmiths were very important people in the community. They built and repaired equipment used in cooking, farming, and hunting. They also made building materials for houses, furniture, and other items.
- ⇒ There were many different kinds of blacksmiths.
 - ⇒ **Farriers** make tools related to horses like horseshoes.
 - ⇒ **Armorers** make weapons and armor.
 - ⇒ **Gunsmiths** make – you guessed it! – guns, which were used for defense and hunting, both of which were important in the Florida frontier.
 - ⇒ **Locksmiths** are people who make or repair locks.
- ⇒ Most **necessities** once made by blacksmiths are now made in factories by machines. But blacksmiths still exist. They often do complicated repairs and custom work.

Vocabulary Words

Iron is a very hard metal.

Steel is an **alloy** of iron and carbon. Steel is harder than iron and can be made into sharper edges. Steel is good for making knives.

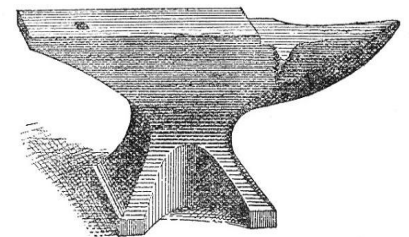
An **alloy** is a mixture of metal and at least one other element.

To **forge** (verb) is to use hand tools to hammer, bend, cut and shape metal. The furnace or oven where the blacksmith works is also called a **forge** (noun).

Tongs were tools with long handles that could be used to reach into the fire to grab hot objects.



An **anvil** is a large block of metal, usually steel and iron, with a flat top. Blacksmiths would hammer hot metal on the anvil to shape the metal.




Malleable means soft and easy to shape without breaking or cracking.

Necessities: items used in everyday life, like nails.



Chemistry Corner

Did you know?

⇒ A blacksmith heats iron to a temperature of about 1650 degrees Fahrenheit. 

To give you an idea of how hot that is, a regular kitchen oven reaches a maximum temperature of 450-475° F. That makes a blacksmith's forge almost four times as hot as your oven.

⇒ Iron glows when hot. Iron glows red when heated to 900° F. As the temperature rises, it then glows white.

⇒ Blacksmiths kept their work areas dark so that they could tell the temperature of the iron by how much it glowed.

⇒ A smith is someone who works with metal.

Blacksmiths get their name from **iron**, which is black.

Blacksmiths were just one kind of metal worker.

Whitesmiths worked with **lead**, a soft metal.

Redsmiths worked with pewter, an alloy of **tin** and **copper**.



What is the periodic table of elements?

Atoms make up everything in the universe, including our bodies. Think of them like building blocks or Legos. They are so small that we can't see them with our eyes. Scientists can see atoms with special, very strong microscopes.

Atoms combine to form elements. Elements are made up of only one type of atom.

If you think of atoms like Legos, the element iron would be made up of all green Legos while oxygen would be made from all yellow Legos.

Scientists symbolize element's names with letters. Just like LOL means laugh out loud, for scientists O means oxygen.

Periodic Table of the Elements

1 1A 1A	2 IIA 2A											13 IIIA 3A	14 IVA 4A	15 VA 5A	16 VIA 6A	17 VIIA 7A	18 VIIIA 8A		
1 H Hydrogen 1.008	2 He Helium 4.003											3 B Boron 10.811	4 C Carbon 12.011	5 N Nitrogen 14.007	6 O Oxygen 15.999	7 F Fluorine 18.998	8 Ne Neon 20.180		
3 Li Lithium 6.941	4 Be Beryllium 9.012											9 Na Sodium 22.990	10 Mg Magnesium 24.305	11 Al Aluminum 26.982	12 Si Silicon 28.086	13 P Phosphorus 30.974	14 S Sulfur 32.066	15 Cl Chlorine 35.453	16 Ar Argon 39.948
19 K Potassium 39.098	20 Ca Calcium 40.078	21 Sc Scandium 44.956	22 Ti Titanium 47.867	23 V Vanadium 50.942	24 Cr Chromium 51.996	25 Mn Manganese 54.938	26 Fe Iron 55.845	27 Co Cobalt 58.933	28 Ni Nickel 58.693	29 Cu Copper 63.546	30 Zn Zinc 65.38	31 Ga Gallium 69.723	32 Ge Germanium 72.631	33 As Arsenic 74.922	34 Se Selenium 78.971	35 Br Bromine 79.904	36 Kr Krypton 83.798		
37 Rb Rubidium 85.468	38 Sr Strontium 87.62	39 Y Yttrium 88.906	40 Zr Zirconium 91.224	41 Nb Niobium 92.906	42 Mo Molybdenum 95.95	43 Tc Technetium 98.907	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.906	46 Pd Palladium 106.42	47 Ag Silver 107.868	48 Cd Cadmium 112.414	49 In Indium 114.818	50 Sn Tin 118.711	51 Sb Antimony 121.760	52 Te Tellurium 127.6	53 I Iodine 126.904	54 Xe Xenon 131.294		
55 Cs Cesium 132.905	56 Ba Barium 137.328	57-71 Lanthanide Series	72 Hf Hafnium 178.49	73 Ta Tantalum 180.948	74 W Tungsten 183.84	75 Re Rhenium 186.207	76 Os Osmium 190.23	77 Ir Iridium 192.227	78 Pt Platinum 195.085	79 Au Gold 196.967	80 Hg Mercury 200.592	81 Tl Thallium 204.383	82 Pb Lead 207.2	83 Bi Bismuth 208.980	84 Po Polonium (209)	85 At Astatine (210)	86 Rn Radon (222)		
87 Fr Francium 223.020	88 Ra Radium 226.025	89-103 Actinide Series	104 Rf Rutherfordium (261)	105 Db Dubnium (262)	106 Sg Seaborgium (266)	107 Bh Bohrium (264)	108 Hs Hassium (269)	109 Mt Meitnerium (278)	110 Ds Darmstadtium (281)	111 Rg Roentgenium (286)	112 Cn Copernicium (285)	113 Nh Nihonium (286)	114 Fl Flerovium (289)	115 Mc Moscovium (289)	116 Lv Livermorium (293)	117 Ts Tennessine (294)	118 Og Oganesson (294)		
		57 La Lanthanum 138.905	58 Ce Cerium 140.116	59 Pr Praseodymium 140.908	60 Nd Neodymium 144.242	61 Pm Promethium 144.913	62 Sm Samarium 150.36	63 Eu Europium 151.964	64 Gd Gadolinium 157.25	65 Tb Terbium 158.925	66 Dy Dysprosium 162.500	67 Ho Holmium 164.930	68 Er Erbium 167.259	69 Tm Thulium 168.934	70 Yb Ytterbium 173.055	71 Lu Lutetium 174.967			
		89 Ac Actinium 227.028	90 Th Thorium 232.038	91 Pa Protactinium 231.036	92 U Uranium 238.029	93 Np Neptunium 237.048	94 Pu Plutonium 244.064	95 Am Americium 243.061	96 Cm Curium 247.070	97 Bk Berkelium 247.070	98 Cf Californium 251.080	99 Es Einsteinium 254	100 Fm Fermium 257.095	101 Md Mendelevium 258.1	102 No Nobelium 259.101	103 Lr Lawrencium (262)			

Iron is one of the most common elements on earth. Iron can be found in the earth's core. Iron also exists in rocks and minerals called iron ores. People can take iron from iron ores to make the iron metal that blacksmiths use.

What is the symbol (letters) for iron?

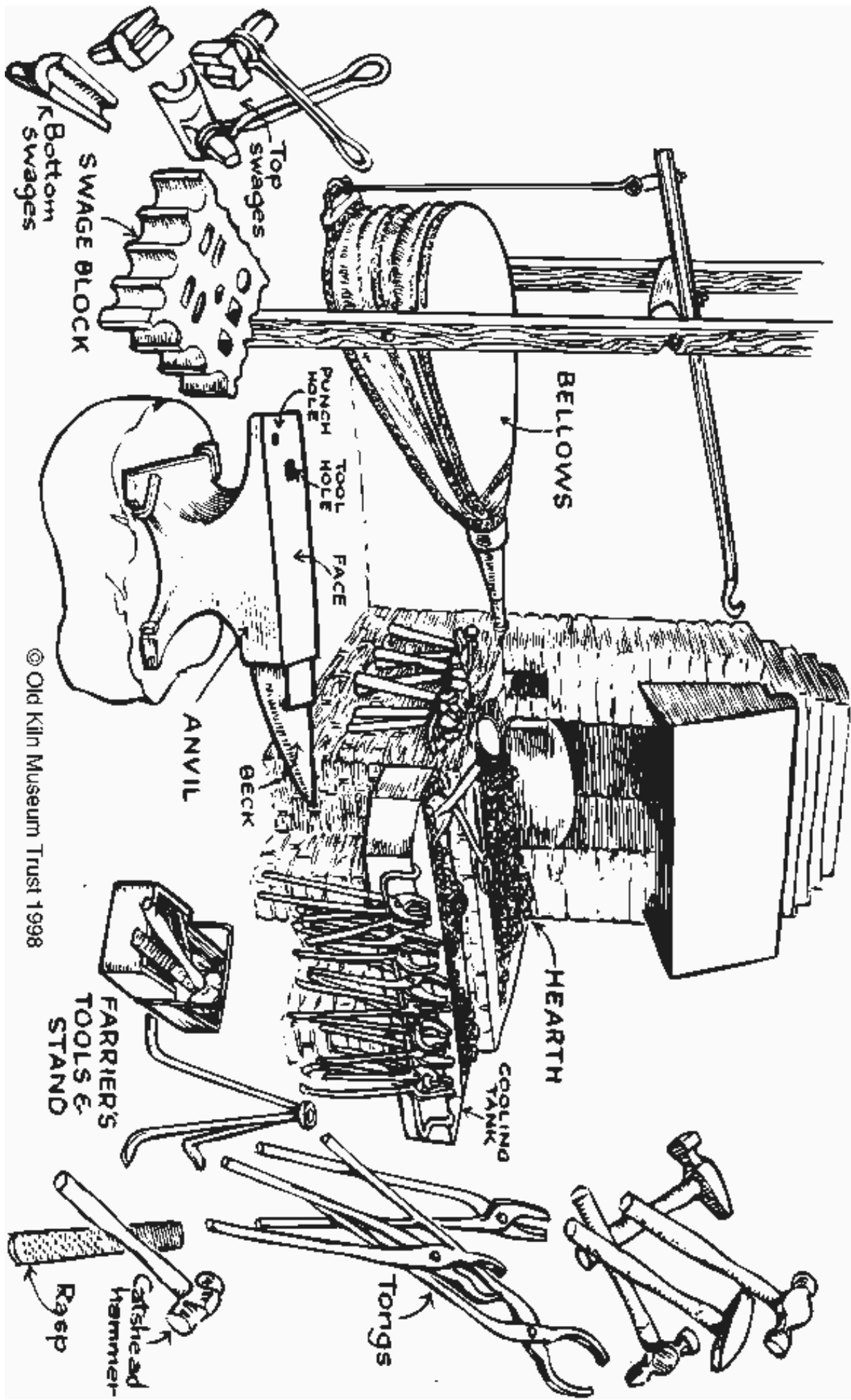
Copper?

25 Mn Manganese 54.938	26 Fe Iron 55.845	27 Co Cobalt 58.933	28 Ni Nickel 58.693	29 Cu Copper 63.546	30 Zn Zinc 65.38
43 Tc Technetium 98.907	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.906	46 Pd Palladium 106.42	47 Ag Silver 107.868	48 Cd Cadmium 112.414

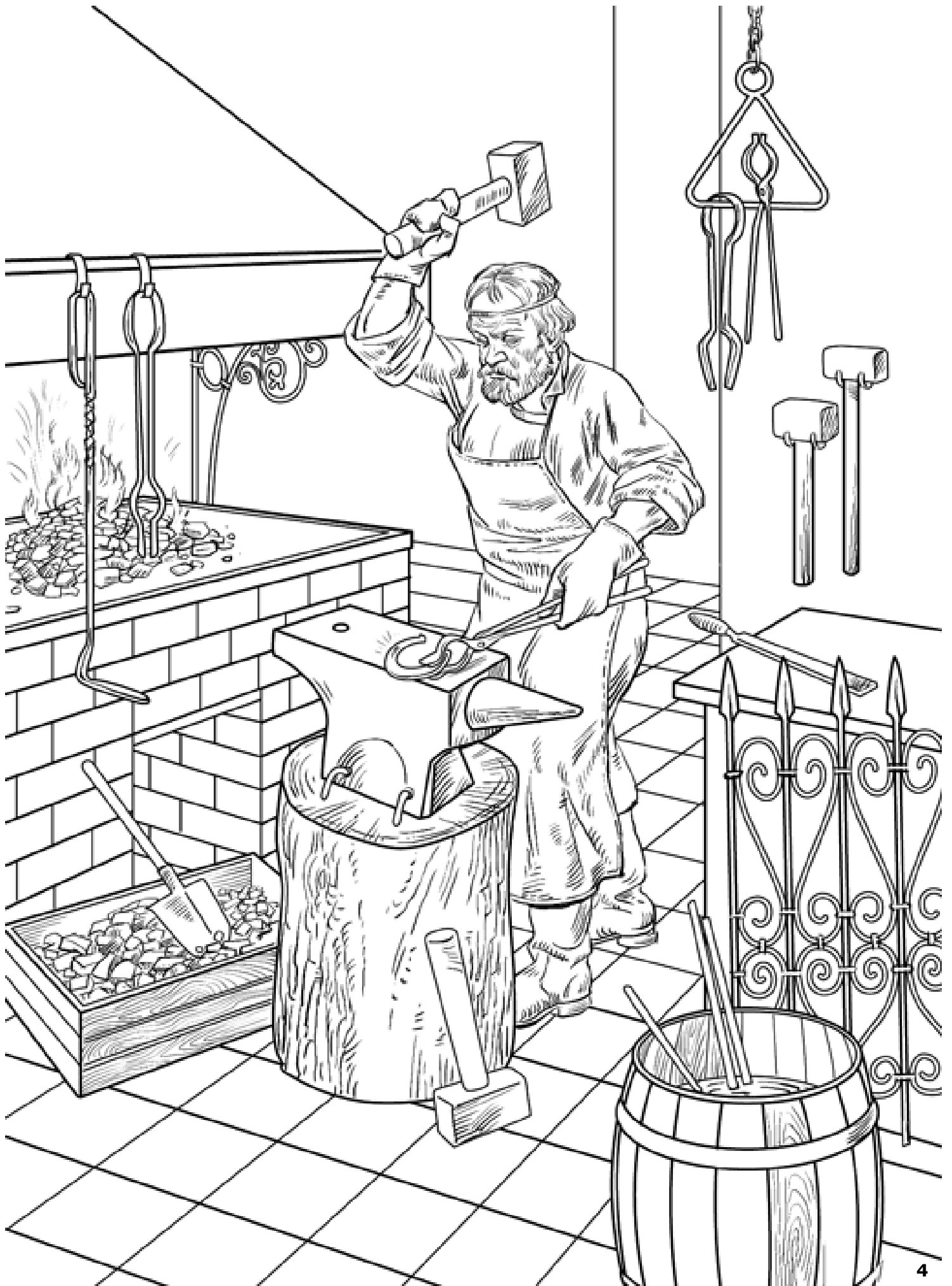
How about tin?

Lead?

49 In Indium 114.818	50 Sn Tin 118.711	51 Sb Antimony 121.760
81 Tl Thallium 204.383	82 Pb Lead 207.2	83 Bi Bismuth 208.980



© Old Kiln Museum Trust 1998



Blacksmith Math Activities



In 1912, blacksmiths made about \$0.35 per hour. They worked about 54 hours a week.*

How many years ago was 1912? _____

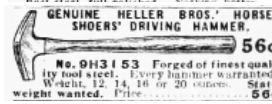
How much money did blacksmiths make in a week? _____

**Source: Bulletin of the United States Bureau of Labor Statistics, 1907-1912*

You are a farrier blacksmith. The year is 1912 and you have **\$7.50** to spend in supplies for your shop.

Here are your necessities (things you must buy):

Hoof Parers	\$1.12
Farrier's driving hammer	\$0.56
Farrier's tongs	\$0.30
Blacksmith's Hooped Bellows	\$3.98



Vocabulary words

Necessities: items for every day use

Farrier: a blacksmith who works with horses

Bellows: blows air into a fire to make the fire bigger

Acme: the best or perfect

After buying these, how much money do you have leftover? _____

With your leftover money, you can buy more items you want. Which do you buy?

Easy Hoof Trimmer	\$1.20
Farrier's knife	\$0.32
Horseshoe buffer	\$0.20
Blacksmith's Hand Hammer	\$0.57
Blacksmith Tongs	\$0.27

\$7.50. Show your work here:

The Sears Roebuck Catalog

The Sears Roebuck Catalog was made by Sears, Roebuck, and Company. Sears is a large department store that was founded in 1893 and still exists today.

Before the internet and Amazon.com existed, people ordered household items through the mail. They would flip through their catalog book and send in money with a card listing what they wanted to buy. Sears would then ship them the goods.

Sears sold everything from clothes to jewelry, furniture, appliances, and even houses.

The 1912 Sears Roebuck Catalog

Below are images from the 1912 Sears Roebuck Catalog showing what blacksmiths could purchase.

ACME AMERICAN WROUGHT ANVILS
 Superior in design, material and finish to any other wrought anvils on the market. Made especially for us and sold only by us under our own guarantee. Our Acme anvils at prices quoted below represent more real value than you can possibly secure elsewhere.

Our ACME ANVILS are made of two pieces of tough wrought iron welded at waist. The face is made of a single piece of tool steel securely welded to the body and warranted not to come loose. The face, tried by a special machine so there are no hollow or uneven places, is perfectly tempered, making it hard without being brittle, and tough without being soft. Has long, perfectly shaped horns and heel and the base has sufficient spread to insure stability and prevent tipping.

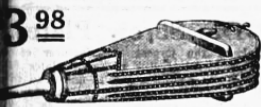
To prove that our Acme is the best wrought anvil ever offered, we sell it under our guarantee to take any one of them back at our expense within thirty days after you receive same if it is not equal to or better than any anvil you ever used.

ONLY 81c A POUND
 Price, elsewhere, a 12c pound

No. 9H3988 Weight, pounds, ... 200 to 220 170 to 190 120 to 145
 Price, per pound ... 8½c 9c 9½c
 Weight, pounds, ... 80 to 119 70 to 79 60 to 89 50 to 59
 Price, per pound, ... 10c 10½c 11c 12½c

BLACKSMITHS' HOOPED BELLOWS

398



The leather on most bellows is nailed to the wood, with nothing between the nail heads and the leather. Our bellows are all hooped, then nailed, which prevents the nail heads from pulling through the leather. In making our bellows we use only the best specially prepared cowhide leather and thoroughly seasoned white-wood, basswood and pine. There are no better bellows made.

No. 9H31080 Standard Pattern.	24	26	28	30
1/2 in. inches	24	25	26	27
1/2 in. inches	30	32	34	36
1/2 in. inches	36	38	40	42
1/2 in. inches	42	44	46	48
1/2 in. inches	48	50	52	54
1/2 in. inches	54	56	58	60
1/2 in. inches	60	62	64	66
1/2 in. inches	66	68	70	72
1/2 in. inches	72	74	76	78
1/2 in. inches	78	80	82	84
1/2 in. inches	84	86	88	90
1/2 in. inches	90	92	94	96
1/2 in. inches	96	98	100	102
1/2 in. inches	102	104	106	108
1/2 in. inches	108	110	112	114
1/2 in. inches	114	116	118	120
1/2 in. inches	120	122	124	126
1/2 in. inches	126	128	130	132
1/2 in. inches	132	134	136	138
1/2 in. inches	138	140	142	144
1/2 in. inches	144	146	148	150
1/2 in. inches	150	152	154	156
1/2 in. inches	156	158	160	162
1/2 in. inches	162	164	166	168
1/2 in. inches	168	170	172	174
1/2 in. inches	174	176	178	180
1/2 in. inches	180	182	184	186
1/2 in. inches	186	188	190	192
1/2 in. inches	192	194	196	198
1/2 in. inches	198	200	202	204
1/2 in. inches	204	206	208	210
1/2 in. inches	210	212	214	216
1/2 in. inches	216	218	220	222
1/2 in. inches	222	224	226	228
1/2 in. inches	228	230	232	234
1/2 in. inches	234	236	238	240
1/2 in. inches	240	242	244	246
1/2 in. inches	246	248	250	252
1/2 in. inches	252	254	256	258
1/2 in. inches	258	260	262	264
1/2 in. inches	264	266	268	270
1/2 in. inches	270	272	274	276
1/2 in. inches	276	278	280	282
1/2 in. inches	282	284	286	288
1/2 in. inches	288	290	292	294
1/2 in. inches	294	296	298	300
1/2 in. inches	300	302	304	306
1/2 in. inches	306	308	310	312
1/2 in. inches	312	314	316	318
1/2 in. inches	318	320	322	324
1/2 in. inches	324	326	328	330
1/2 in. inches	330	332	334	336
1/2 in. inches	336	338	340	342
1/2 in. inches	342	344	346	348
1/2 in. inches	348	350	352	354
1/2 in. inches	354	356	358	360
1/2 in. inches	360	362	364	366
1/2 in. inches	366	368	370	372
1/2 in. inches	372	374	376	378
1/2 in. inches	378	380	382	384
1/2 in. inches	384	386	388	390
1/2 in. inches	390	392	394	396
1/2 in. inches	396	398	400	402
1/2 in. inches	402	404	406	408
1/2 in. inches	408	410	412	414
1/2 in. inches	414	416	418	420
1/2 in. inches	420	422	424	426
1/2 in. inches	426	428	430	432
1/2 in. inches	432	434	436	438
1/2 in. inches	438	440	442	444
1/2 in. inches	444	446	448	450
1/2 in. inches	450	452	454	456
1/2 in. inches	456	458	460	462
1/2 in. inches	462	464	466	468
1/2 in. inches	468	470	472	474
1/2 in. inches	474	476	478	480
1/2 in. inches	480	482	484	486
1/2 in. inches	486	488	490	492
1/2 in. inches	492	494	496	498
1/2 in. inches	498	500	502	504
1/2 in. inches	504	506	508	510
1/2 in. inches	510	512	514	516
1/2 in. inches	516	518	520	522
1/2 in. inches	522	524	526	528
1/2 in. inches	528	530	532	534
1/2 in. inches	534	536	538	540
1/2 in. inches	540	542	544	546
1/2 in. inches	546	548	550	552
1/2 in. inches	552	554	556	558
1/2 in. inches	558	560	562	564
1/2 in. inches	564	566	568	570
1/2 in. inches	570	572	574	576
1/2 in. inches	576	578	580	582
1/2 in. inches	582	584	586	588
1/2 in. inches	588	590	592	594
1/2 in. inches	594	596	598	600
1/2 in. inches	600	602	604	606
1/2 in. inches	606	608	610	612
1/2 in. inches	612	614	616	618
1/2 in. inches	618	620	622	624
1/2 in. inches	624	626	628	630
1/2 in. inches	630	632	634	636
1/2 in. inches	636	638	640	642
1/2 in. inches	642	644	646	648
1/2 in. inches	648	650	652	654
1/2 in. inches	654	656	658	660
1/2 in. inches	660	662	664	666
1/2 in. inches	666	668	670	672
1/2 in. inches	672	674	676	678
1/2 in. inches	678	680	682	684
1/2 in. inches	684	686	688	690
1/2 in. inches	690	692	694	696
1/2 in. inches	696	698	700	702
1/2 in. inches	702	704	706	708
1/2 in. inches	708	710	712	714
1/2 in. inches	714	716	718	720
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1/2 in. inches	726	728	730	732
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1/2 in. inches	768	770	772	774
1/2 in. inches	774	776	778	780
1/2 in. inches	780	782	784	786
1/2 in. inches	786	788	790	792
1/2 in. inches	792	794	796	798
1/2 in. inches	798	800	802	804
1/2 in. inches	804	806	808	810
1/2 in. inches	810	812	814	816
1/2 in. inches	816	818	820	822
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1/2 in. inches	834	836	838	840
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1/2 in. inches	846	848	850	852
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1/2 in. inches	864	866	868	870
1/2 in. inches	870	872	874	876
1/2 in. inches	876	878	880	882
1/2 in. inches	882	884	886	888
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1/2 in. inches	906	908	910	912
1/2 in. inches	912	914	916	918
1/2 in. inches	918	920	922	924
1/2 in. inches	924	926	928	930
1/2 in. inches	930	932	934	936
1/2 in. inches	936	938	940	942
1/2 in. inches	942	944	946	948
1/2 in. inches	948	950	952	954
1/2 in. inches	954	956	958	960
1/2 in. inches	960	962	964	966
1/2 in. inches	966	968	970	972
1/2 in. inches	972	974	976	978
1/2 in. inches	978	980	982	984
1/2 in. inches	984	986	988	990
1/2 in. inches	990	992	994	996
1/2 in. inches	996	998	1000	1002

No. 9H31084 Extra Long Pattern.
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ECLIPSE HOOF CUTTER.

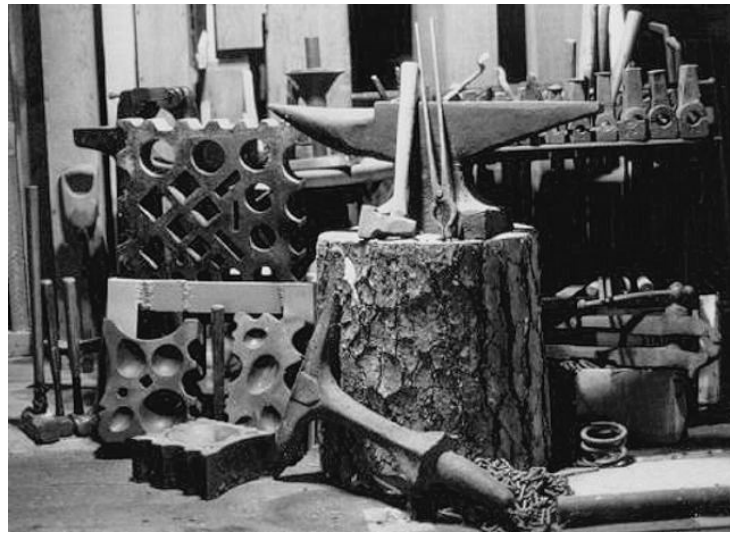


Regular \$1.50 value. **PRICE, \$1.05**

No. 9H3293 One of the most practical tools on the market. The cutting edge being beveled, gives it a drawing cut; spring throws the tool open as soon as cut is made. It is easy to grasp with one hand.
 Price.....\$1.05

\$28.20

OUR ACME OUTFIT OF BLACKSMITHS' TOOLS</

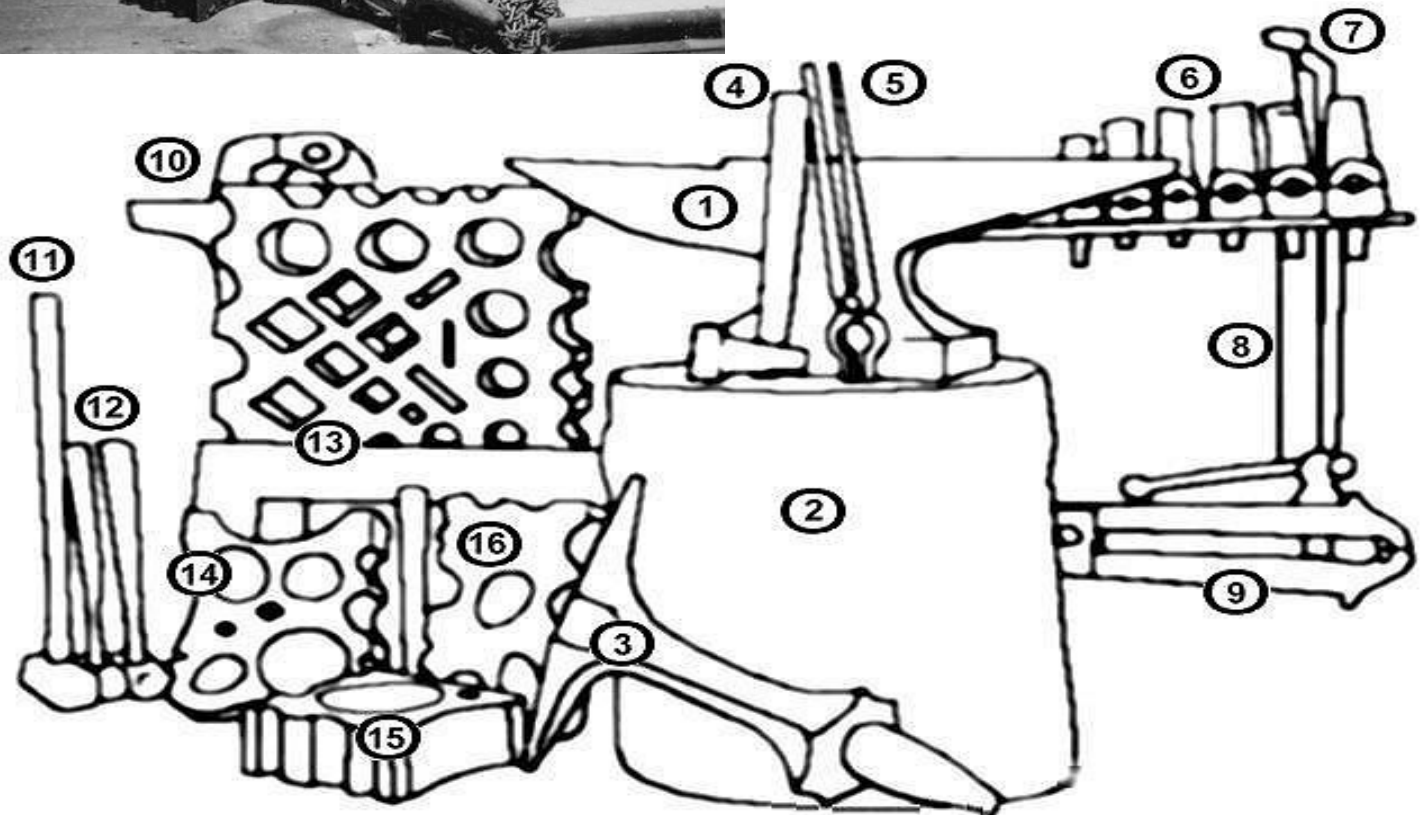


Blacksmith

Tool Collection

Photo with Key

Collection of blacksmith tools. Photo Copyright © 1998
Jock Dempsey, anvilfire.com



- 1) 200 Pound Hay-Budden anvil
- 2) Pine stump
- 3) 16th Century 40 Pound Stake Anvil
- 4) Handled Fuller
- 5) Bolt Tongs
- 6) Set of top and bottom round swages
- 7) Handles of Large Shears
- 8) Tool Rack
- 9) 30 Pound Blacksmiths Leg Vice
- 10) Greenfield Caulking Vice
- 11) 10 Pound Sledge Hammer
- 12) (2) 4 Pound Blacksmiths Hammers
- 13) 16" Square Industrial Swage Block and Stand
- 14) - 16) Blacksmith's Swage

Vocabulary Words

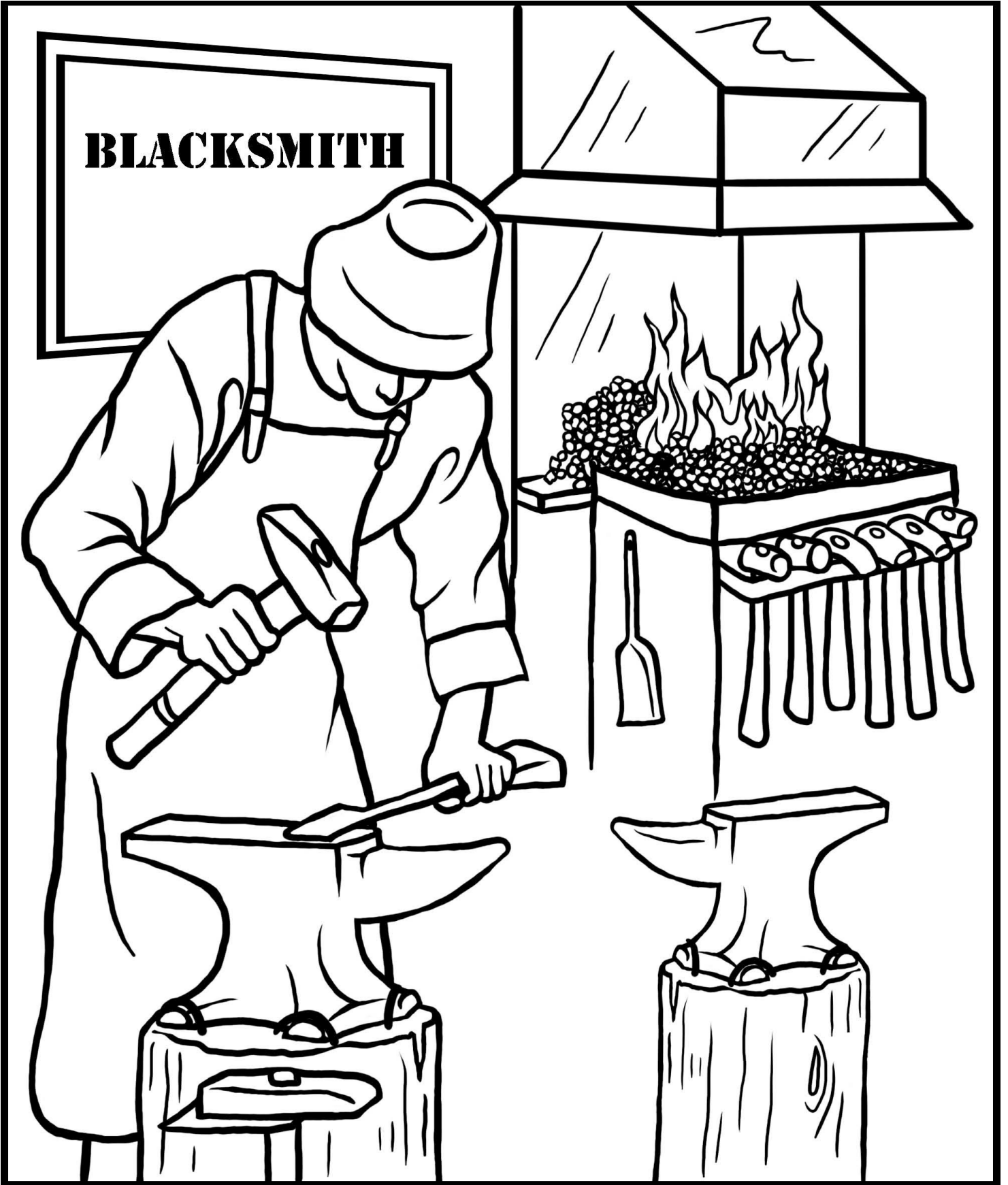
Anvil: large block of metal with a flat top. Blacksmiths hammer hot metal on the anvil to shape the metal.

Swage: a large block of metal with holes of different sizes in it. Blacksmiths used them to hold a hot bar of iron for more shaping.

Shears: while shears can be another word for scissors, blacksmith shears are a large tool. They are used for cutting, but stand almost waist height so blacksmiths could use their full body weight to cut the metal.

Vice or vise: a type of clamp; it holds very hot iron for blacksmiths.

BLACKSMITH



Blacksmith Geometry

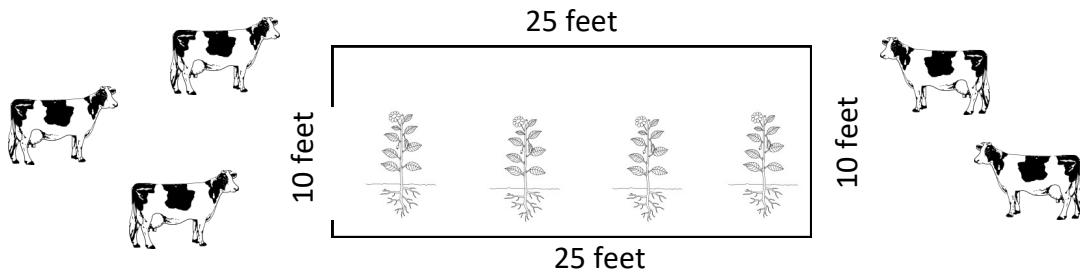
You are a farmer. You have a new garden. You want to calculate how many crops you can fit into your garden area.

Here is your garden area below.

Calculate the Area: How many square feet is your garden? _____ square feet

You can plant one crop per one square foot. How many crops can you plant?

_____ crops



The cows are eating your crops! You need to buy barbed wire from the local blacksmith to protect your garden from herds of cattle.

Do you need to find the **area** or the **perimeter** of your garden? _____

Why? _____

Calculate the Perimeter: How many feet of barbed wire do you need to buy?

_____ feet

You also need **490** nails to build the fence around your garden. The blacksmith sells boxes of nails that have 12 rows with 48 nails in each row.

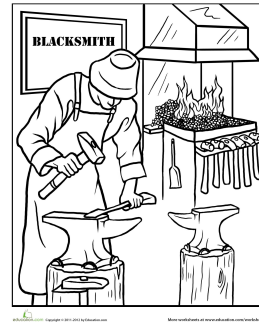
How many nails are in a box? _____

Will this be enough nails? Yes / No

You have 490 nails. If you divide the number of nails evenly for each foot of fencing, how many nails do you use per foot?

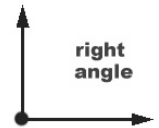
_____ feet

Blacksmith Geometry

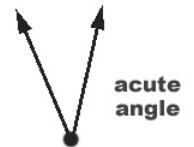


In the picture to the left:

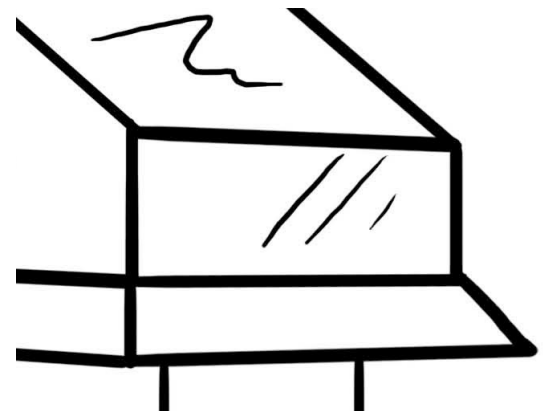
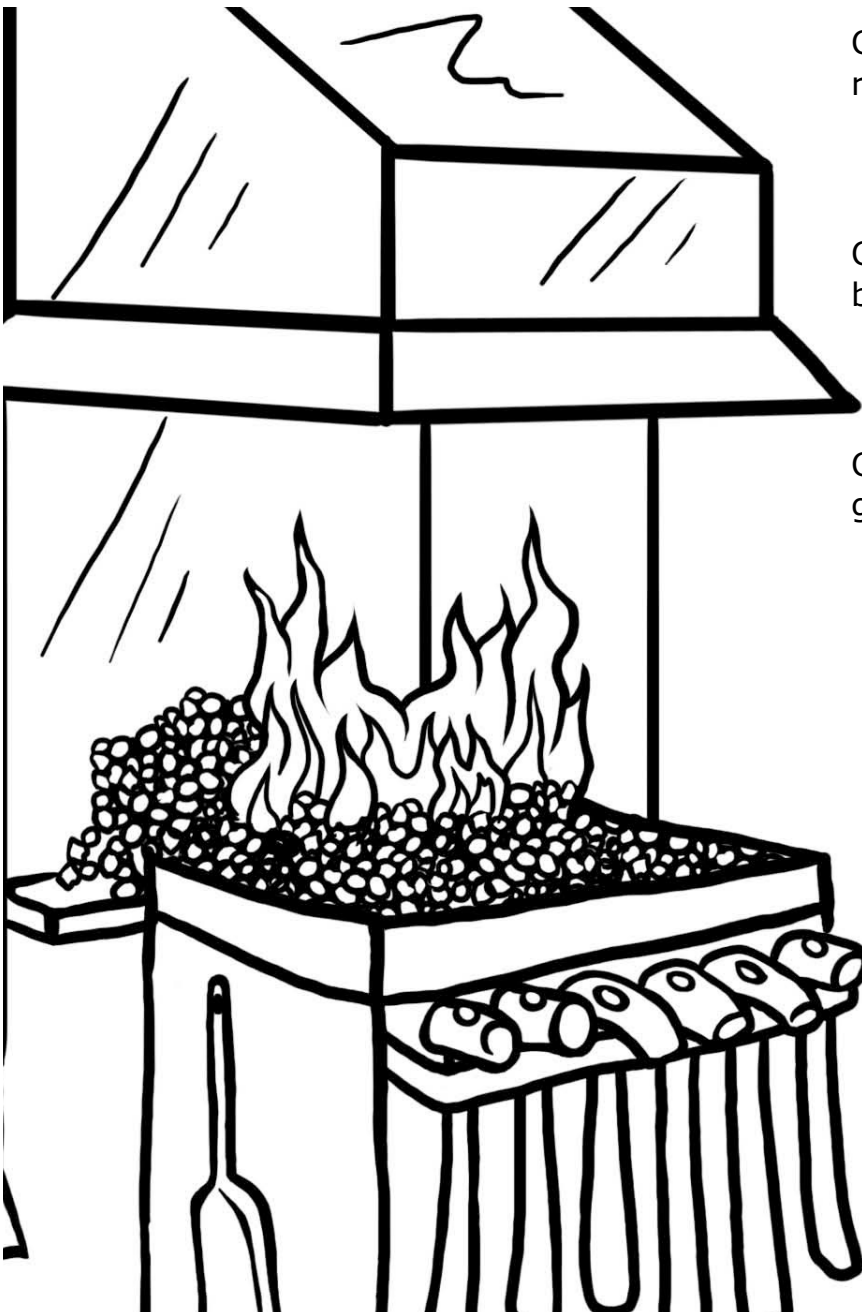
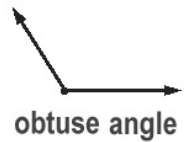
Color the right angles
red



Color the acute angles
blue



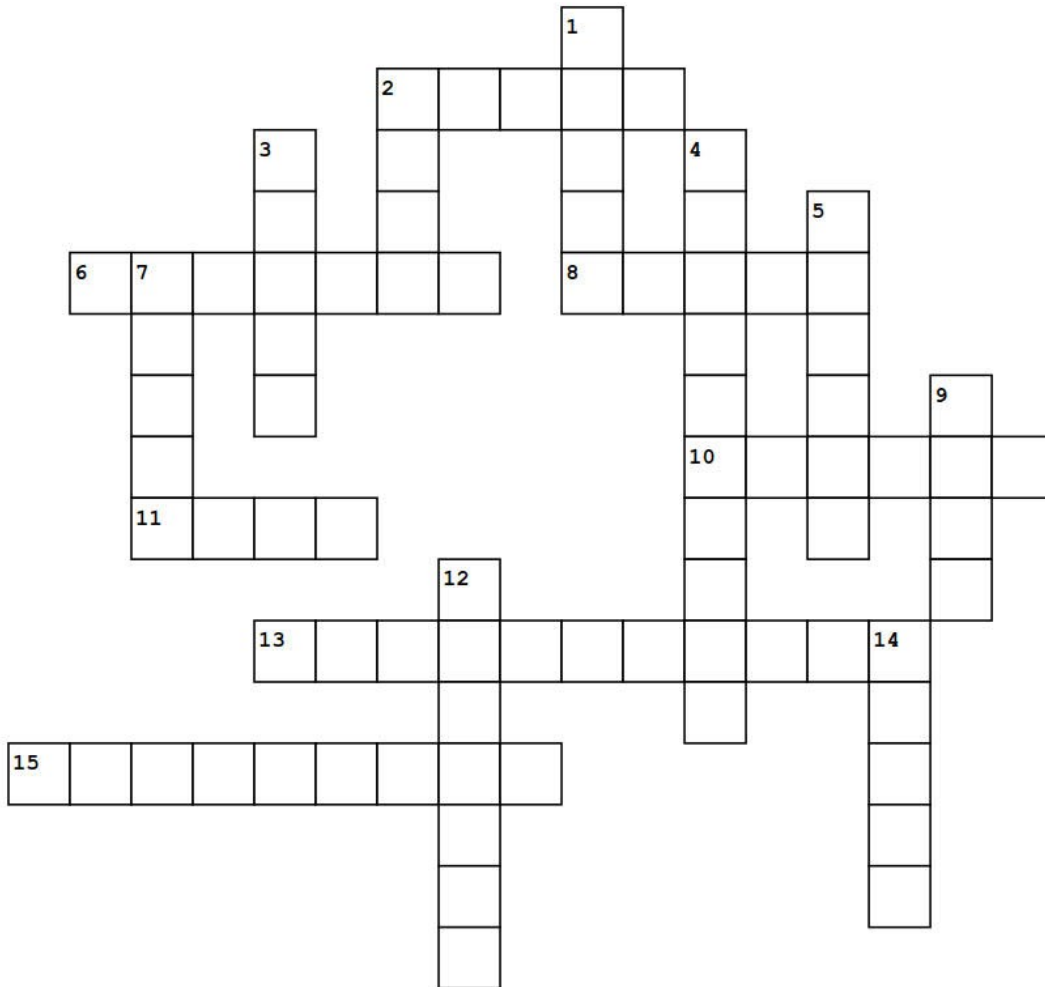
Color obtuse angles
green



In the image above, use a protractor to measure each of the angles.

Write the measurements in the angle or list them below:

Manatee Village Blacksmith Crossword Puzzle



Across

- 2. a mixture of metal and at least one other element
- 6. a blacksmith who works with horses
- 8. a metal block with holes in it used to shape iron bars
- 10. another word for scissors
- 11. a soft metal used by whitesmiths
- 13. items used in every day life
- 15. soft and easy to shape without breaking or cracking

Down

- 1. tools with long handles used to reach into the fire and grab hot metal
- 2. the best or perfect
- 3. the furnace or oven a blacksmith uses
- 4. a metal worker who shapes iron or steel
- 5. an alloy of tin and copper that redsmiths use
- 7. a large block of metal with a flat top used for hammering hot metal
- 9. a hard black metal
- 12. a tool that blows air into a fire
- 14. an alloy of iron and carbon

Manatee Village Blacksmith Word Search

T T O G E Z C F E A F S P X E
O S I R U O P G V O P S Y L R
N K I E P N A N R V N R B I I
G F R P H W S G B E C A O W W
S O E E S N E M C A E Y I N K
O R K N M C E E I L R V T J G
N O R I P M S R L T X Y H M F
R E V L I S A A H W H O T X M
Q A N V I L M H T A A L I F Z
U N J T H F O L P W F L M A R
R A I O F U T L I P R A S R G
Q E H T I M S K C A L B K R Y
S R E D S M I T H A N F C I U
T I N P X K D G D A N N O E H
F E E S V B O U L C G P L R O

ALLOY
BAR
FAHRENHEIT
FORGE
IRON
NAIL
SILVER
TONGS

ANVIL
BLACKSMITH
FARRIER
GUNSMITH
LOCKSMITH
NECESSITIES
SWAGE
WIRE

APRON
COPPER
FIRE
HAMMER
MALLEABLE
REDSMITH
TIN
ACME



Manatee Village Historical Park
 1404 Manatee Avenue East
 Bradenton, Florida 34208
 Manatee County Historical Commission
 & Manatee County Clerk of the Circuit Court
 Historical Resources Division

Manatee Village Historical Park

Blacksmith Activity Book

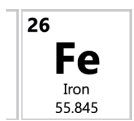
Answer Key

No. 127. Wrought Iron Washers. The various sizes are large enough to easily slip over the size bolt given.

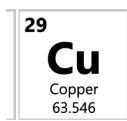
For bolt, inches,	$\frac{1}{4}$	5-16	$\frac{3}{8}$	$\frac{1}{2}$
Per doz.,	\$0.02	.02	.03	.05
Per lb.	.08	.07	.06	.05
No. in lb.	139	119	119	20

Chemistry Corner Answer Key

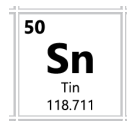
Iron: Fe



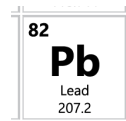
Copper: Cu



Tin: Sn



Lead: Pb



Math Activities Answer Key

In 1912, blacksmiths made about \$0.35 per hour. They worked about 54 hours a week.

How many years ago was 1912?

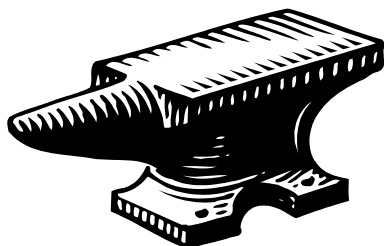
2020-1912 = 108 years

How much money did blacksmiths make in a week?

54 x 0.35 = \$18.90

How many hours would a blacksmith have to work to be able to buy the acme outfit of blacksmith tools (\$28.20)?

28.20 / 0.35 = 80.6 hours



\$7.50 to use	
Hoof Parers	\$1.12
Farrier's driving hammer	\$0.56
Farrier's tongs	\$0.30
Blacksmith's Hooped Bellows	\$3.98
Necessities total:	\$5.96
Total left to use: \$1.54	
<i>This is an example, answers may vary:</i>	
Easy Hoof Trimmer	\$1.20
Farrier's knife	\$0.32
Total	\$1.52
Total spent: \$7.48	

Blacksmith Geometry

How many square feet is in your garden? $25 \times 10 = \mathbf{250}$ square feet

You can plant one crop per square foot. How many crops can you plant?

$$\mathbf{250 / 1 = 250 \text{ crops}}$$

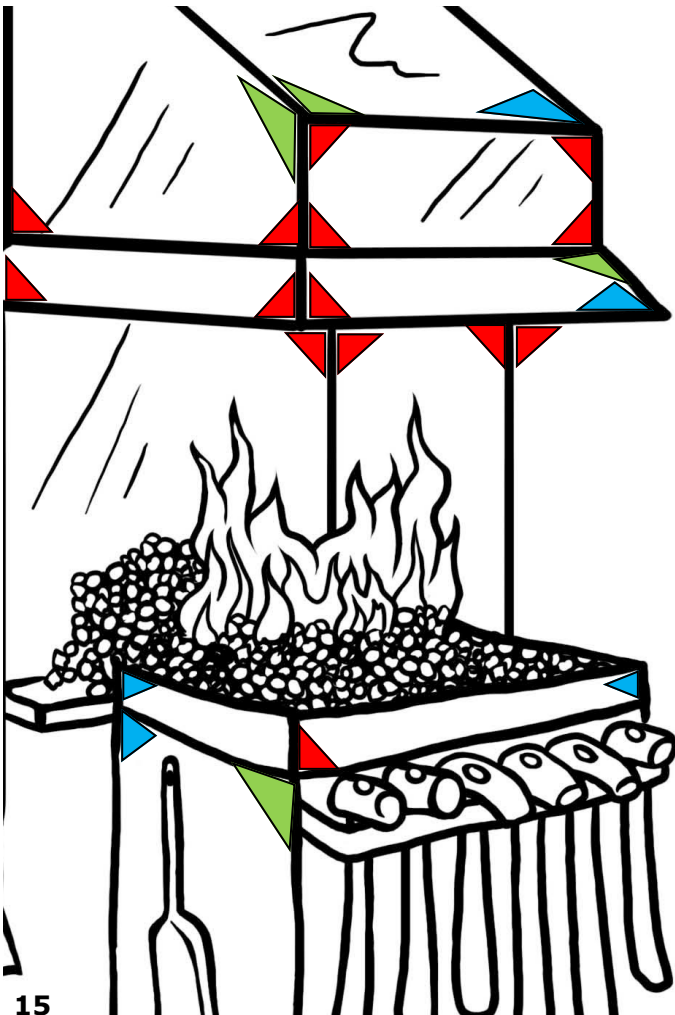
Do you need to find the area or the perimeter of your garden? **Perimeter**

Why? **The perimeter is the distance around a shape; area covers the entire surface of the shape. Perimeter helps us calculate the barbed wire fencing we need.**

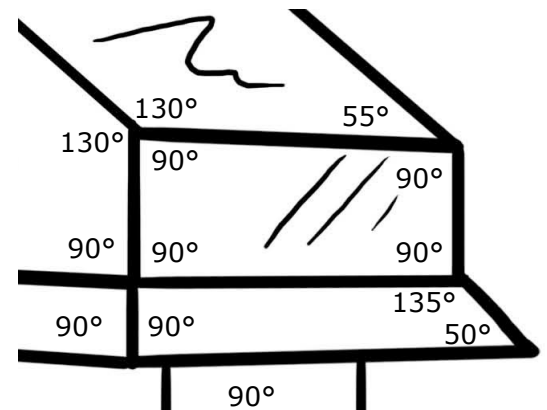
How many feet of barbed wire do you need to buy? $\mathbf{10 + 10 + 25 + 25 = 70 \text{ feet.}}$

The box contains **576 nails ($12 \times 48 = 576$)**, so **Yes**, you will have enough.

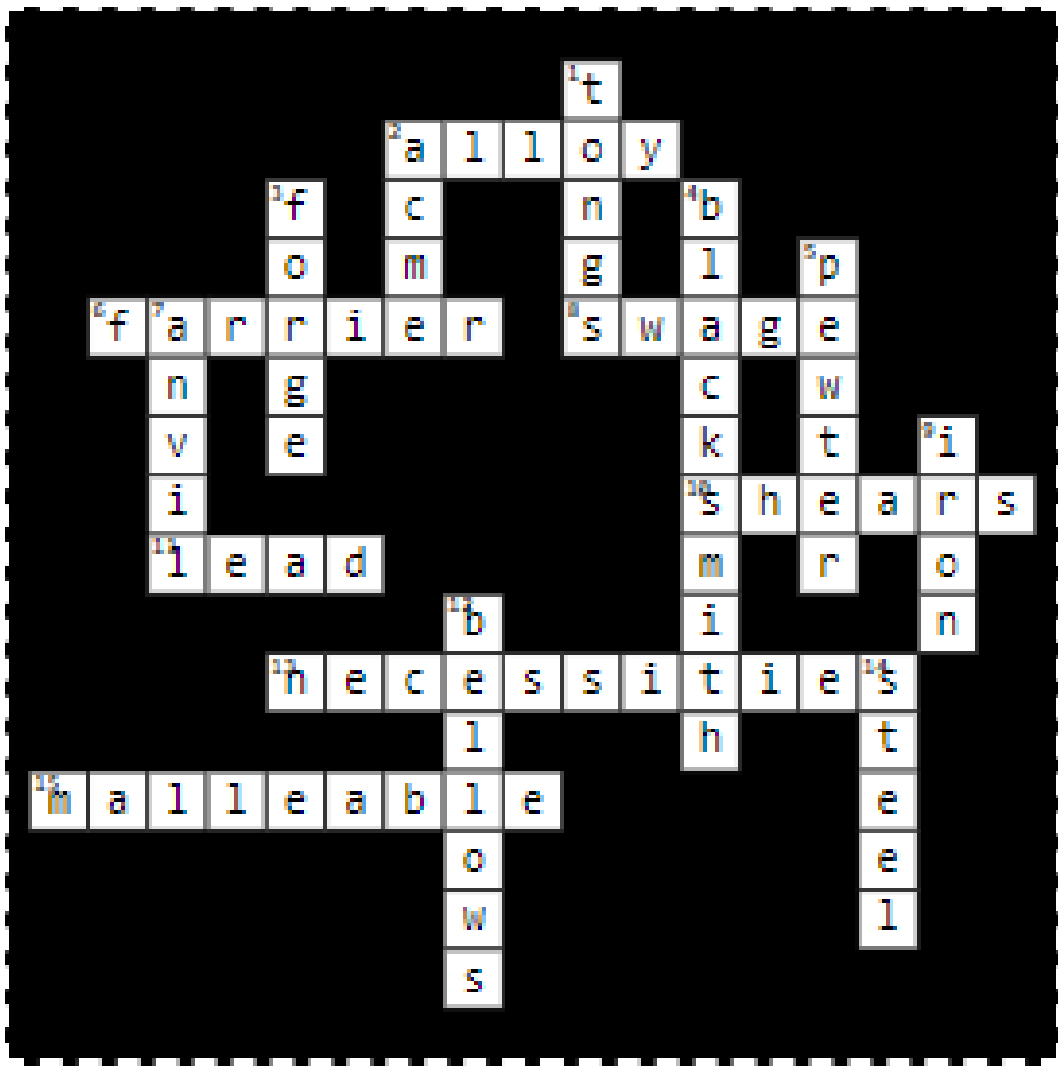
If you have 490 nails, how many nails do you use per foot of your fence? **Your fence is 70 feet: $490 / 70 = 7$** , so you will use **7 nails per foot.**



In the picture to the left:
Color the right angles red
Color the acute angles blue
Color the obtuse angles green



Crossword Puzzle Answer Key



There is no answer key for the word search

Vocabulary Word Pronunciations

Malleable: ma·lee·uh·bl

Necessities: nuh·seh·suh·teez

Farrier: feh·ree·ur

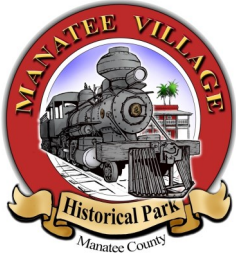
Swage: sw-age

Anvil: an-vul

Forge: forj

Acme: ak-me

Fahrenheit: feh·ruhn·hait



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Bradenton, Florida 34208
Manatee County Historical Commission
& Manatee County Clerk of the Circuit Court
Historical Resources Division

Manatee Village Historical Park

Blacksmith Activity Book

**Created by Manatee Village staff
with resources from:**

- ⇒ Sciennotes.org: periodic table of elements
- ⇒ Old Kiln Museum Trust: coloring sheet
- ⇒ Archive.org and Winterthur Library: 1912 Sears Catalog, no. 124
- ⇒ Federal Reserve Bank of St. Louis: Union Scale of Wages and Hours of Labor, 1907 to 1912 : Bulletin of the United States Bureau of Labor Statistics, No. 131
- ⇒ Jock Dempsey: coloring sheet
- ⇒ Education.com: coloring sheet
- ⇒ Crossword Labs: crossword puzzle
- ⇒ Discovery Education: word search

**For more educational activities, visit:
www.manateevillage.org/resources**