



# Metalwork

- This program will last 4 hours
- In program covers requirements 3 a-c, 5 d- Option 4-blacksmith option 2, 3 a-d, and 4 a-c
- **Pre-work Covers Requirements 1, 2 a-d, 4, and 5 d- Option 4-blacksmith option #1- name and describe the use of a blacksmiths' basic tools.**
- Please bring your **authorized blue card** and merit badge workbook.
- Important Information for Parents about how to prepare for a merit badge program at Frying Pan Farm Park

Important Information for Parents about how to prepare for a merit badge program at Frying Pan Farm Park

Make sure you are aware of the requirements and activities for the merit badge that you are registering for. The full requirements for all badges can be found online. Some merit badges involve a sizable time commitment as well as long term planning and in the case of Metalwork, the scouts will be working with machinery that will require them to listen attentively to the instructor and follow every single safety rule. This therefore may not be appropriate for younger scouts.

Merit badges also require a certain amount of work completed independently by the scout. This will often times involve planning ahead and possibly visiting other sites. This work is called "pre-work" because if it is completed when the scout comes in to do the program then they will have fulfilled all the requirements for the merit badge and the counselor will be able to sign their merit badge card. If that work is not completed, we will work with the scout and the scout's family to schedule times for the scout to come in when the work is completed, have it reviewed by a qualified counselor and then signed.

The metalworking merit badge will introduce the scout to the rewarding art of working with metal. The mastering of this craft will not happen in one session. This program is designed to introduce the basics of metalworking by focusing on shop safety, basic tools, and techniques. As Frying Pan has a historic blacksmith shop on premise, the instructor has elected to fulfil the requirements of the blacksmithing option.

Scouts **MUST be dressed appropriately** to participate in this badge. Appropriate clothing includes leather, closed toed shoes (boots preferred), natural fiber long pants such as jeans or canvas pants, and natural fiber shirt such as cotton. If scouts are not properly dressed, they will not be allowed to complete the blacksmithing option. All other safety equipment will be provided by the park including shatter proof eye protection, leather gloves, and shop apron.

The metalwork merit badge is one 4 hour session. Scouts should bring a snack and plenty of water as working in the shop can be a tiring activity to the unexperienced metalworker. The majority of this badge will take place in the Moffett Blacksmith shop.

It is the goal of the instructor to have all scouts finish the day with a completed blue card. However, it will be difficult to complete all of the blacksmithing projects if the scout is not focused and determined

to work on all projects. If possible, have your scout condition themselves for this badge by having them practice swinging a 1-2 pound hammer to drive nails or strike a discarded car tire.

**We do not have blue cards here at Frying Pan.** Please bring your authorized blue card to the program in order to get it signed and officially meet the requirements of the badge.

Although it is not required, we invite and encourage that adults remain. There is no a fee for adults and you are sure to learn something. This will allow the instructor to concentrate more fully on the difficult task of imparting all the required information and assisting the scouts individually if necessary, while other adults keep the atmosphere calm and productive.

#### What to bring?

- Blue card
- Appropriate clothing (See 2<sup>nd</sup> paragraph above)
  - Scouts who are not appropriately dressed for class will not be allowed to complete the blacksmithing option. No refunds will be given for ill prepared scouts.
- Snack and water
- Pre-work

Below are the specific pre-work requirements for this merit badge:

#### Pre-work

The instructor recommends printing and filling out the Merit Badge Workbook for the pre-work listed below. The workbook can be found here: <http://usscouts.org/mb/worksheets/Metalwork.pdf>

Many of the answers can be found in the “Merit Badge Series” Metalworking book published by the BSA. If possible, purchase or borrow this book and read ahead of time to be best prepared for this merit badge.

1. Read the safety rules for metalwork. Discuss how to be safe while working with metal. Discuss with your counselor the additional safety rules that apply to the metalwork option you choose for requirement 5 (this will be the blacksmithing option).
2. Define the terms: native metal, malleable, metallurgy, alloy, nonferrous, and ferrous. Then do the following
  - a. Name 2 nonferrous alloys used by pre-Iron Age metalworkers. Name the metals that are combined to form these alloys
  - b. Name 3 ferrous alloys used by modern metalworkers
  - c. Describe how to work-harden a metal
  - d. Describe how to anneal a nonferrous and a ferrous metal
4. Find out about 2 career opportunities in metalworking. Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.
5. After completing the first 4 requirements, complete at least ONE of the options listed below.
  - d. Option 4 – Blacksmith
    - 1) Name and describe the use of a blacksmith’s basic tools.

For help or questions, contact Patrick McNamara at [Patrick.McNamara@fairfaxcounty.gov](mailto:Patrick.McNamara@fairfaxcounty.gov) or at 703-324-9759