



**Safety always comes first.**  
**Ask an adult to help you with this project if you are not experienced at using these tools.**

### **Materials**

- 1 propane or butane torch or campfire to heat up metal rod.
- 1 steel rod at least 1/2" diameter
- 1 oven mitt or heavy cloth
- 1 fine-tooth saw such as a hacksaw
- 1 grease pencil or magic marker
- 1 sheet fine grit sandpaper
- 1 old 1/4" drill bit
- 1 pair of vise grip pliers
- 1 old bamboo fishing pole
- 1 measuring tape
- Linseed oil and rag



### **Instructions**

Cut out a piece of bamboo, at least 18" to 20" long with a diameter between 3/4" and 1", from the bottom of an old fishing pole. Be sure to cut it so as to leave one end blocked by the fibrous material that is between the sections. (See Figure 1.)

Key of A - 14 inches  
 Key of F - 18 inches  
 Key of D - 21 inches

**For a 14 inch flute (key of A)**

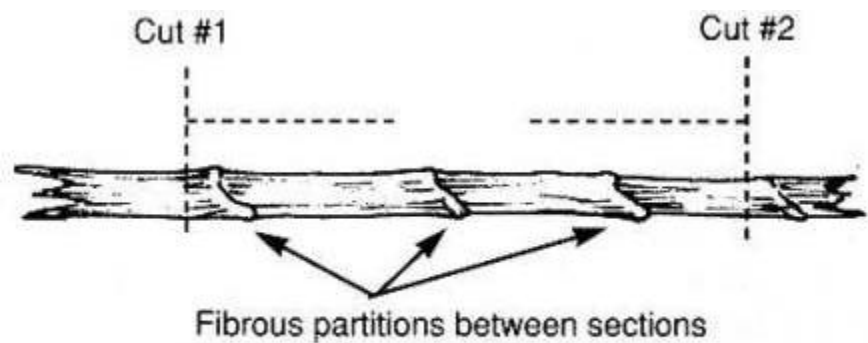
Hole	1	2	3	4	5	6
Distance from open end	2 1/4	3 3/4	4 3/8	5 5/8	6 3/4	7 7/8
Note	B	C#	D	E	F#	G#

**For an 18 inch flute (key of F)**

Hole	1	2	3	4	5	6
Distance from open end	2 7/8	4 3/4	5 1/2	7 1/4	8 5/8	10
Note	G	A	Bb	C	D	E

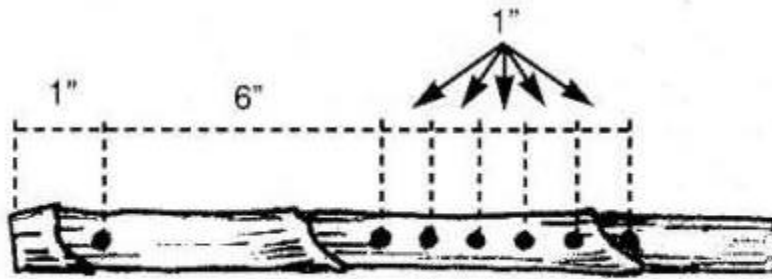
**For a 21 inch flute (key of D)**

Hole	1	2	3	4	5	6
Distance from open end	2 1/4	3 3/4	4 3/8	5 5/8	6 3/4	7 7/8
Note	B	C#	D	E	F#	G#



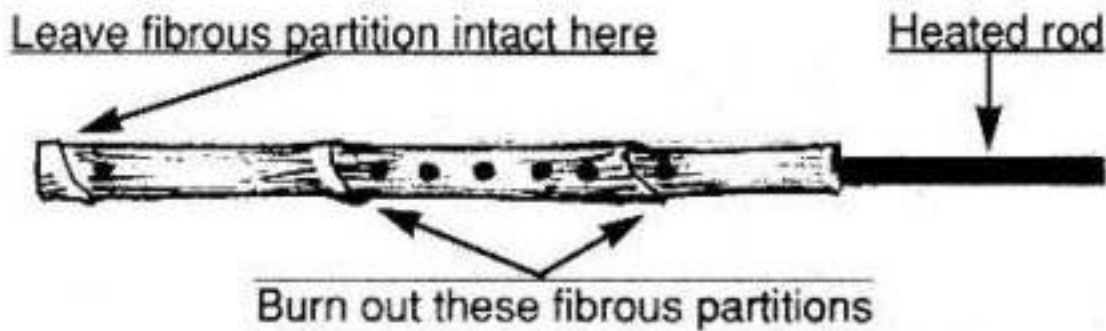
*Figure 1*

Measure and mark a spot 1" from the blocked end of the bamboo. Then measure a distance of 6" from your first mark and then make five more marks at 1" intervals. You should, when finished, have a total of seven marks. (See Figure 2.)



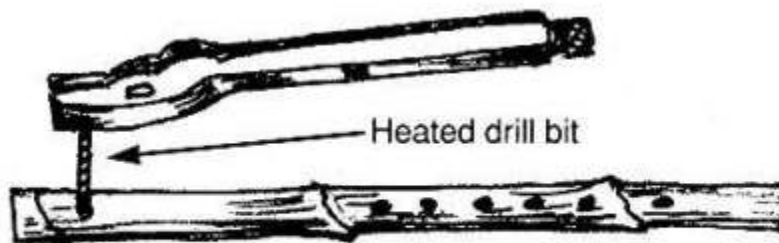
*Figure 2*

Your next step is to use the 1/2" steel rod to burn out the unneeded fibrous material. To do this, heat one end of the steel rod until red hot. \*CAUTION\* — BE SURE TO USE THE OVEN MITT OR A HEAVY CLOTH TO HOLD THE UNHEATED END OF THE ROD, AS IT WILL GET VERY HOT. When the rod is hot, insert it into the open end of the bamboo and apply moderate force to burn through the fibrous partitions. Be sure to leave the last (end) section of fibrous material intact. (See Figure 3.)



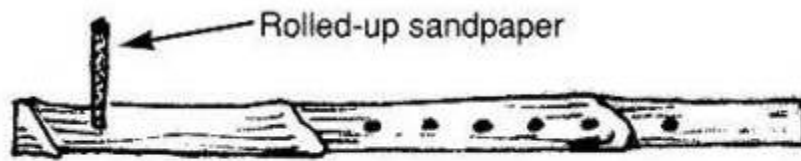
*Figure 3*

Next you need to heat the 1/4" drill bit until it is red hot. Use the vise grips to pick it up and burn out the holes at the places that you measured. Do not drill out the holes in the bamboo, as this may cause the bamboo to crack. (See Figure 4.)



*Figure 4*

Take a piece of fine-grit sandpaper about 3"x3" and roll it up. Use the rolled-up sandpaper to remove the black charcoaled bamboo from around the holes that you have burned. You can also use the sandpaper to widen the blow hole. This will make it easier to get a sound, but be sure not to make the hole too large. (See Figure 5.)



*Figure 5*

Rub a coat of linseed oil on the finished flute. Cover the last six holes with the first three fingers of each hand. Blow across the blow hole as you would on a soda pop bottle. Keep trying until you get a constant note. Now you can remove a finger to get a different sound. Experiment and practice. Have fun.