

# Put a Little Science Into Your Thanksgiving?



## Materials:

- Turkey Bones (the thinner the better. If the bones are too thick this experiment will take the better part of a week and you lose the excitement for it before it has even finished.)
- Vinegar
- A jar or glass. (I prefer a jar since I can close it.)

## Directions:

### Day One:

1. Clean off all the excess meat from the chicken bone.
2. Talk to your children about the bone, have them touch the bone and discuss if it is hard or if it is soft. Discussion is key to every experiment.
3. Pour vinegar into the jar.
4. Place in the bones and leave overnight. If they are thin enough, the experiment should only take a day but if they aren't really thin, it will take about two or three days.
5. Make sure everyone washes their hands.

### Day Two:

1. Remove the turkey bones from the vinegar. They should be soft and bendable.
2. Discuss what has happened to them. Allow your children to touch them and bend them.
3. Tie the bones into knots. You can tie them together or simply place knots in each bone. Sometimes the bones will slide out of the knot so I find just placing a clip on either end keeps them secure.
4. Place in a high cupboard out of the way (especially if you have any cats that might be tempted by a bone)
5. Leave the bones overnight (this should only take one night but check the bones before you pull them out for the last stage.
6. Make sure everyone washes their hands.

## Day Three:

1. Take out the bones and explore them.
2. Remove any clips if you used them.
3. The bones should be hard, and back to normal except that they are now knotted.

## The science behind it all:

Bones contain a substance called “calcium carbonate” and it is this substance that causes the bones to remain hard. When you add vinegar, which is an acetic acid, the chemical reaction occurs.

Carbon dioxide is created and you should see it in the vinegar as tiny bubbles. The carbon is taken from the bones and they begin to soften. When there is no longer any carbon in the bones, the bones can be bent and tied without fear of breaking them.

Since carbon is in the air around us, it is very easy for the reverse reaction to occur. When you leave the turkey bone out for the night, the calcium that is still in the bone takes the carbon back into the bone. This makes the bone hard again and since you had reshaped it, it will harden into whatever shape you created.

