



Video transcript

## How to Make Ice Sections

Robert W. Thacker

- In this video, we are going to make sections of sponges that are frozen in ice cubes.
- To get started, make sure that you have some eye protection, like glasses or goggles, gloves, and a lab coat.
- You are going to need some water to freeze the sponges in, an ice cube tray, labeled with the number of each specimen, and the sponge specimens.
- You will also need a way to cut them and manipulate them with forceps.
- We take our first sponge, and we just need to cut a small section of the sponge that will fit in the ice cube tray.
- And you want to place it into the ice cube tray in the way in which you will cut it.
- If you want a tangential section, you need to put the tangent of the sponge facing down.
- Or the surface of the sponge facing down.
- If you'd like a cross-section, you need to put the cross-section facing down.
- Then we'll take our second sponge, and cut a small piece that will fit into the tray.
- Once you have all the sponges in this tray, just add some water.
- You may need to reposition some of these sponges that float around.
- Make sure you have written which sponge goes with which number in the ice cube tray.
- Then you can put these in the freezer overnight.
- Once you have frozen the sponges in ice cubes, we can then section from those cubes using a razor.
- So first, we will make one of these sections, and the sponge in this case is on the bottom of the ice cube.
- If necessary, you might want to trim some of the ice first with the razor,
- But you want to very carefully shave as thin as you can across the surface of the ice cube.
- And a lot of these sections will not be perfect, but with practice, you will get one or two that will be very thin and will make a nice slide.
- And depending on the size of your sponge, you may get 2 or 3 on the slide.



- Today, we are just going to mount these with water, so this will be very temporary.
- If you want to make more permanent sections, please see some of our protocols on the website.
- I have already labeled the slide and now we can look at it on the microscope.
- It is good to start looking at your sections at a lower power, this is 40x.
- And now we can see that this sponge has a skeleton with a fiber reticulation.
- If we increase the magnification, we can see there that there are spicules inside these fibers.