This presentation will help you understand the names of the parts of the sample mill. A video will be presented later in the course that shows each part individually, and explains what the part does during the milling process. In order for the video to be effective, it is important that you understand what the pieces are called, and where they are located. Let’s get started.

This is a picture of a fully assembled sample mill. In this image, you can only see the parts of the mill that are on the outside. Let’s become familiar with the names of the parts and review their purpose briefly.

The exhaust tube – this tube is where excess particulate matter goes if not forced through the air separator.

The clamp – holds the exhaust tube in place on the sample mill.

The sample tube – is the part of the mill that the ground sample travels through while the milling process is taking place.

The plunger – is used to steadily place the sample in the sample input tube, is the sample gets stuck during grinding.
A paintbrush – a small paintbrush is very useful when cleaning particulate matter from the sample mill.

Input tube – the gray piece on the mill in the upper right, is where the fecal sample is placed in the mill.

The cover – the entire piece of the mill held in place by the clips is referred to as the cover.

The clips – there are four clips on the sample mill that hold the cover in place.

The jar – the glass jar shown in the picture seals tightly to the sample tube, and is where the ground sample ends up after milling is complete.

Again, these are the parts of the sample mill that can be seen when it is fully assembled. The video will cover how to unassembled the sample mill. Let’s take a look at what the parts on the inside of the mill look like, and what they are called.

When the cover of the sample mill is removed, you can see that it contains a gasket and O-ring.
The gasket is in place to keep from losing particulate matter, and force it down the sample tube.

The O-ring helps seal the cover on the top of the mill after the clips are secured.

The cyclone air separator is a plastic piece that fits securely in a hole just above the sample tube. The ground sample passes through the cyclone air separator into the sample tube.

As the fecal sample makes its way through the sample mill, it passes through a screen, which has 1 mm holes. Thus, once the material passes the screen, it is 1 mm or less in size.
The impeller is the part of the mill that spins at a high rotation per minute or RPM. As the material spins, it is broken into smaller and smaller pieces, until it can pass through the screen.

The peg in the center of the impeller allows it to spin.

The hex screw on the side holds the impeller in place.

A chamber ring is in place securely around the impeller, which is textured and helps in the process of breaking down material.

Finally the back of the sample mill has a tension screw, which is important when reassembling and operating the mill.