What’s Growing on
My Teacher’s Thumb?!  
(Dr. Mark R. Marten, 2006)

What germs are on our hands?  
There can actually be millions of different types of bacteria on your hands and fingers. In fact, there are also many different types of fungi and viruses as well. These very small germs or cells are called microorganisms or microbes.

Are these germs dangerous?  
Most of the microbes on your hands are not harmful to you. In fact, most of them protect you from bad bacteria which have a hard time competing with the harmless ones. So, even if you could wash them all off, you don’t necessarily want to. When you wash your hands, you are not killing all of them, just the ones that have jumped on recently and are probably bad for you. So, keep washing your hands, but do not expect that your hands will ever be completely free of microbes.

What’s the stuff in the Plates?  
The Petri dish is filed with a substance called agar, which comes from seaweed, and is a lot like jello. It contains all the nutrients required for most microbes to grow.

What are all those white spots?  
Most bacteria are only about one micron in diameter. That’s about 100 times smaller than the diameter of a single human hair. So, they’re much too small to see. In order to see them we culture or grow them on the agar plate. When your teacher’s thumb touched the plate some of the bacteria stuck to the agar. Because we’ve added nutrients to the agar the individual bacteria grew and eventually will became a colony big enough for us to see with our eyes.

How fast do bacteria grow?  
Now here’s the cool part - a single bacteria can double or become two bacteria in as little as 20 min. So, if we wait just a few days we have lots of bacteria in the spot where there was just one to begin with. This clump of bacteria is called a colony and the colony is big enough for us to see.

Sources…

- Department of Energy Office of Science (http://www.newton.dep.anl.gov/archive.htm)
- University of Georgia College of Agricultural and Environmental Science (http://pubs.caes.uga.edu/caespubs/pubcd/B693.htm)