

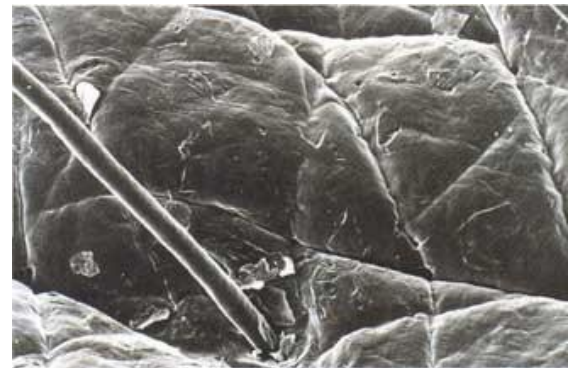
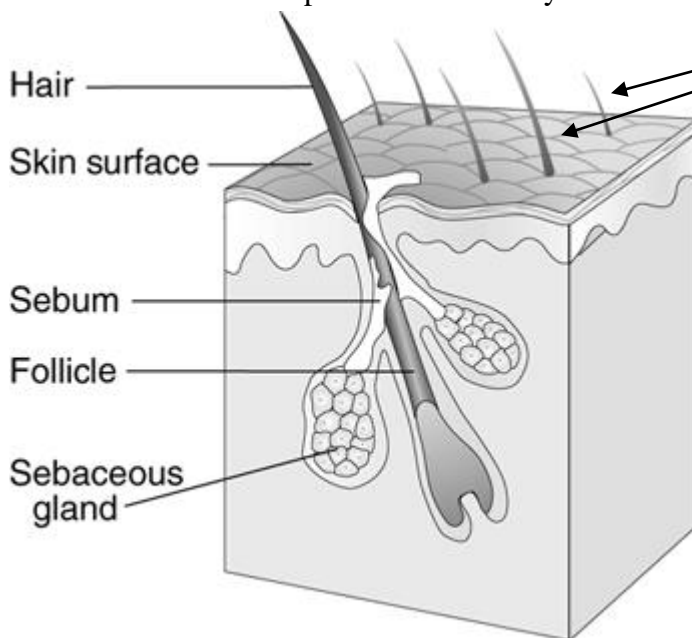
Let's think about what makes up your body. If you look through a very powerful microscope at skin, what will you see? If you look through a magnifying glass at the skin on the back of your hand, you will see skin details -- the hairs and what they come out of, the little cracks on the skin, places that might be dry and dead.

Mini Lab- "HAND LENSES"

--use a magnifying glass to look at the back of your hand.

If you use a microscope which magnifies your skin even more, you can see new details. Your skin no longer looks flat, but bumpy.

If you look through a microscope with high magnification, your skin will suddenly look like a collection of small pebbles. What do you think those "pebbles" are?



Those pebbles are skin cells. All of your skin is made from millions of these tiny cells. Some of you may have heard about cells before. What do people in your class think they are?

- What are the tiniest living parts of a heart?
- What are the tiniest living parts of skin?
- What are the tiniest living parts of blood?

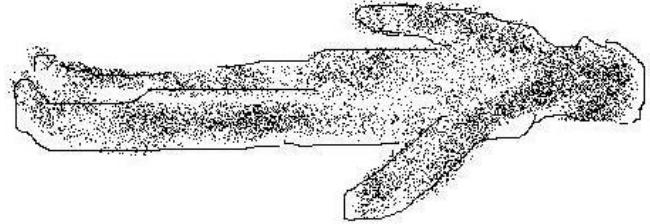
If you looked at muscle tissue through a microscope you would see something very similar to what your hand looks like under the microscope -- millions of tiny little cells joined together. These cells would be different from skin cells, but it's the same idea: muscles and skin are made out of cells. Their tiniest living parts are cells, just as sugar granules are the tiniest parts of sugar.

Are all parts of bodies made of cells? What about brains? Hearts? Stomachs? Bones? What about the fluids inside your body, like blood? How could you tell if they were?

Everything in the human body is made of cells including bone and the insides of teeth. The only exceptions to this are strands of hair and fingernails. Both are simply proteins. They do have living cells at their base which are building them, however. If hair and nails were living, it would hurt to cut them!

LAB – “THE SANDMAN”

1. Take a cup full of wet sand. Mold and shape it to look like a living organism of some kind: a person, a plant, an animal. Think about what each grain of sand represents. Think about how this sand model is different from a living organism.



All of your body's cells are living. They need food and oxygen just like all living things do. They get rid of waste products, just like all living things do. They're busy all the time, doing all kinds of different things. You'd be surprised at the different activities that go on in cells.

So now the question is, does the food you eat go to your stomach, get used somehow in your stomach, and then go straight out through the other end? Or does the food you eat perhaps just get changed somehow in your stomach, and then move to your cells, to be used in your cells? Choose one of these two possibilities that you think makes the most sense to you at this time. To make this choice think about this: where does your body need fuel for energy? Where does your body need "raw materials" for building new muscles, skin, blood, etc. as you grow?

Mini Lab- “BODY CELL VIEWING”

Look at the body cells in the microscopes across the counter. Quickly sketch their shapes in your packet. Why are they not all the same shape?

People eat food because it tastes good. But it is really your cells that are crying out for food. You need food for two important reasons.

First, food is stored energy which is released in your body for all of the activities you do every day.

Second, the food you eat is needed for growing and for repairing or replacing parts of our bodies when they get damaged or wear out.