

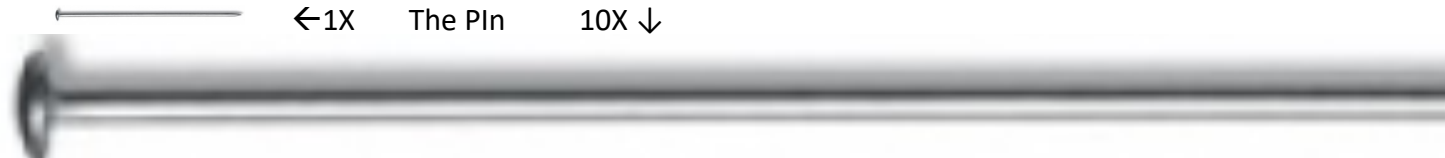
HOW Big?

Name _____

Per _____

Reference: Central Science → Life Science → Cells → Interactive: How Big?

- Background:** The microscope (and increased magnification) has allowed us to view and increase our understanding of cells and microbes. Our compound microscopes magnify up to 500 times (500X), allowing us to see most cells with some detail. At 500X, bacteria are barely visible. Viruses are not visible.



- "Start the Animation". You will see a green "ruler" or scale next to a thumb and pin. Use pencil to mark the length of the "ruler" on the top margin of this paper. ↑
- Change the magnification. Notice the units change as the magnification changes.
- Use your "paper ruler" to determine the length and width of each of the following. **You may use these Abbreviations:** mm = millimeters μm = micrometers (Practice writing this one!) nm = nanometers
- Complete the Chart. **Have checked while animation is on the screen.**

#	Description	Write magnification used as ____X	Diagram: Draw an outline drawing of one (only one!).	Write length X width. Include units.
1	Human Hair			(Hair Length unavailable) Length X ____ μm
2	Dust Mite (Found in dust and bedding. May cause allergic reactions.)			
3	Ragweed Pollen (Contains male cell of ragweed flower. Often causes allergic reactions.)			
4	Lymphocyte (Human white blood cell. Produces antibodies that kill both bacteria viruses.)			
5	Red Blood Cell (Human red blood cells carries oxygen from lungs to cells.)			
6	Baker's yeast (Used in bread dough. As it lives and use food, it gives off CO ₂ gas which creates bubbles and makes bread rise.)			
7	E. coli (Bacteria that help digest your food. They help in our intestines, but make us sick if they get in our stomachs.)			
8	Staphylococcus (Bacteria that cause minor and serious "Staph" infections, including skin infection with puss.)			
9	Ebola virus (Virus that causes serious illness with internal bleeding, mostly in Africa. Transferred by bodily fluids.)			
10	Rhino virus (Virus that causes the common cold. Spread in air by sneezes, on surfaces and by contact.)			

Have checked while animation is on the screen.