Name:

**Danger, Danger Uncontrolled Cells on the Loose!**

After looking at the pictures from the slideshow you are probably wondering why I showed you these gross pictures. Well fear not there is a reason for us looking at these pictures. As you guys already know from our class discussion these were pictures of tumors and cancer cells. It is now your turn to be detectives and figure out how these cells got here and why this funny looking mass appeared. Answer the questions below to aid in your discovery of these interesting but dangerous cells. You may use your book, the internet and any other sources you can think of to get your information.

1. When normal cells grow too large what happens to the information inside the cells and the materials that are exchanged with the cell?
2. What do surface area and volume have to do with cell growth? What type of relationship do they have?
3. How does an increase in volume affect the relationship of surface area and volume? Does this pose a problem for the cell?
4. What protein controls cell growth and division in normal cells?
5. When normal cells grow and divide what kind of layer do they form? Do cells continue to grow when they reach this point?

Now that you have some basic knowledge about regular cells it is time to compare them to cancer cells, for each property given explain what happens for both types of cells, does the property stay the same or does it differ due to the changes cancer cells go through. For example if regular cell growth is regulated by cyclin, you would need to research if this stays the same for cancer cells or if it is different. If it is different be sure that you can explain this difference to the class:

|  |  |  |
| --- | --- | --- |
| Properties | Regular Cells | Cancer Cells |
| DNA |  |  |
| Material Exchange |  |  |
| Surface Area:Volume |  |  |
| Use of Cylcin |  |  |
| Cell Formation |  |  |
| Condition of surrounding tissue |  |  |