

- I. Activity: [The Faces of Cancer](#) (NIH Activity) [Teacher Guide](#) (~ 40 minutes)
- II. Introduce Problem: During his yearly physical, a strange mole is discovered on the arm of the president of a multinational corporation headed here in Lake Zurich. (~5 minutes)
 - a. Students deductively determine that the mole is possibly a cancer.
 - b. Students figure out that in order to learn more about what happened to these cells, they must understand more about cell controls and how cells grow.
 - c. Students should already know that DNA in the nucleus controls the cell, they need to gain background information on how DNA grows and changes
- III. Background information: DNA Replication (1 class period)
 - a. Students should learn that the DNA replicates itself, with few mutations.
 - b. Students now need to know how the cell grow and how new cells are made.
 - c. DNA Replication Lab
 - d. [Cancer as a Multi-Step Process](#) (NIH Activity) [Teacher Guide](#) (NEED LAPTOPS~ 2 class periods)
 - e. Replication Quiz
- IV. Background information: Cell Cycle and Mitosis(1 class period)
 - a. Mitosis Lab (1 class period)
 - b. Students should learn the rate of growth for normal cells and how cells divide and grow.
 - c. [Cancer and the Cell Cycle](#) (NIH Activity) [Teacher Guide](#) (NEED LAPTOPS~ 40 minutes and homework)
 - d. Cell Cycle and Mitosis Test
- V. Problem: What causes skin cancer?
 - a. Students will take notes from [Skin Cancer PowerPoint](#) for background information. (~ 20 minutes)
 - b. Skin cancer is caused by mutations in the genes from inheritance or environment.
 - c. UV Bead Lab: What kinds of products can help prevent skin cancer? (~ 40 minutes)
- VI. Problem: Can we do a better job of blocking UV rays?
 - a. Students will take notes from [Sunscreen PowerPoint](#) for background information (~ 15 minutes)
- VII. Assessment: [Evaluating Claims about Cancer](#) (NIH Activity) [Teacher Guide](#)
 - a. Students re-run UV Bead Lab as alternative assessment to show the most effective ways of preventing skin cancer. (2 class periods)

Materials Needed for Labs

Faces of Cancer Cards

Cancer as a Multi-Step Process Cards

Evaluating Claims about Cancer Cards

UV Beads -<http://www.stevespanglerscience.com/product/1350> or
<http://www.teachersource.com/catalog/index.html>

Sun Blockers (sunscreens, sunglasses, cloth)

Plastic Bags

UV or Black Light