

## 2011-2012 Lesson Plan for Henrico 21 Awards

Lesson Title: Cell City Project

Target Grade/Subject: 7th Grade Life Science

Length: 225 minutes

\*\*\* *This lesson has been taught*

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*Summary: The teacher introduced animal and plant cells to students in a lecture style class period. They were given a brief description of animal and plant cells, cell theory, and the different organelles and their functions. Students were then assigned the Cell City Project. A document containing the directions and rubric were uploaded to SchoolSpace for student access. The students worked in groups of no more than three to research a city of their choice and compare the parts of the city to the different organelles found in the cell based on their function. Students used Google Earth to study their city along with other Internet resources. Students used GoogleDocs to organize their research on the parts of the cell, the city, and organize pictures to use in their final product. Students were then allowed to select any digital media tool to present their project to the class.*

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Essential questions:

- 1) Describe the parts and functions of animal and plant cells.
  - 2) *Explain how a cell is analogous to a city.*
  - 3) *List the three components of the cell theory.*
  - 4) *Describe the scientist who contributed to the cell theory and their specific contributions.*
  - 5) *Compare and contrast plant and animal cells.*
  - 6) *Examine how the parts of the cell work together, like the parts of a city to carry out life processes.*
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### Lesson Development:

Process/Tasks/Assessment:

- *The teacher introduced the students to the cell unit in a 50 minute class period through lecture and note taking.*
- *Students were then assigned the Cell City project to further their knowledge and understanding on cells (plant and animal).*
- *The teacher explained the instructions and rubric of the project to the class as a whole. Both which were available for student access on SchoolSpace. The teacher also went over how to use GoogleDocs with the students.*
- *Student groups used Google Earth to explore the design, land features, and structures found in their city.*
- *Students used the Internet to research their city, cell parts, cell theory, cell theory scientist, and to locate images. Research was documented on GoogleDocs.*
- *The GoogleDocs was shared among all group members and with the teacher.*
- *The teacher reviewed the research on the GoogleDocs and inserted comments and suggestions to the groups throughout the research process.*

- After researching, students selected a digital media source of their choice. The teacher provided a list of several media tools for the students to choose from, but the students were not limited to this list. The teacher was also ready to provide instructions on different media tools if the students requested them.
  - The teacher assisted the students if needed in the creation of their presentation. Majority of students used Google Presentation, Powerpoint, and MovieMaker.
  - The students presented their project to the class and were graded using the rubric that was introduced at the beginning of the lesson.
  - Students were also tested on the essential questions on a culminating unit test.
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### TIP Chart Assessment:

#### Categories:

Research and Information Fluency: Approaching: Students had to make their own connection between the parts of their city and the parts of the cell. They were given the freedom to select the most appropriate digital tools and information sources.

Communication and Collaboration: Ideal/Target: Students selected their own partners and digital tools to communicate and collaborate. They organized their roles within the group to gather research and share with one another whether at school or at home through the use of GoogleDocs.

Critical Thinking and Problem Solving: Approaching: Students had to determine how to compare the parts of a cell to the city they selected based off their research. Digital tools were applied to think critically and solve a task that involved higher order thinking skills.

Creativity and Innovation: Approaching: Students created meaningful, original work within the guidelines set forth by the teacher. Students were very creative in comparing the parts/functions of their city to the parts/functions of the cell