Grade: 5th
Subject: Virginia Studies

Animal and Plant Cells in Minecraft Edu

Background: You have been studying plant and animal cells in science. Use what you have learned to create Minecraft models of the cells that can be toured by others.

Design Challenge: Design and build a model a plant and/or animal cell in Minecraft with your group. Each model will need to have a path that other students can "travel" through the cells for a tour of the cell. Each part of the cell will need to be labeled with signs or info blocks.

Criteria:

- All parts of the cell must be evident and represented in the model.
- The model must look like a cell.
- The cell must have a path so that other students can travel through the cell for a tour.
- The model must have a coordinated plan of block placement and/or color choice.
- Signs or information blocks must be used and be correct, informative, and placed near the components of the cell.
- All group members contributed to the construction of the cell.

Materials:

- Any block in the inventory that will represent the parts of your model.

Brainstorming and Planning Questions to consider:

1. What Minecraft materials will represent the various parts of their cells?
2. What will be the scale of the model?
3. Will the model be a flat 2d model or will it have some 3d aspects about it?
4. What will the signs or info blocks have written on them?
5. How will each group member contribute in the virtual world?
6. What are the expectations of each group member?

Adapted from 8Bit Cell Tour by Joshua Thom - https://education.microsoft.com/Story/Lesson?token=D2CA4

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Process

Group Members:

Computer Info:

Problem to solve:

State the problem in your own words.

Brainstorm (Explore) Ideas to Meet the Design Criterial

Questions to consider:

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Design Drawing and Plan for Building Prototype

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Test, Evaluate (After Testing the Design), Redesign Plan (Repeat this step as often as necessary.)

Testing: What was tried? What was the result?

Evaluating: Does it meet one or more of the design criteria?

Redesigning: What changes could we make for a design that meets more of the criteria?

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Rubric:

Criteria Assessed	No Evidence 0	Attempts to meet criteria shows limited understanding 1	Meets some criteria with room for improvement 2	Meets most criteria with room from improvement 3	Meets all criteria 4
Guided Portfolio					
The problem is restated.					
A clear plan for the cell is indicated.					
Students discussed and answered the brainstorming questions.					
Student reflected on the project and evaluated their own work.					
Project					
All parts of the cells are included and visible in the model.					
The model looks like a cell.					
The cell contains a path so that other students can travel through the cell for a tour.					
The model appears to have a coordinated plan of block placement and/or color choice.					
Signs or information blocks are used correctly and are informative and placed near the components of the cell					
All group members contributed to the construction of the cell.					
Oral Presentation/Group Work					
The student uses grammatically correct language.					
The student uses clear and specific vocabulary to communicate ideas.					
The student speaks clearly.					
The student uses appropriate volume and pitch.					
The student speaks at an understandable rate.					
The student worked cooperatively with his or her group and was an effective group member.					

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