Grade: 4th and 5th
Subject: Science

Build the Solar System

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

Design Challenge: Design and build a model of the solar system in Minecraft using code. Each planet in the solar system will need to be labeled with signs or info blocks.

Criteria:

- All parts of the solar system must be evident and represented in the model.
- The model must look like the solar system.
- The solar system must have a path so that other students can travel through the solar system 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 solar system.
- All group members contributed to the construction of the solar system.

Materials:

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

Tools:

Computer with MinecraftEDU

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 student brainstormed multiple ideas.					
The student included notes or sketches about problems that occurred and their solutions.					
The student included notes evaluating the solution *after* it was tested?					
Project					
All parts of the solar system are included and visible in the model.					
The model looks like a solar system					
The solar system contains a path so that other students can travel through the solar system 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 solar system in relation to the sun					
All group members contributed to the construction of the solar system.					
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.					

Teacher Names: Roanoke County ITRTs School

•SOLs: 4.5, 4.6

MinecraftEDU Solar System Build

Minecraft Login: _____@student.rcps.us

SOL. 4.7 – The student will investigate and understand the organization of the solar system.

Instructions

- Work with a partner. One partner will open the Solar System Template World while the other partner will join the world.
- Based on the size and location of the Sun, construct a model of the solar system.
- Use the planning sheet to decide how you will build each planet and what kind of information you will provide about this planet on a board, slate, or poster.

Some things to think about:

1. Size and location of planet
2. Facts about planet
3. Color blocks that you need to use

Build Faster with Code!!

- Press the letter C on your keyboard.
- Choose MakeCode
- Select New Project
- Use the "on chat command" to create your code – customize the name
- Click on Advanced/Shapes and Click and Drag the code that says "sphere of"
- Drag the block of code inside the "on chat command"
- Click builder to select the builder position code and use this block as the "center" of your build. This means wherever you are standing will be the center of the build.
- Press the green play button, close out of MakeCode, press T on the keyboard and type your chat command customized name.
- **Hint:** The radius of the Sun is 25 blocks. Make sure your plants are relative in size to the sun.

Warning:

Do not hit the letter C in the middle of MinecraftEDU generating a build from Code. If you do, it will stop the building of any previous code. Let it finish the job before creating new code.

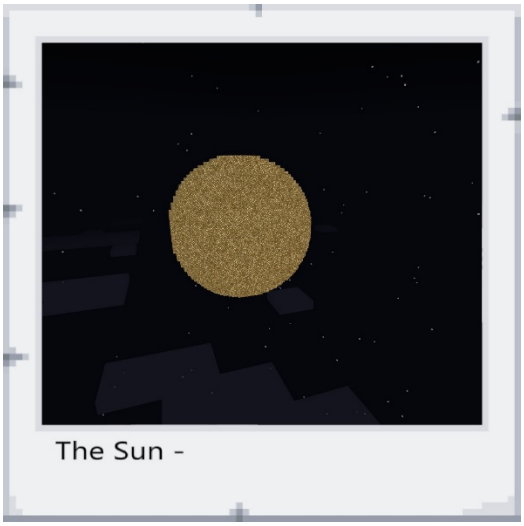
MinecraftEDU Solar System Build

Minecraft Login: _____@student.rcps.us

SOL. 4.7 – The student will investigate and understand the organization of the solar system.

Instructions

- Work with a partner. One partner will open the Solar System Template World while the other partner will join the world.
- Based on the size and location of the Sun, construct a model of the solar system.
- Use the planning sheet to decide how you will build each planet and what kind of information you will provide about this planet on a board, slate, or poster.



Some things to think about:

1. Size and location of planet
2. Facts about planet
3. Color blocks that you need to use

Build Faster with Code!!

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Jupiter Block: **Earth Block:**

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Radius:

What will your board say about Jupiter?

Radius:

What will your board say about Earth?

Saturn Block:

Radius:

What will your board say about Saturn?

Venus Block:

Radius:

What will your board say about Venus?

Uranus Block:

Radius:

What will your board say about Uranus?

Mars Block:

Radius:

What will your board say about Mars?

Neptune Block:

Radius:

What will your board say about Neptune?

Mercury Block:

Radius:

What will your board say about Mercury?

Sketch Planet Diagram

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