

Grade: 4th and 5th

Subject: Music and Science

Build a Song in Minecraft: Education Edition

Background: You have been learning about notes on the scale and how to play those notes on an instrument. You have also been learning about rhythms and pitches.

Design Challenge: Design and build Mary Had a Little Lamb using a note block path with the following materials:

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| <ul style="list-style-type: none">Note blocks = pitch | <ul style="list-style-type: none">Repeaters = extend power; delay time between note blocks |
| <ul style="list-style-type: none">Red Stone = power supply | <ul style="list-style-type: none">Grass Blocks |
| <ul style="list-style-type: none">Gold Blocks = quarter rests | <ul style="list-style-type: none">Button or Lever = switch for power |

Criteria:

- The song should be recognizable with rhythms and pitches
- Use a snake pattern to build the note path (Note path should be no longer than 5 note blocks long before turning the path back around)
- Make red stone circuit that can play music using note blocks.
- Use buttons or levers to provide on/off switch for power

Brainstorming and Planning Questions to consider:

1. What Minecraft materials will represent rhythms and pitches?
2. How will create a note path?
3. What will the signs or info blocks have written on them?
4. How will each group member contribute in the virtual world?
5. What are the expectations of each group member?

Process

Group Members and File Name:

Computer Name:

Problem to Solve:

State the problem in your own words.

Brainstorm (Explore) Ideas to Meet the Design Criteria

Questions to consider:

1. What Minecraft materials will represent
2. How will create a note path?
3. What will the signs or info blocks have written on them?
4. How will each group member contribute in the virtual world?
5. What are the expectations of each group member?

Design Drawing and Plan for Building Prototype



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?

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 building the song is indicated. | | | | | |
| Students discussed and answered the brainstorming questions. | | | | | |
| Student reflected on the project and evaluated their own work. | | | | | |
| Project | | | | | |
| The song should be recognizable with rhythms and pitches | | | | | |
| All group members contributed to the construction of the song. | | | | | |
| If time permits, record a video tour of your song using Flipgrid. | | | | | |
| 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. | | | | | |