

Girls who Game:

Using Mathematics in
Minecraft to Model Solutions
to the 17 UN Sustainability
goals

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<https://bit.ly/3Fxcdre>



Why Listen to me?

- High School Math teacher for 16 years
- STEM academy coordinator for 6 years
- Girls Who Code facilitator for 7 years
- Girls Who Game facilitator for 2 years
- WIT Woman of the Year- STEAM Education
- NCWiT Aspirations in Computing Educator Award

Also, I'm a woman and I play games



Why do we need girls in gaming?

The gaming industry generates over \$200 billion each year but only 30% of the industry workforce is female

workforce is female





What is Girls Who Game?

A program sponsored by
Dell that develops both
STEM and leadership
skills through gaming

skills through gaming



So.... The girls just pay video
games?

Games with a purpose

The UN 17 Sustainability Goals

Each Season, one of the 17 goals is selected as a main focus

Students work together to research and come up with solutions to the problem



They then model that solution through Minecraft

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So.... What does that look like?







Competency	Criteria	Emerging	Developing	Advancing	Mastering
Communication	<ul style="list-style-type: none"> Audio is clear voices are clear and articulate Script is paced for audience understanding Script and video are recorded with synchronization and alignment 	<p>It is a challenge to hear your audio presentation.</p> <p>It is a challenge to understand what you are saying. The flow is choppy throughout.</p> <p>The script and video are out of synch.</p>	<p>Sometimes it is hard to hear your presentation. Some of the voices are clear. Focus on smoothing out the presentation.</p> <p>The script and video sometimes matched.</p>	<p>The presentation is easy to hear.</p> <p>Voices are clear.</p> <p>Good flow to the presentation.</p> <p>The script and the video are well matched.</p>	<p>It is very easy to hear your presentation.</p> <p>Voices are clear and articulate.</p> <p>The club must have written out their scripts and rehearsed!</p> <p>The presentation flowed the whole time!</p> <p>The script followed the video perfectly!</p>
Collaboration	<ul style="list-style-type: none"> Inclusion of all team members with cleverness Applies and identifies the perspectives of others (mentors, principal, student council, parents) with resourcefulness and originality 	<p>Very few members of the team are part of the submission.</p> <p>Other perspectives, are not part of the submission.</p>	<p>Some members of the team are part of the submission.</p> <p>It was a challenge to determine if other perspectives are included in the submission.</p>	<p>There is evidence that most members of the team are part of the submission.</p> <p>Other perspectives, such as mentors, are included in the submission.</p>	<p>There is evidence that all members of the team are part of the submission.</p> <p>Other perspectives, such as mentors and more, are included in the submission.</p>
Creativity	<ul style="list-style-type: none"> Demonstrates extension of existing community use s/ ideas with resourcefulness and imagination Demonstrates new community uses / ideas with 	<p>Try to come up with your own ideas!</p>	<p>There are some new ideas in the submission.</p>	<p>There are new ideas and extensions to existing ideas in the submission.</p>	<p>Wow - very imaginative! We never would have thought about that! There are new ideas and very imaginative extensions to existing ones.</p> <p>Your team must have brainstormed and iterated a lot!</p>

Citizenship	<ul style="list-style-type: none"> Models inclusivity, accessibility, and sustainability with empathy and kindness 	Your submission and presentation demonstrate little empathy or kindness.	Your submission and presentation demonstrate some empathy, kindness and shows how your build is beginning to be inclusive, accessible, and sustainable.	Your submission and presentation demonstrate empathy, kindness and is inclusive, accessible, and sustainable.	Your submission and presentation demonstrates empathy, kindness and is inclusive, accessible, and sustainable. What you will make local and global communities a better place.
Critical Thinking and Problem Solving	<ul style="list-style-type: none"> Use of computational thinking and coding in the design with purpose Analysis of perspectives that address sustainability, inclusivity and accessibility with logic and vision 	<p>Little evidence of computational thinking and coding is used in the design.</p> <p>Still learning how to analyze information around sustainability, inclusivity, and accessibility.</p>	<p>Some computational thinking and coding are used in the design. The team is beginning to analyze and synthesize information on sustainability, inclusivity and/or accessibility to solve problems.</p>	<p>There is evidence that computational thinking and coding is used for the design work. There is evidence the team analyzed and synthesized information on sustainability, inclusivity and/or accessibility to solve problems.</p>	<p>There is evidence that computational thinking and coding was used for interesting design. There is evidence the team analyzed and synthesized information on sustainability, inclusivity and/or accessibility to solve problems in a variety of ways.</p>
Comments/Feedback					

✖ Interested in bringing Girls Who Game to your district?

bit.ly/3qpdHZU



Thank you!

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