

# Girls who Game:

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

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



## Who am I?

- 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



# girls who CODE





# 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



# Why Minecraft?



Educational Minecraft is already on most school computers

Girls Who Game is sponsored by Dell, Microsoft and Intel

Free world play, group play, coding possibilities

So.... What does that look like?







The background is a deep purple gradient. It features several semi-transparent purple squares and rectangles of various sizes scattered across the frame. Small, white, four-pointed starburst shapes are also scattered throughout. A thin, white rectangular outline is visible in the upper left quadrant. The text "Is this assessable?" is centered in a bold, light green, monospace-style font.

Is this  
assessable?

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

Citizenship	<ul style="list-style-type: none"> <li>Models inclusivity, accessibility, and sustainability with empathy and kindness</li> </ul>	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. <b>What you will make local and global communities a better all.</b>
Critical Thinking and Problem Solving	<ul style="list-style-type: none"> <li>Use of computational thinking and <b>coding</b> in the design with purpose</li> <li>Analysis of perspectives that address sustainability, inclusivity and accessibility with logic and vision</li> </ul>	<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><b>Some</b> computational thinking and <b>coding</b> are used in the design. The team is beginning to analyze and <b>synthesize</b> information on sustainability, inclusivity and/or accessibility to <b>solve problems</b>.</p>	<p>There is evidence that computational thinking and <b>coding</b> is used for the design work. There is evidence the team <b>analyzed and synthesized</b> information on sustainability, inclusivity and/or accessibility to <b>solve problems</b>.</p>	<p>There is evidence that computational thinking and <b>coding</b> was used for <b>interesting</b> design. There is evidence the team <b>analyzed and synthesized</b> information on sustainability, inclusivity and/or accessibility to <b>solve problems</b> in a way.</p>
Comments/ Feedback					



✕ Interested in bringing Girls Who Game to your district?

[bit.ly/3qpdHZU](https://bit.ly/3qpdHZU)





# Thank you!

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