Coding With Minecraft - Team (2-4 people)

Event Overview
Applying leadership and 21st century skills, programming skills MakeCode, JavaScript, and/or Python, and using teamwork, a team of contestants will demonstrate their creativity, time management, collaboration, and design skills to program their agents to build interconnected structures in a flat Minecraft world in creative mode.

Participants will show how they can plan and make something creative in a short time. This event aims to inspire members to learn more about programming, automation, and coordination of their agents by programming their independent agent to complete the team's assigned project using planning, creativity, and advanced coding skills.

Competitors:
Participants will compete in teams of 2, 3, or 4 students.

Competitors Must Bring:

- Paper and pencil
- Laptop with Microsoft Minecraft Education

Competition:

Pre-Conference- 15 minutes:

Timeframe: Participants will have a designated period before the competition for researching and planning their project. During this time, they can plan what they are going to build, sketch out how they are going to build it, and plan the design's size, layout, and how they will coordinate their agents.

Preparation Requirements: Students should use this time to:

1. Understand the theme of the prompt given.
2. Sketch initial ideas for their project.
3. No digital device usage during this phase except for researching design elements of the project. This time is solely for ideation and planning, not for coding or looking up coding.

Design and Execution:

1. **Time Limit**: 3 hours.
2. **Parameters for Competition**:
    a. Create a plan for your agents to build coordinated and interconnected structures.
    b. Write the code to have each contestant's agent participate in building the

pompt's requirements.

3. **Allowed Resources**:
    a. Digital device running Minecraft Education. Devices need to be networkable to allow for multiple players in the same world.
    b. Laptop power cord.
    c. Code can be written in Python, JavaScript, Minecraft Make Code, or any combination of all three.
4. **Specs**:
    a. The agent should execute their build inside an hour.
    b. The finished build should resemble the original idea.
    c. The Minecraft player cannot interact with the agent or build any part of the project once the judging/build has started.
    d. There are not any other parameters or requirements for what to build or how to build.
5. **Competition Process**:
    a. Students will execute all of the coding on their devices within the 3-hour time frame.
    b. Final work will be judged by the judges watching your agents build, asking questions of the team, and then reviewing the final project.
    c. A panel of judges will evaluate the designs based on creativity, relevance to the theme, programming skills, teamwork and collaboration, and competitors' ability to explain their code.

Event Preparation:

1. **Suggested Study and Preparation**:
    a. Have received instruction in Minecraft by using Coding Credentials by Prodigy Learning: **https://codingcredentials.com/**
    b. If you need help setting up Coding with Minecraft, have your instructor contact Jennifer Brown at: jennifer.brown@prodigylearning.com
    c. Complete Coding with Minecraft by Coding Credentials Intermediate Coding using MakeCode v3.0.

Final Scoring:

In this competition, middle school students will be judged on their ability to create a neighborhood. They will be judged on the visual appearance of their project as well as on their coding skills.

Judge Rating Sheet

Competitor Name _____

Judge's Signature _____

Descriptor	Excellent (5)	Good (4)	Average (3)	Fair (2)	Poor (0-1)	Points
Preplanning Process	There was a developed plan for all elements.	Most of the elements were planned.	Some of the elements were planned.	There was an idea, but not really a plan.	No plan or idea was created.	
Creativity & Originality	Highly unique and inventive design.	Shows originality with unique features.	Adequate creativity, some elements are common.	Limited creativity, mostly generic elements.	Lacks originality, very basic or copied design.	
Relevance to event and theme	Perfectly captures both the event and theme.	Clearly represents both elements, slightly leans more towards one.	Somewhat relevant, weaker connection to theme.	Minimal relevance to the theme.	Off-topic or irrelevant.	
Design & Layout	There was high quality design and crafted objects were well laid out and cohesive.	There was high quality design, but crafted objects were not cohesive.	The design was good and crafted objects were good and somewhat cohesive.	Design and crafted objects were below average and inconsistent.	Design was poor and crafted objects were unrelated.	
Project Complexity	There was a high level of complexity to the finished project.	There were some complex portions and some basic portions to the project.	The finished project had one complex portion, but was otherwise basic.	The finished project was well done but basic.	Project was basic and not well done.	
Code Complexity	Code was well written and used multiple different method calls and coding features.	Code was well written, but did not use many different method calls or coding features	Code was well written, but largely used the same method calls and coding features	Coding was well written, but basic in its use of method calls and coding features	Coding was basic and and features and methods that were not relevant.	
Use of Coding (Methods, Loops, Logic, Minecraft Methods**)**	**Exceptional** use of methods, loops, logic and Minecraft Methods	**Good** use of methods, loops, logic and Minecraft Methods	**Adequate** use of methods, loops, logic, and Minecraft Methods	Adequate use of methods, loops, logic, **OR** Minecraft Methods	**Poor** use of methods, loops, logic, and Minecraft Methods	

Descriptor	Excellent (5)	Good (4)	Average (3)	Fair (2)	Poor (0-1)	Points
Teamwork	The agents worked together and were coordinated	The agents were coordinated some of the time, independent other	The agents worked well independently, but were not coordinated	The agents were not coordinated but did not hinder each other.	The agents were not coordinated and hindered each other.	
Followed Their Plan	The planning process was used in the final project	The planning process had some effect on the final project.	There were elements of the planning process on the final project.	There was little effect of the planning process on the final project.	The planning process had no effect on the final project	
Student Interaction	Contestants could fully explain and expand on their code and ideas.	Contestants could fully explain all code and ideas.	Contestants could explain parts of their code, but were unsure on parts.	Contestants knew parts of their code but could not explain all.	Contestants could not explain their code.	
					TOTAL POINTS	