PRACTICE MATERIAL FOR SPELLATHON

(GRADE 11)

1. Develop a Simulation of a Simple Ecosystem

Task: Create a simulation that demonstrates predator-prey relationships in an ecosystem.

Steps:

1. Design sprites for different species (e.g., plants, herbivores, carnivores).
2. Implement movement algorithms using random or user-directed movement.
3. Use variables to track population sizes for each species.
4. Use "if" statements to determine interactions (e.g., if a predator touches prey, reduce prey population).
5. Display population changes over time and allow users to introduce environmental changes (e.g., food supply).

2. Create a Personal Portfolio Website

Task: Design an interactive portfolio showcasing projects and skills.

Steps:

1. Use backdrops for different sections (e.g., About Me, Projects, Skills).
2. Create clickable sprites that represent different projects.
3. Implement "when this sprite clicked" to show details about each project.
4. Use variables to track skills and allow users to rate their proficiency.
5. Include animations or transitions between sections for a polished look.

3. Build a Game with AI Opponents

Task: Create a game where players compete against AI-controlled opponents.

Steps:

1. Design a game layout (e.g., racing, strategy).
2. Use a player sprite and several AI opponent sprites.
3. Implement movement and decision-making algorithms for the AI using "forever" loops and randomization.
4. Use variables to track scores and game progress.
5. Provide feedback on player performance compared to AI.

4. Design a Music Visualizer

Task: Create a visual representation of sound or music using graphics and animations.

Steps:

1. Use a sound sprite to play background music.
2. Design sprites that will react to sound (e.g., bars, circles).
3. Implement algorithms to change sprite sizes or colors based on volume levels using variables.
4. Use "broadcast" messages to sync visual changes with music beats.
5. Allow users to select different tracks and see how visuals change.

5. Create a Text-Based Adventure Game

Task: Develop a text-based game where players make decisions that affect the outcome.

Steps:

1. Use a single sprite to represent the narrator or guide.
2. Implement "ask" blocks to gather player choices at key decision points.
3. Use "if/else" statements to create branching paths based on player decisions.
4. Include a scoring or health system tracked with variables.
5. Create multiple endings based on player choices, allowing for replayability.