Core Skills Analysis

Computing

The student opened the Struckd 3D game creator on the iPad and selected a ready-made template. He then edited the template by moving objects, changing colors, and adding simple actions, which required him to follow logical steps and understand cause-and-effect relationships. By testing the game after each change, he practiced debugging and iterative design. This activity introduced him to basic programming concepts such as sequencing and conditionals in a visual environment.

Mathematics

While adjusting the game, the student measured distances between 3D objects and used the on-screen grid to align them precisely. He compared sizes, counted items placed in scenes, and estimated angles when rotating models, applying spatial reasoning and geometry. The activity also involved counting the number of changes he made and recording them, reinforcing basic addition and subtraction. Through these actions he reinforced concepts of measurement, symmetry, and proportion.

English (Language Arts)

The child narrated the story behind his edited game, describing characters, setting, and the sequence of events that occur when the player interacts with the world. He wrote short labels for objects and brief instructions for players, practicing concise, purposeful writing. By sharing his game with family, he used oral language to explain his design choices, strengthening his expressive vocabulary. This fostered narrative structure and the ability to communicate ideas clearly.

Art & Design

Using the template’s visual assets, the student experimented with colour palettes, textures, and shapes to create an aesthetically pleasing scene. He evaluated how different lighting and material choices affected the mood of the game environment. By rearranging objects, he explored composition principles such as balance and focus. The activity encouraged creativity while applying design fundamentals.

Design & Technology

The child planned modifications to the game by sketching ideas on paper before applying them in Struckd, reflecting the design process of ideation, prototyping, and testing. He selected appropriate digital tools to modify the template, demonstrating purposeful use of technology to solve a problem. After each trial, he evaluated whether the changes improved playability, embodying iterative development. This gave him experience in creating functional digital products.

Tips

Encourage the student to design a new level from scratch, mapping it first on graph paper to strengthen spatial planning. Introduce simple coding blocks (e.g., if-then statements) in a visual programming app like Scratch to extend logical thinking. Combine the game story with a written comic strip, allowing the child to practice narrative sequencing and illustration. Finally, host a family play-testing session where the child records feedback and revises the game, reinforcing the iterative design cycle.

Book Recommendations

- Hello Ruby: Adventures in Coding by Linda Liukas: A whimsical picture book that introduces basic coding ideas through a curious rabbit’s adventures, perfect for linking game creation to

fundamental concepts.
- The Fantastic Flying Books of Mr. Morris Lessmore by William Joyce: A story about imagination and storytelling that inspires children to think about narrative structure, useful for crafting game plots.
- Design for Kids: Simple Ways to Teach Design Thinking by Robyn C. Bragg: A guide that offers age-appropriate activities for young creators, reinforcing the design process experienced while editing a game template.

Learning Standards

- Computing – KS1: Use logical reasoning to predict the behaviour of simple programs (NC 1.2).
- Mathematics – KS1: Describe position, direction and movement using simple positional language (NC 1.1).
- Mathematics – KS1: Measure and compare lengths, masses, volumes and time (NC 1.2).
- English – KS1: Develop spoken language for imaginative and informative purposes (NC 1.1).
- Art & Design – KS1: Explore colour, texture and form to create aesthetically pleasing work (NC 1.1).
- Design & Technology – KS1: Design and make purposeful, functional and aesthetically pleasing products (NC 1.1).

Try This Next

- Worksheet: Draw a floor-plan of the game level on grid paper, label each object, and write a short instruction for its function.
- Quiz: Create five multiple-choice questions about cause-and-effect in the game (e.g., "What happens when the player touches the red cube?").
- Writing Prompt: Imagine a new character for the game; write a paragraph describing their goal and how they move through the world.
- Mini-Experiment: Change one variable (size, speed, or color) at a time and record how it impacts the player's experience.