Lesson 2: Planning the Game Level Using Block Mode

Grade Level:

2nd – 5th Grade

Overview:

In this lesson, students begin designing the layout of their platformer-style game by planning their level on **grid paper** using color-coded Bloxels blocks. Students will be introduced to **Block Mode** and what each block color represents based on Bloxels' core system.

The teacher will model how Block Mode works inside the Bloxels app, showing how blocks are placed to build levels. However, students will **only use paper and colored pencils** in this lesson to plan out their level before they begin digital building. They will also receive a **Block Resource Page** that explains the function of each color.

Students are expected to **represent every block type at least once** in their stage — not to use them excessively, but to begin thinking about how each block can add purpose, structure, and challenge to a level. This approach builds strong foundational understanding across all grade levels and encourages more thoughtful game design.

Objectives:

- Students will identify and describe the function of each core block in Bloxels' Block Mode.
- Students will design a level layout on paper using all 8 block types meaningfully.
- Students will begin developing skills in pacing, challenge design, and layout structure.
- Students will prepare for digital level creation by translating a paper plan into a future build.

Materials:

- Grid paper (1 sheet per pair)
- Colored pencils or markers (matching Bloxels block colors)
- Bloxels app (teacher demo only)
- **Block Resource Page** (provided to each student or pair)
- Optional: Sample levels or printed example layouts

Bloxels Block Types (Official Descriptions):

Block Color	Block Name	Description
Green	**Terrain**	Blocks that you can walk on. In top-down games, they act like walls. You can decorate them to look like whatever you like.
Red	**Hazard**	Blocks that damage the player when touched (e.g., spikes, flames, lava).
Blue	**Liquid**	See-through blocks the player can “swim” through by jumping. Can be decorated.
Yellow	**Collectible**	Coins, gems, or items the player collects for points or objectives.
Purple	**Enemy**	Spawns baddies that damage the hero. Best results when decorated with animated characters.
Orange	**Action**	Blocks that can be picked up, moved, pushed, or exploded; good for puzzles.
Pink (Fuchsia)	**Power-Up**	Blocks that recover health, grant abilities like flight, or transform the hero.
White	**Story**	Blocks used to add narrative, checkpoints, end flags, or warps to other games/locations.

Procedure:

1. **Introduction & Teacher Demo (5–10 minutes):**
    - Introduce students to the goal: building a **platformer-style level** with balanced design.
    - Demonstrate **Block Mode** in the Bloxels app, showing how blocks are placed and what each type does.
    - Emphasize that **today's task is planning only**, using grid paper and colored pencils.
2. **Review Block Types (10–15 minutes):**
    - Go over the **Block Resource Page** as a class.
    - Discuss each block type and its purpose in gameplay.
    - Talk about **balance** — not using too many power-ups or enemies, but ensuring each block plays a meaningful role.
3. **Partner Planning Activity (20–30 minutes):**
    - Students work in pairs to design a level using all 8 block types.
    - They must think about how and **where** each block fits into the gameplay experience.
    - Encourage questions like:
        - What does the player need to do first?
        - How will they be challenged?
        - How is the reward earned?
        - Is there a story moment or end goal?
4. **Wrap-Up & Share (5–10 minutes):**
    - Invite pairs to present one feature of their design they're proud of.
    - Preview next lesson: transferring the paper plan into the Bloxels app for digital building.

Design Expectation for All Grade Levels:

Students should aim to **represent all 8 block types** meaningfully in their stage.
They are encouraged to:

- Think about **why** each block is placed
- Use power-ups, action blocks, and story blocks thoughtfully
- Avoid overuse (e.g., too many power-ups or enemies), and treat this as part of the **game balancing process**

This builds design awareness and allows younger students to explore deeper elements while learning from trial and error.