Game creation Lesson plan

Created by the CoSpaces team

Education level: Adaptable to any

Subject: Adaptable to any

Format: Individual or in groups

Duration: Approx. 4 hours

Introduction and lesson objectives:

Your students can learn to code by creating their very own games and then play them with their classmates! There are many different types of games your students can create with CoSpaces Edu:

- **Adventure games** - Your students create adventure games in which the player experiences a story and has to go through a series of actions to win.
- **Parkours** - Your students program their own parkours or 3D platform games in which the player has to move to get from a start position to a finish line or goal.
- **Scavenger or treasure hunts** - Your students create a virtual scavenger hunt in which the player has to find hidden objects inside a world that they create.
- **Quizzes** - Your students create and code their own quiz game on a topic that was studied in class and get to demonstrate their learning in a fun way.
- **Mazes** - Your students create a virtual maze in which the player has to go through a series of questions or puzzles in order to exit the maze.
- **Escape rooms** - Your students create and code their own virtual escape room!

Games can also be created specifically for VR for an immersive gaming experience!

Learning goals and student benefits:

- Develop 3D creation skills
- Foster creativity
- Demonstrate learnings
- Practice computational thinking
- Learn coding skills
- Practice collaboration

Activity example:

1. Discuss with your students the components of a game and how a game is usually designed: What makes a game fun? How does the player win or lose?
2. Help your students define the scope of the game they'll create.
3. Optionally, assign them a specific topic to incorporate into the game content.
4. Let them code their game and then play it as well as their classmates' games.

Extension idea:

Optionally, ask your students to evaluate their classmates' games and to communicate their feedback in a clear and constructive manner.

Assessment and evaluation suggestions:

- Have your students managed to create a game in CoSpaces Edu?
- Were your students able to program their game with code?
- Is the player able to easily understand and play the game?
- Does the game have a clear outcome (game over, winning, score reach, etc.)?
- Does your students' work reflect a good understanding of the different creation tools available in CoSpaces Edu?
- Does your students' work reflect a good understanding of basic coding?

Creation guide
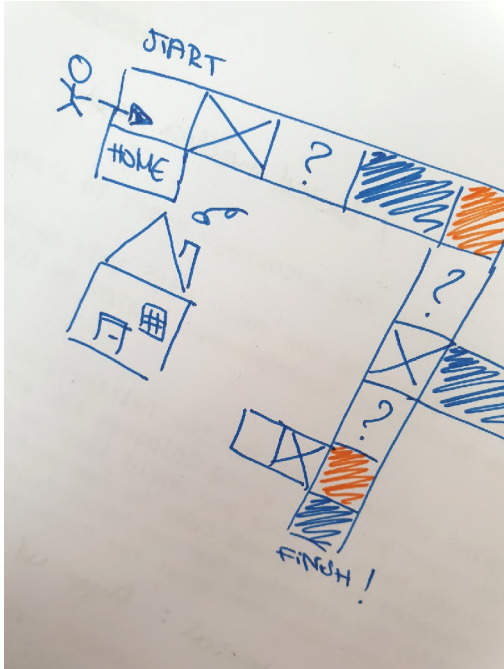
Think about what you want your game to be like. What will the player have to do? How does the player win or lose? When is the game over? Write down or draw your ideas.

Plan the logic and design of your game:

- Define a **goal**: How do you win?
- Plan how your game will **start** and **end**.
- Define a set of **rules** for your game.
- Plan some **obstacles** or other **challenges**.
- Define what'll make your game interactive.

Think about other elements to include. Are points counted? Does your game have a specific theme or story? Are there characters?
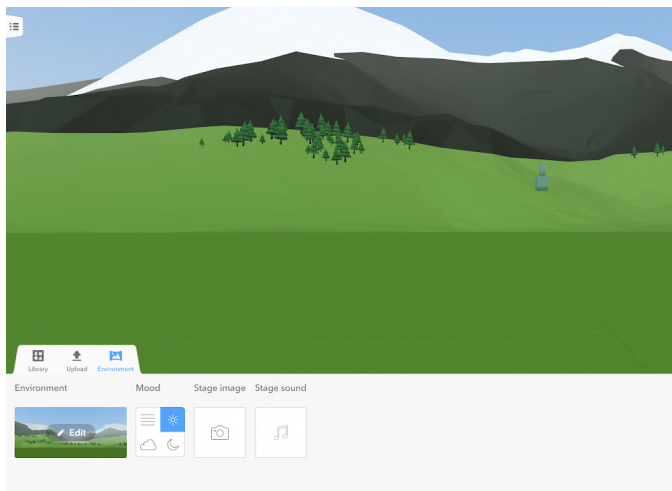
Ready to create your own game?

Start by building the environment of your game. Click Environment and select a 3D environment.
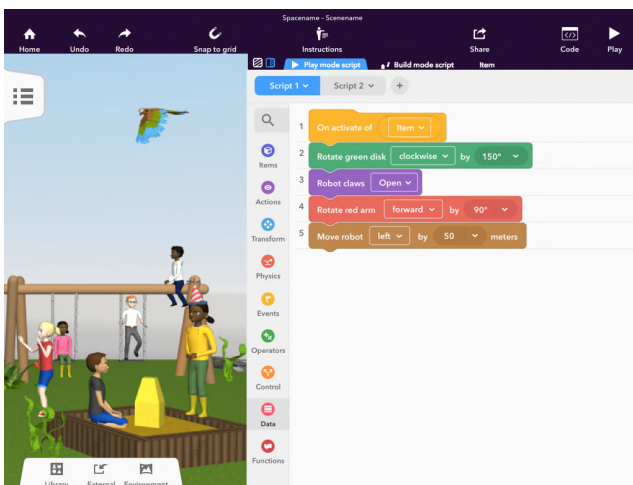
With some environments, you can also adjust the Mood of your scene.

Add all the elements needed for your game. Drag any objects you need from the Library and drop them into your scene.

You can adjust the size, position and color of most of the objects.

Missing something for your game? You can Upload or Search for additional objects.

Time to program your game! Start by coding all of the main interactions in your game first, as these will define how to progress through the game.

Click Code and CoBlocks to start coding. To program an object, right or double-click on it, click Code and enable its Use in CoBlocks.

When you're done, hit Play to test your game! Check that the player is able to go through the whole game and reach the end. Make any edits needed until you're happy with it!

Then, let others play your game and play your classmates' games. Can you improve your game based on your classmates' feedback?
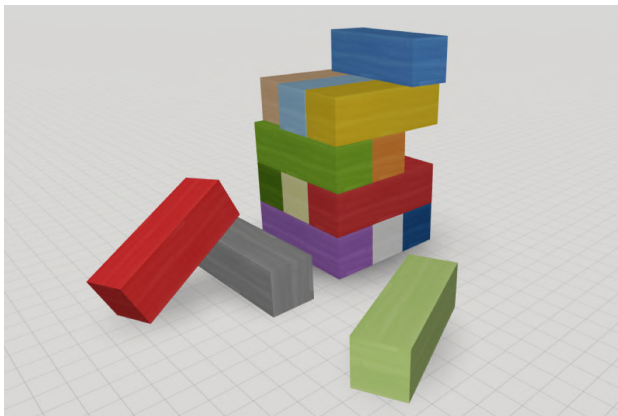
Example CoSpaces
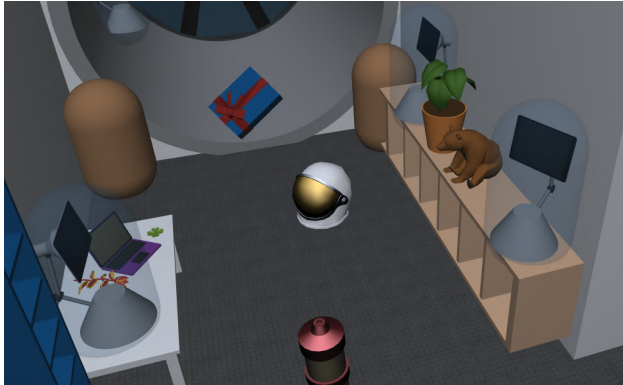
Space quiz

edu.cospaces.io/TBK-SAG

VR adventure game (parkour)

edu.cospaces.io/PGE-SDD

Colorful jenga

edu.cospaces.io/CDP-GES

Egg hunt

edu.cospaces.io/HHR-BEA