

Lesson 1.3 – Searching/Generating Sprites with AI

Duration

50–55 minutes

Learning Objectives

- Learn how to search for existing AI-generated sprites using appropriate categories.
- Develop skills in crafting detailed prompts for generating custom sprites.
- Practice refining queries to achieve desired sprite characteristics.

Preparation Steps

- Familiarize yourself with the [AI Sprite generation tutorial](#)
- Prepare a list of example sprite prompts demonstrating different levels of detail and styles.

Lesson Outline

1. Introduction to AI-Generated Sprites (5 minutes)

- **Overview:**
 - Explain what AI-generated sprites are and reiterate how they differ from backdrops
 - Highlight the importance of sprites in creating interactive and dynamic projects.

2. Understanding the Search and Generate Features for Sprites (10 minutes)

- **Overview:**
 - Review the two main functionalities: searching the existing AI-generated sprite library and generating new sprites based on text prompts, which is similar to backdrops.
 - Explain the categorization of sprites into "Human" and "Non-Human" when searching for a sprite image.
 - Reiterate the difference between "Community" and "Created by me".
- **Activity:**
 - **Demonstration:**
 - Live demo on accessing the AI Image Library Window by hovering over the circular sprite button and selecting the "AI" option.
 - Show how to search for a sprite using keywords and the correct option selected. For example:

- Search for “a boy in blue shirt” with the “Human” option.
- Search for “a red car” with the “Non-Human” option.
- Highlight how search results are ranked based on relevance and prompt specificity.

3. Basic Prompting Techniques for Sprites (10 minutes)

○ Overview:

- Teach the importance of detailed and specific prompts to achieve high-quality AI-generated sprites.
- Discuss common pitfalls, such as vague or overly simplistic prompts, and how they affect the output.

○ Activity:

■ Prompt Refinement Exercise:

- Provide students with a basic prompt (e.g., “a cat”).
- In pairs, have them expand the prompt to include more details (e.g., “a fluffy orange cat with green eyes, sitting on a windowsill”).
- Show examples of further refining prompts with a style type (e.g. “cartoon style” or “photo realistic”).
- Share refined prompts with the class and discuss how the added details improve the generated sprite.

4. Hands-On Activity: Searching and Generating Sprites (20 minutes)

○ Activity:

■ Task 1: Searching Sprites

- Students use specific keywords to search the AI-generated sprite library.
- Encourage them to explore both “Human” and “Non-Human” categories to find sprites that interest them.
- Example Searches:
 - “A princess in a pink dress” (Human)
 - “A red sports car” (Non-Human)
- Emphasize that the search is based on *whether an image might be related to the query*, rather than exact matches.
 - For example, when searching for “alien”, the result list may also contain images of astronauts or robots.

■ Task 2: Generating New Sprites

- Students craft detailed prompts to generate their own sprites.
- Encourage the use of at least 10 words in descriptions for better specificity.
- Examples:
 - “A boy, blue shirt, yellow jeans, black shoes, short hair, south Asian, dark skin.”
 - “A red car, facing right, game icon, sleek design, shiny finish.”
- If a generated sprite isn’t satisfactory, guide students to refine and retry their prompts for better results.

- **Task 3: Applying different styles**

- Challenge students to create sprites in different styles (e.g., anime, pixel art, steampunk) by including style descriptors in their prompts.
- Encourage experimentation with advanced styles as outlined in the tutorial (e.g., “a princess in a pink dress, anime style”).

5. Reflection & Discussion (5 minutes)

- **Prompt Questions:**

- How did the level of detail in your prompts affect the quality of the generated sprites?
- What strategies did you use to improve your prompts when the initial generation wasn't as expected?
- How can you ensure your generated sprites respect copyright and avoid replicating famous characters?

- **Activity:**

- Facilitate a class discussion based on the prompt questions.
- Encourage students to share their experiences and insights on effective prompting and the ethical use of AI-generated sprites.

Extensions & Differentiation

- **For Advanced Students:**

- Encourage them to create a series of themed sprites and integrate them into a more complex project.
- Introduce advanced prompting techniques, such as specifying lighting conditions or moods (e.g., “a princess in a pink dress, sunset lighting, whimsical mood”).
- Explore different generation styles by experimenting with the advanced topics provided in the tutorial.

- **For Students Needing Support:**

- Pair them with peers for collaborative prompting and sprite generation.
- Provide a list of example prompts and templates to help them get started.
- Offer one-on-one assistance to guide them through the prompt refinement process and ensure they understand how to use the AI tools responsibly.

Notes for Teachers

- **About the ethics of using AI-generated images:** it will be discussed in lesson 1.5, so it is not covered in lessons before it.
- **Technical Setup:**
 - Ensure that the CreatiCode Playground is functioning correctly and that all students can access the *Search or Generate Sprite Images Using AI* tutorial.
 - Prepare a set of example prompts beforehand to illustrate the difference between detailed and vague descriptions.

- Have demonstration sprites ready to show various styles and levels of detail.
 - **Prompting Guidance:**
 - Emphasize the importance of using detailed and specific language in prompts to achieve desired results.
 - Encourage students to think creatively about the elements they include in their sprite descriptions.
 - Highlight how different keywords and styles can significantly alter the appearance of the generated sprites.
 - **Encouraging Creativity:**
 - Motivate students to experiment with various sprite concepts and styles to enhance their projects.
 - Reinforce the idea that AI is a tool to augment their creativity, not replace it.
 - Showcase diverse examples to inspire students and demonstrate the versatility of AI-generated sprites.
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Assessment

Wayground Format:

https://wayground.com/admin/assessment/68c0d325c9cbb0218814e6d0?source=lesson_share

Questions (1 point each)

1. When searching for sprites, what are the **two main categories** you can select in the CreatiCode AI image library?
2. Which feature should you use if you only want to see sprites you have personally generated?
 - a) Search by Name
 - b) Created by Me
 - c) Refine Query
 - d) Regenerate

3. If you want to find a specific sprite and already know its exact name, which search feature should you use?
 - a) Search
 - b) Search by Name
 - c) Created by Me
 - d) Refine Query
4. Give one example of how you could refine the prompt “a boy in blue shirt” to make it more specific.
5. Why might searching for “a red car” also return an image of a red fox?

Answers & Rubrics

1. **Human and Non-Human.**
2. **b** – Created by Me.
3. **b** – Search by Name.
4. Rubric (1 point total):
 - **1 point:** Provides a refinement that adds clear details (appearance, style, pose, etc.).
 - Examples:
 - “a boy in blue shirt, black hair”
 - “a boy in blue shirt, yellow jeans, short hair”
 - “a boy in blue shirt, waving hand to viewer”
 - **0.5 points:** Adds some detail but still vague.
 - **0 points:** No valid refinement or repeats the same prompt.
5. Rubric (1 point total):
 - **1 point:** Explains that search works by **description similarity**, so related features (like color “red”) can cause other objects (like a red fox) to appear.

- **0.5 points:** Mentions “color match” but doesn’t connect to description-based search.
- **0 points:** Incorrect or unrelated explanation.