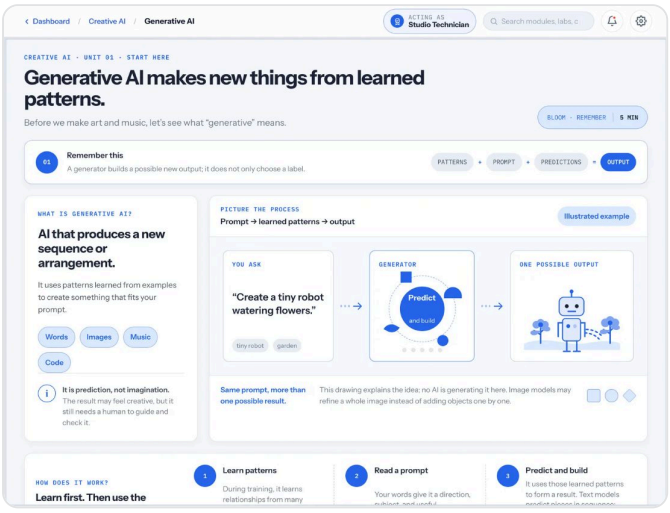
Module 07 · Creative AI · Unit 01 · Stage 2, Capabilities

Generative AI

Start Here

All grades | 5 minutes | Role: **Studio Technician**



The big idea

Generative AI makes something new, such as words, a picture, music or code, from patterns it learned from many examples. Training comes first; a prompt later steers its predictions. Patterns + Prompt + Predictions = Output, and one prompt can give more than one result. It is prediction, not imagination, so people still guide and check it.

The learner's job

Learners are the **Studio Technician** at The Long Room · Studio. Before making art and music, the studio needs a clear explanation of generation. Their task: name what a generator uses and how it builds an output.

By the end, learners can say

- I can recognize generative AI as producing an output from learned patterns
- I can name examples of generated outputs: words, images, music, and code
- I can recall that learning patterns happens before a prompt steers generation

Before class

- One computer or tablet for each learner or pair, with EdSutra open (this Module is part of the full EdSutra studio).
- Open the studio once on each device before class, so the Unit still runs if the internet drops.
- Play the Unit yourself first. It is one page, takes about five minutes, and has two optional recall questions near the end.
- Write the formula on the board: Patterns + Prompt + Predictions = Output. Leave room beside it for the show of hands.
- Project the page for the opening, then let pairs read it on their own devices so each one finishes the Unit.
- Best after What is AI? and How Machines Learn.
- Units open in order, and Module 1 comes first. To start a class here, switch on Open every Unit in Settings → Teachers & parents.

Words to introduce

Generative AI: AI that uses learned patterns to make new words, images, music or code.

Pattern: A relationship that shows up again and again across many examples.

Training: When a model learns patterns from many examples, before anyone types a prompt.

Prompt: The words you give a generator: a direction, a subject and some limits.

Prediction: The model's best guess at the next piece, built from learned patterns.

Output: What the generator makes: one possible result, not the only one.

Label: A fixed answer a model picks, such as "spam" or "not spam".

Running the lesson 15 minutes

Open 5 min

"You type "a tiny robot watering flowers" and a picture appears that no one drew. Where did it come from?"

Before anyone clicks, ask: if two people typed that same request, would they get the same picture? Take a show of hands and write the count on the board. Come back to it at the robot-garden example.

Step	What learners do	Ask the class	Listen for
1. Remember 10 min	Learners read the page top to bottom: the formula, four kinds of output, the robot-garden example and the three steps. They try the two optional recall questions, then press Complete the studio note.	• What are the four parts of the formula, and which one comes out at the end? • Which happens first: learning patterns, or reading your prompt? • Look at our show of hands. Does one prompt always give one picture?	Patterns are learned first, in training; the prompt only steers. The same prompt can give more than one possible output.

Steps follow Bloom's revised taxonomy, in the order the Unit presents them.

Deepen the thinking

Critical thinking	The page says its robot drawing is an illustration and no AI made it. Why would a lesson about AI tell you that?
AI thinking	If a generator only learned from pictures of cats, what might it make when asked for a robot? What does that say about training?
Ethics and fairness	The recall check says a generator can still repeat parts of its training examples. If it repeats part of an artist's work, who should know, and why?
Connect to life	Where have you seen something made by generative AI this week: words, a picture, music or code? How could you tell?

Misconceptions to listen for

"Generative AI finds a stored picture and sends it back."

The first recall answer separates generating from searching: a generator builds one possible output from learned patterns. It can still repeat parts of its training examples.

"It learns from my prompt while it makes the answer."

The three steps put learning first: patterns are learned in training, before any prompt. The prompt only gives a direction, a subject and limits.

"If the result looks creative, the AI imagined it."

The page says it is prediction, not imagination. The result may feel creative, but a person still guides it and checks it.

In real life the card learners see at the end of the Unit

- Chatbots, image makers and music tools that create on request are generative AI.
- A spam filter picks a label; a story-writing tool produces new text. One classifies, one generates.
- AI-made pictures, voices and jingles now turn up on posters, in shops and in TV ads.

Try it this week. Ask two people to draw "a tiny robot watering flowers". Same prompt, different pictures. What made them differ?

Watch out for. Generative AI doesn't fetch a stored answer, and it isn't training on your prompt as it works; training happened before.

Talk about it. If one prompt can make many different outputs, who decides which one is good?

Exit ticket

1. Fill in the formula: Patterns + ___ + Predictions = ___.

   _____

2. Which comes first, training or your prompt? Explain in one sentence.

   _____

3. Name two kinds of output a generator can make. How is that different from picking a label?

   _____

Going further

Next, Algorithmic Art shows a computer making patterns from rules with no AI at all, a useful contrast. For homework, use the "Try it this week" activity from the In real life card.