HOW SOFTWARE WORKS · START HERE · 10 MIN READ

Start with blocks: Scratch and Code.org

Block coding teaches the same big ideas as 'real' code with no typos: events, loops, conditions and variables. A first step for younger learners and their teachers.

Pass the check (4 of 5) online to earn the “Block Builder” badge:
https://digitalbuilders757.com/university/study/start-with-blocks-scratch-and-code-org

Why start with blocks

Block-based tools let you snap commands together like puzzle pieces, so you can't make spelling or bracket mistakes. Free tools such as Scratch (from MIT) and Code.org are used in schools around the world. The ideas you learn there are exactly the ones professional code uses, which makes the jump to text code and AI building much easier later.

The big ideas you'll use

- Events: 'when the green flag is clicked' or 'when this sprite is clicked' starts a script.
- Sequence: blocks run in order, top to bottom.
- Loops: 'repeat 10' or 'forever' runs blocks again and again.
- Conditions: 'if touching the edge, then bounce' makes decisions.
- Variables: a 'score' that goes up when you catch something.

From blocks to text

Every block has a text-code twin. 'repeat 10' is a loop like for (let i = 0; i < 10; i++) in JavaScript; 'if score > 5' is an if statement; 'when green flag clicked' is an event listener; a sprite's 'score' is a variable. Once a learner can build a small game in blocks, they can read the same game written in JavaScript, and describe it clearly to an AI builder.

AI and younger learners

Many AI tools set minimum ages (often 13 or 18) and schools have their own rules, so check before students sign up and let an adult lead. Use AI to explain ideas and give hints rather than to build the whole project, and keep personal details out of chats. Blocks plus a curious adult is a great first coding setup.

Key terms

Sprite
A small image or character that moves around in a game, like the player or a falling star.

Loop
Code that repeats for each item in a list or until something changes.

Conditional (if/else)
Code that runs only when something is true, otherwise something else.

Variable
A named value in code, like const price = 20.

Event listener
A function that runs when something happens on the page, like a click or a form submit.

JavaScript
The programming language that makes web pages interactive.

Try it: Build and translate a tiny game

1. In Scratch, make a sprite move with the arrow keys using 'when key pressed' blocks.
2. Add a 'score' variable that goes up when it touches a second sprite.
3. Write down which block is the event, the loop, the condition and the variable.
4. Ask an AI to show the same game in JavaScript and match each block to a line.

KNOWLEDGE CHECK

Start with blocks: Scratch and Code.org

5 questions. Circle one answer for each; 4 or more correct passes. Answers are at the back.

1. What does the 'when green flag clicked' block do?

A. Deletes the project
B. Starts a script when the event happens
C. Draws a flag
D. Saves the project so it can be shared with the class

2. Which block is a loop?

A. if touching edge, then bounce
B. set score to 0
C. repeat 10
D. when this sprite clicked

3. A 'score' that goes up when you catch a star is a…

A. Sprite
B. Backdrop
C. Sound
D. Variable

4. Why do blocks help beginners?

A. They teach the same ideas without spelling or bracket mistakes
B. They're faster than all text code
C. They can't make games
D. They only work offline

5. A 10-year-old wants to use an AI chatbot for their Scratch project. What first?

A. Sign them up using a parent's email and birthday so the age check is passed
B. Check the tool's age rules and the school's policy, and have an adult lead
C. Let them use it, as long as they paste in their full name and school for better help
D. Ban all computers

Official sites

Scratch (MIT): https://scratch.mit.edu
Code.org: https://code.org

Last reviewed 2026-11-25. AI tools change fast; check each tool's own site for current features, plans and prices.

ANSWER KEY

Start with blocks: Scratch and Code.org

1. B: Starts a script when the event happens
It's an event: something happens, and the script below it runs.

2. C: repeat 10
Repeat and forever run blocks again and again.

3. D: Variable
Variables store values the program can change.

4. A: They teach the same ideas without spelling or bracket mistakes
Learners focus on ideas first; text syntax can come next.

5. B: Check the tool's age rules and the school's policy, and have an adult lead
Many AI tools have minimum ages; adults guide safe, honest use.