LESSON 54

Studio: Shark Swim

40 minutes | Project studios (optional extension sessions) | Built in Scratch | Outcome 1.7 | Outcome 1.8

WHAT THIS LESSON DOES

Students build a shark chase game in Scratch using movement, sensing and score, following a PRIMM code-along and fixing at least one bug as they go.

CURRICULUM OUTCOMES

Outcome	What the specification asks for
1.7	discuss and implement core features of structured programming languages, including variables, operators, loops, decisions, assignment and modules
1.8	test the code to determine its functionality and to identify and manage errors

WHAT STUDENTS SHOULD BE ABLE TO DO

- Build a chase game with movement, sensing and score (LO 1.7)
- Find and fix one bug as you build (LO 1.8)

BEFORE THE BELL

- Devices ready with Scratch open; students logged in to the platform and able to create a new project.
- Interactive whiteboard or projector ready so you can model the first steps before pairs continue.
- Check that the sprite library is available (Diver1 and Shark 2) and that students know how to paint a backdrop.

WHAT YOU NEED

Item	Qty	Per	If you do not have it
tablet or laptop with Scratch	1	pair	run the lesson on the IWB with students taking turns

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HOW THE LESSON RUNS

4 min	introduction	Start: what we're building
2 min	content	The plan: four parts to build
2 min	content	Create a new Scratch project
3 min	content	Create the backdrop
3 min	content	Add the Diver1 sprite
2 min	content	Make the diver swim
3 min	content	Add the Shark 2 sprite
3 min	content	Make the shark appear
3 min	content	Create a 'Crash' costume
4 min	content	Detect a crash or shark bite
3 min	content	Program the finish line
2 min	content	Wrap up
3 min	content	Make sense: what worked, what broke
2 min	content	Reflect
1 min	summary	What you covered

TEACHING MOVES

- Model the backdrop lanes and finish line on the board first so colours match what the sensing blocks will look for later.
- Stress that the diver follows the mouse: if movement feels wrong, check point towards mouse-pointer and the forever loop together.
- When the shark appears, pause on costume switching so students see the bite as a short sequence, not three separate costumes left on screen.
- Park one prediction at the start (what happens if the diver hits a wall) and return to it in Make sense.

WHAT TO WATCH FOR

- Backdrop line colours do not match the touching-colour checks: redraw lanes and finish in the same colours the code expects, or adjust the colour picker on the block.
- Diver start coordinates do not match the painted course: drag the sprite to the real start, note x and y, and update the go to block.
- Shark stays hidden or never bites: check that hide runs on green flag and that the appear-and-bite stack sits under it inside the repeating structure.

DIFFERENTIATION

- Support: Let pairs share one device for the first sensing step, so that one reads the blocks aloud while the other builds.
- Extension: Add one twist of their own: a new sprite, a sound on crash or win, or an extra rule such as a timer or second shark.
- Extension: Challenge faster pairs to keep score for successful finishes before they hit a wall or the shark.