

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 a structured programming language: variables, operators, loops, decisions, assignment and modules.
1.8	Test code to find 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: Provide a sketched course layout and the start coordinates; let pairs share one device for the first sensing step.
- 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.