

Investigating a real-world problem

40 minutes

Strand 2: Let's get connected

Outcome 2.10

WHAT THIS LESSON DOES

Choose a local real-world challenge, collect data from Irish sources like sport fixtures and weather, chart the patterns, and frame the problem with its ethical issues as something a program could solve.

CURRICULUM OUTCOMES

Outcome	What the specification asks for
2.10	Identify a topic or challenge in computer science worth solving, and gather relevant data about it.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Identify a topic or challenge in computer science worth solving, and gather relevant data about it (LO 2.10)
- Note one ethical or legal issue around the chosen topic, and sketch what a program or website could do to help (first pass on LO 2.11; fuller pass in the pitch)

BEFORE THE BELL

- Prepare one sample Irish data source to project, plus the mini-path with an in-session pattern line (several stations, clubs, or places students can read today).
- Decide and write the save destination (school drive, shared folder, or notebook) on the board.
- Share exact allowed pages or links, or plan to run entirely from the projected source.
- Put the four-box frame on the board with the stems and the four job words (Warn / Schedule / Display / Match), so students can copy the structure into their notes.
- Prepare a simple one-screen page stub (title, two stat boxes, button label) for the tiny sketch step.
- Prepare a 30-second ethics/legal board flash and 2-3 banked issue stems for support.
- Optional: flash the words ethical and legal on a starter slide so the issue line is retrieval.
- Decide which Irish data sources the class can reach today (GAA fixtures, met.ie, Dublin Bikes), pre-open or project at least one, and write the class save method on the board
- Open one sample Irish data source on the board and rehearse the mini-path with an in-session pattern line (several stations, clubs, or places right now); keep ethics/legal worked lines for a 30-second board flash before step 4
- Exact source links or one projected source ready; optional one-line how-to per source on the board
- Student devices with browser access to the data-recorder
- Prepare a 30-second ethics and legal board flash plus 2-3 banked issue stems
- Write the real save destination on the board
- Prepare a simple one-screen stub template (title, two stat boxes, button label) on screen or paper

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HOW THE LESSON RUNS

4 min	content	Start
4 min	content	What makes a problem worth solving
2 min	content	Choose your source and angle
9 min	activity	Hands-on: record your readings
4 min	content	Chart it and read the pattern
6 min	content	Write your problem sentence and evidence
3 min	content	Name one ethical or legal issue
2 min	content	Say what a solution would do, and save
2 min	content	Tiny page sketch
2 min	content	Make sense
1 min	content	Reflect
1 min	content	What you covered

TEACHING MOVES

- Model the full mini-path on the board before students open sources; use readings students can gather in one period.
- Keep step 2 short; hold the ethics/legal worked lines for the board flash before framing.
- Treat the projected source as the default plan on shared or slow networks.
- Require at least four real rows of the same kind of measure before anyone charts.
- Circulate during the hands-on activity to check tables for invented numbers and mixed metrics.
- Use the drag-sort (or a 2-minute whole-class oral match) so students still touch a tech outcome before the written frame.
- Hard checkpoint in framing: problem sentence and two numbers by minute 7 of the step.
- Pre-print job words to circle; do not introduce "collect" today.
- Stop any students who begin designing solutions too early.
- End framing with an explicit save instruction naming the real destination.
- Run the tiny page sketch as fill-the-slots only, then a short share of numbers and job words.
- A fuller ELT investigation sits in the pitch lesson; today is one ethical or legal point plus a solution job sketch (first pass on LO 2.11).

WHAT TO WATCH FOR

- Using invented numbers: redirect students to the actual data source or the board projection.
- Recording only one row of data: ask for at least four readings to show a pattern.
- Mixing different measures in one table so the chart cannot compare like with like: reset to one measure across rows.
- Writing ethics or legal points as empty labels: push for whose privacy or who owns the data, or offer a banked stem.
- Designing a program instead of framing the problem: refocus on the four required headings, then the stub slots only.
- Mismatched measure and value in the table: keep What I measured and Value on the same metric.

DIFFERENTIATION

- Support: model one example row on the board, and keep the mini-example, the four-box frame, the job words and the issue-stem bank visible.
- Extension: Invite students to propose an additional Irish data source or a second ethics or legal point for the pitch.
- Support: Allow paired work for interpreting chart patterns.