

TEACHER LESSON PLAN

Topic 1.1: Introduction to Algorithms, Programming, and Compilers

LO: 1.1.A, 1.1.B, 1.1.C | Skill: 1.A | Scenario: Algorithms in everyday life — then your first Java program

Teacher Lesson Plan — Topic 1.1 (2 days)

Suggested pacing for two 45-minute periods. Adjust freely for block schedule or extended-time sections.

Day 1 — Algorithms and sequencing (45 min)

Time	Activity	Materials
0-5	Bell Ringer — students write the exact steps to do an everyday task; reveal how 'obvious' steps hide assumptions.	Bell Ringer
5-20	Slides 1-5 — define algorithm + sequencing; everyday examples. Students complete Guided Notes Sections 1-2.	Slides; Guided Notes
20-35	Worksheet Parts 1-2 — vocab match + write a numbered-step algorithm and reorder a scrambled one.	Worksheet
35-44	Debrief — compare two students' algorithms for the same task; discuss why order (sequencing) matters.	Worksheet
44-45	Close — preview Day 2: 'tomorrow we turn an algorithm into real Java.'	—

Day 2 — From code to a running program (45 min)

Time	Activity	Materials
0-5	Recap — whip-around: what is an algorithm? what is sequencing?	—
5-18	Slides 6-10 — editor/IDE, the compiler, fix-before-run; the three error types. Students finish Guided Notes Section 3.	Slides; Guided Notes
18-30	Worksheet Parts 3-4 — order the build steps; classify three Java segments as syntax / logic / run-time.	Worksheet
30-40	Scenario + Collaboration — Riverside Coding Club: teams classify bugs and write a first-program checklist.	Scenario; Collab Activity
40-44	Exit Ticket — 5 min individual.	Exit Ticket
44-45	Close — assign MCQ Practice + Mini-FRQ as homework or Day 3 review.	MCQs, Mini-FRQ

Differentiation

- **Extend:** have students write an algorithm with a decision ('if it is raining, take the bus') to foreshadow Unit 2 selection.
- **Support:** pre-fill the first one or two Guided Notes blanks per section as sentence starters.
- **Async/virtual:** Worksheet, Exit Ticket, and MCQs work cleanly as async assessments; save the Collaboration Activity for synchronous time.

Formative checkpoints

- **Day 1 Worksheet Part 2** — if students omit steps or order them wrongly, reteach sequencing before Day 2.
- **Day 2 Worksheet Part 4** — if >25% confuse logic vs run-time errors, re-show the compare slide with the two Java segments.
- **Mini-FRQ + MCQ Set** — skill-tagged for targeted feedback; use the answer keys to scope remediation.