LESSON PLAN

Angle problems and puzzles with real-world scenarios (maps, game designs, construction)

Mathematics and Statistics · Year 6 · 60 min

CURRICULUM ALIGNMENT

Aligns to The New Zealand Curriculum | Te Mātaiaho. Mathematics and Statistics, Phase 2 (Years 4 to 6), Year 6 teaching sequence. Geometry: identifying and solving angle problems in real-world contexts.

Te Mātaiaho: Mathematics and Statistics

LEARNING INTENTION

Solve angle problems using known angle relationships in real-world contexts

SUCCESS CRITERIA

- I can identify angles on a straight line and explain they total 180°.
- I can identify angles at a point and explain they total 360°.
- I can find an unknown angle using a known angle relationship.
- I can connect an angle problem to a real-world context such as a map, game design, or construction.

Lesson Structure

HOOK

- A top-down map of a road intersection on the board.
- What angles can you spot? Where do you see turns?
- Angles are everywhere. Builders, game designers, and navigators all use them.

TEACHING

- A straight line is a flat angle. It always measures 180°.
- All angles at a point together always total 360°.
- I know one angle is 110°. I need the other on this straight line.
- 180° minus 110° leaves 70°. I can check: 110 + 70 = 180.

PRACTICE

- A map showing two roads meeting. One angle is labelled 65°.
- Find the missing angle on the straight line. Record your working.
- Share your strategy with a partner before checking as a class.

CLOSURE

- Which angle rule did you use most today?
- Point to a success criterion you can now do confidently.
- One angle on a straight line is 130°. What is the other?

Task Details

TASK

- Angle Problems and Puzzles worksheet (one per student).
- Each problem uses a map, game grid, or construction diagram.
- Find each unknown angle. Show all working using 180° or 360° rules.
- Write one sentence connecting your answer to the real-world context.

MATERIALS

Angle Problems and Puzzles worksheet (1 per student), protractors (1 per student), pencils, rulers, whiteboard and markers for shared checking

TEACHER ROLE

- Circulate every 4 to 5 minutes. Check working is recorded.
- Prompt: What rule applies here, 180° or 360°?
- Gather the class to share and compare strategies at 20 minutes.

ASSESSMENT NOTES

- Criterion 1: Student writes 180° rule and correct missing angle on straight-line problems.
- Criterion 2: Student writes 360° rule and correct missing angle at-a-point problems.
- Criterion 3: Working shown as subtraction sentence. Answer is correct.
- Criterion 4: Real-world sentence names the context. Meaning is mathematically accurate.

RESOURCES

YouTube angle problems puzzles video

Pinterest angle problems puzzles activities

RELIEF TEACHER NOTES

- Worksheets are in the maths resource tray, labelled Angle Problems and Puzzles.
- Protractors are in the orange maths box on the side shelf.
- The whole class works on the same task. No group splits are needed today.
- Students who finish early: create their own angle puzzle using a hand-drawn map or game grid.