

Comparing angles to a right angle: acute and obtuse

CURRICULUM ALIGNMENT

SHA.SAL.3b

compare and classify angles, recognising them as a property of a shape and as a description of a turn.

INTERACTIVES

Angle Tool · display

Drag Sort · challenge

WHAT THIS LESSON TEACHES

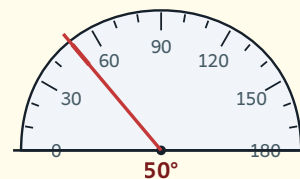
A right angle is a square corner, exactly a quarter turn, like the corner of a copybook or a window pane. An angle that opens less than a square corner is acute; an angle that opens more than a square corner is obtuse.

- The small opening of scissors held only slightly apart is an acute angle.
- The wide opening of a book laid almost flat is an obtuse angle.

MODEL THIS ON THE BOARD

IS THIS ANGLE ACUTE OR OBTUSE?

- 1 The drawn angle opens to 50° .
- 2 A right angle (square corner) is exactly 90° .
- 3 50° is smaller than the square corner, so the angle is acute.



DISCUSSION STARTER

REFLECT

Does checking against a right angle make acute and obtuse angles easier to name?

LESSON ARC

Open scissors slowly at the front and ask which opening is smaller than a copybook corner. Bring up the folded-paper right-angle checker and hold it against four angles, saving the close-to-square pair for a class prediction. Pupils sort angles at the board in explore mode, then draw and label one acute and one obtuse angle in copybook, checking against the copybook corner. Class Challenge sorts trickier sets including tilted angles.

TEACHING MOVES

1. **Getting Started.** Open real scissors slowly at the front — a narrow gap, then a wide one. Take two or three hands-up answers, not call-outs. Hold out for the word 'corner' and link the copybook corner to a right angle, but don't name acute or obtuse yet.
2. **Watch and Notice.** Hold the folded-paper checker against each of the four angles. Say 'smaller than the corner' and 'bigger than the corner' — keep degrees out entirely. On the just-under and just-over pair, freeze the checker and ask the class to predict before you reveal.
3. **Try It Together.** Rotate four pupils across the rounds in explore mode — any drop is accepted so the class reasons aloud. Prompt each pupil to picture holding the square corner against the angle before they drop. Slow right down on the just-bigger-than-a-right-angle card and revoice: 'it opens a little wider than the corner, so it is obtuse.'

4. **Draw and Label in Your Copy.** Walk the room and glance for pupils actually holding the copybook corner against their drawn angle. Watch for an obtuse angle drawn too close to a right angle — nudge them to open it clearly wider.
5. **Class Challenge.** Keep the board work brisk — pupils take turns, check each answer, class confirms before moving on. On the tilted-angle round remind them the turn does not change how wide the angle opens: compare the opening, not the direction it points.
6. **What Did We Notice?.** Listen for pupils naming the square corner as the test. Revoice a strong answer: 'so we don't need any numbers, we just hold it against a right angle.'

COMMON MISCONCEPTIONS

⚠ A pupil says a tilted angle is 'bigger' or a different size just because it points a different way.

Take the two strips joined at a point, set an opening, then rotate the whole thing without changing the opening. 'Same gap, just turned.' Hold the square corner against it in both positions to show the comparison doesn't change.

⚠ Pupils label an exact square corner as acute or obtuse rather than a right angle — they feel they must pick one of the two new words.

On the exact-right-angle round, hold the folded-paper checker flush against it so the class sees it matches exactly. 'It's neither smaller nor bigger — it IS the corner, so it's a right angle.'

⚠ On a near-right angle, pupils guess by eye and can't decide because it looks 'about the same' as the corner.

Insist on the physical check — hold the folded-paper corner against the angle and look for the sliver of gap. If the angle's opening peeks out past the corner it's obtuse; if the corner overhangs it, it's acute.

DIFFERENTIATION

EMERGING

- Give these pupils only the clearly-narrow and clearly-wide cards at the board first — skip the close-to-square ones until they're confident naming the obvious two.
- Let them keep the folded-paper checker physically in hand during the copybook drawing so every check is done with kit, not by eye.

DEVELOPING

- After the copybook page, ask them to draw a third angle that is 'only just acute' and prove it with the corner check.
- Hand a mixed set from the challenge and ask them to say aloud not just the name but why — 'obtuse because the opening peeks past the corner.'

PROFICIENT

- Pose: without the checker, can you find three things in the classroom with an acute angle and three with an obtuse angle? They must justify each against a square corner.
- Pull them ahead into the Student Activity Book page and ask them to predict what a 'straight angle' will look like when it's introduced — bigger than obtuse, but is it still an angle?

✂ **Cross-curricular:** Tie to Visual Arts — pupils spot acute and obtuse angles in the roof-lines and gables of buildings around the school, sketching one of each.

ANSWER KEY

Scaffold: visual check on the page

Q1: right

Q2: acute

Q3: obtuse

Spot: An angle bigger than a right angle is obtuse. Acute angles are the ones smaller than a right angle.

EXTENSION SHEET · STRETCH ANSWERS

S1: 17° is acute

S2: 47° is acute

S3: 15° is acute

S4: 73° is acute

S5: 109° is obtuse