

Teacher guide: Calculator fluency and accuracy

Objective: Use a calculator efficiently while checking magnitude, accuracy and units.

Calculator condition: Calculator allowed where labelled; non-calculator reasoning remains required.

Learning Cycle plan

Stage	Time	Teacher move	Evidence to collect
Connect & Check	5 min	State the objective and timeline. Retrieve non-calculator number and algebra or a prerequisite. Diagnose a common error before modelling.	Independent written response, correction or verbal explanation.
Share	7 min	Pairs compare methods or predict a result for calculator fluency and accuracy. Ask for a reason, not only an answer.	Independent written response, correction or verbal explanation.
Present	10 min	Use assessment evidence to select a worked-example/problem pair. Fade prompts and review a fresh independent response with the learner	Independent written response, correction or verbal explanation.
Apply	25 min	Update the error log; schedule a fresh delayed question and explain how to check the answer Use guided support, then remove it for independent working.	Independent written response, correction or verbal explanation.
Recall & Review	8 min	Revisit the objective. Learners solve a fresh item without prompts, explain a check, correct one error and record the next practice.	Independent written response, correction or verbal explanation.

Differentiation

- All learners reach the same objective; route choice changes the journey, not the standard.
- Use visual, method and explanation routes to support access.
- Remove prompts before exit evidence.
- Use stretch and deep challenge only after the core method is secure.

Assessment response

- Check the formative mini-test and independent workbook response against the objective. Use the teacher answers or mark guidance; group errors for reteaching. Calculator and non-calculator as appropriate to repair.

Recall & Review: feedback and extension integration

Lesson L105: Calculator fluency and accuracy

Objective: Use a calculator efficiently while checking magnitude, accuracy and units.

Timing for a 60-minute lesson

0-7 Connect & Check; 7-14 Share; 14-25 Present/model; 25-44 Apply route choice/practice; 44-52 independent exam-style check; 52-60 Recall & Review, WWW/EBI and next step.

Recall & Review evidence

At the end of the lesson, solve a fresh question without prompts, explain one check, correct one error and record the next practice step.

What Went Well (WWW)

I selected an efficient numerical method, showed the key steps clearly and checked the sign, size or accuracy of my answer.

Even Better If (EBI)

I will make the place-value, sign or operation decision explicit and use estimation or an inverse calculation to check a fresh question.

Integrated stretch and deep challenge

Stretch: Find the value of 250×1.035^4 to the nearest penny.

Deep challenge: A result is 0.00048372. Round to three significant figures and explain the first significant digit.

Teacher use

Use the What Went Well (WWW) and Even Better If (EBI) prompts to write mathematics-specific feedback linked to the objective. Do not accept generic praise: identify the method, representation, reasoning or checking step that improved, then set a fresh next-step question.

Assessment evidence to inspect: Check the formative mini-test and independent workbook response against the objective. Use the teacher answers or mark guidance; group errors for reteaching. Calculator and non-calculator as appropriate to repair.