

Teacher guide: Averages and spread

Objective: Calculate and interpret averages and range, including grouped estimates.

Calculator condition: Non-calculator core; calculator optional only for checking where labelled.

Learning Cycle plan

Stage	Time	Teacher move	Evidence to collect
Connect & Check	5 min	State the objective and timeline. Retrieve tables charts and time series 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 averages and spread. Ask for a reason, not only an answer.	Independent written response, correction or verbal explanation.
Present	10 min	Contrast exact data with grouped estimates; explore the effect of an outlier	Independent written response, correction or verbal explanation.
Apply	25 min	Compare summaries and justify a suitable average 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. NC/C selected to purpose; label each question.

Recall & Review: feedback and extension integration

Lesson L047: Averages and spread

Objective: Calculate and interpret averages and range, including grouped estimates.

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 appropriate statistic or representation and supported my comparison or interpretation with specific evidence from the data.

Even Better If (EBI)

I will quote the relevant values or features, compare like with like and explain what the evidence shows without making an unsupported claim.

Integrated stretch and deep challenge

Stretch: Five numbers have mean 12. Four are 8, 11, 13 and 15. Find the fifth and the range.

Deep challenge: A data set has mean 10. One new value of 100 is added. Must the median increase?

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. NC/C selected to purpose; label each question.