

TEACHER AND STUDENT PACKET

Representing Data with Technology

NC Math 1 • NC.M1.S-ID.1



Seven instructional sections • 30 multiple-choice items • 30 open and performance tasks

Detailed teacher scripts, supplied datasets, original data displays, student workspaces, worked keys, rubrics, and observation records.

Reusable across multiple lessons. Choose a focused subset for each session; the 60-item bank is not a one-sitting assessment.

Free sample | Contents

NC.M1.S-ID.1 | NC Math 1 mathematics

This sample contains 21 complete selected pages from the 123-page resource, plus this sample contents page. Original printed page numbers are retained. Gaps are intentional.

Included original pages: 1-16, 45-46, 76, 91-92

Representative activities

M01: sample PDF page(s) 16; original page(s) 15

M02: sample PDF page(s) 17; original page(s) 16

O01: sample PDF page(s) 18; original page(s) 45

O02: sample PDF page(s) 19; original page(s) 46

Selected teacher prompts and keys: original page(s) 76, 91-92

Using this sample

Read the preparation and access guidance before using a selected activity.
Keep teacher keys and private preparation pages separate from student copies.
Use the original resource contents to see the scope of the complete packet.

Complete paid download

The complete resource includes the full PDF task bank and teaching materials.

ALIGNMENT

Standard, scope, and targets

Use technology to represent data with plots on the real number line (histograms, and box plots).

- Enter and validate a complete numerical dataset.
- Use technology to generate a frequency histogram with explicit bin rules.
- Use technology to generate and validate an ordinary box plot.
- Explain how plot settings affect the information shown.

Every task has its own printed neutral target. All nested scope is included; this standard has no lettered subobjectives. Course placement is NC Math 1, not a fixed grade.

Bank navigation

Warm-up: M01-M04 and O01-O04 (4 in each bank).

I Do: M05-M08 and O05-O08 (4 in each bank).

We Do: M09-M13 and O09-O13 (5 in each bank).

Collaborative practice: M14-M18 and O14-O18 (5 in each bank).

Independent practice: M19-M23 and O19-O23 (5 in each bank).

Small-group reteach: M24-M27 and O24-O27 (4 in each bank).

Exit ticket: M28-M30 and O28-O30 (3 in each bank).

PLANNING AND ACCESS

Plan for meaningful evidence

Suggested sequence: Session 1, conventions and first model; Session 2, supported construction/comparison; Session 3, independent transfer; Session 4, targeted reteach and an exit performance. Use 35-55 minute lessons flexibly. Save unused bank items for later checks.

Prerequisites: order real numbers, count repeated observations, compute a mean and median, interpret equal-interval scales, and distinguish a count from the measured units. Check these in an unscored mini-task before the selected standard task.

Materials: printed workspaces, pencil, ruler, and school-approved calculator/statistics software. For S-ID.1 every learner needs access to a tool that can produce histograms and ordinary box plots with configurable bins/quartiles or custom plotting from calculated summaries. Secure tool approval and access before assessment; no particular brand, account, or internet access is assumed.

Access: enlarge print, read directions verbatim, provide tactile or high-contrast scales, permit dictation, or use an accessible school-approved plotting tool. Keep data and task demand unchanged. Do not provide completed plots, selected summaries, or answer values as neutral supports. Log any answer-supplying cues separately.

If technology is unavailable, teach the hand construction as preparation. Record N/O for the S-ID.1 technology performance and arrange a later accessible tool session; do not treat a paper substitute as completed technology evidence.

Teacher preparation: run the chosen tool on the worked model, inspect bin endpoints and quartile defaults, and ensure learner exports can be printed or attached. These packet examples are generated illustrations; they do not document any learner's runtime activity.

REFERENCE

Conventions and anchor chart

Quartiles: sort the data, take the median, then take the median of each half; exclude the overall median when n is odd. Ordinary box plots use minimum and maximum whiskers even when a value is flagged. A modified box plot would use fences and separate outlier marks; do not mix the conventions. Outlier flags use values strictly below $Q1 - 1.5 \times IQR$ or above $Q3 + 1.5 \times IQR$. All batches are complete fictional populations, so $SD = \sqrt{(\sum(x - \text{mean})^2/n)}$, not sample s with $n - 1$. Report decimal statistics to two places when needed, rounding halfway away from zero; keep intermediate calculations unrounded. All tasks are educational synthetic data, not measurements of children or other identifiable people.

How to choose summaries

For roughly symmetric distributions without dominating extremes, mean and SD use all observations. For skewed distributions or strong extreme observations, median and IQR often better describe a typical value and the middle half. Always describe the shape first; the mean remains mathematically valid but may poorly describe a typical case.

Histogram: use equal-width bins, state endpoint inclusion, label the measured units horizontally and frequency vertically. Adjacent bins touch. Box plot: locate the five-number summary on one uniform real-number scale. Dot plot: use one dot per observation and stack repeats. Compare groups only on the same horizontal scale.

Outlier reasoning: an outlier rule flags observations for attention. It is not proof of an error. Explain whether the value is valid for the intended population before deciding to correct, remove, or retain it.

TEACHER DEMONSTRATION

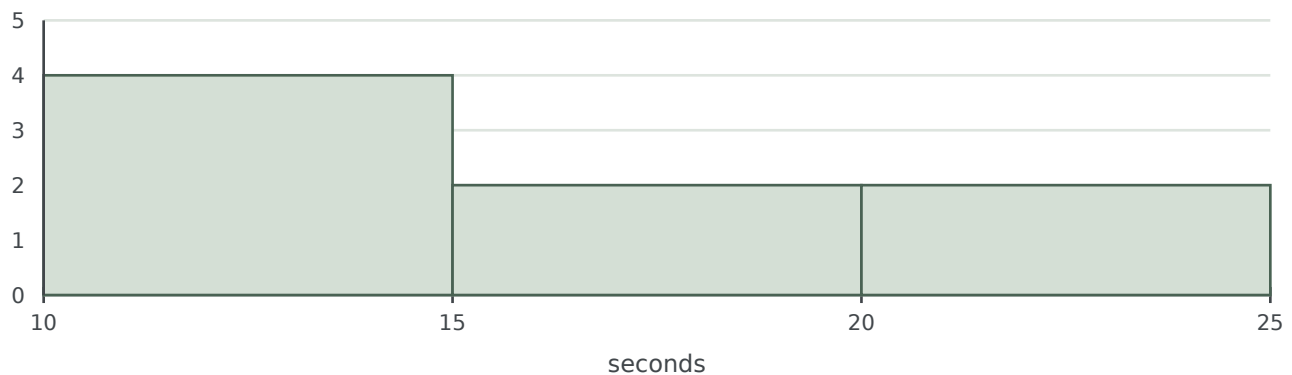
Worked model: build and check

Fictional machine cycle times (seconds): 10, 12, 12, 14, 16, 18, 20, 22. Sort and check $n = 8$. Lower half 10,12,12,14 has median 12. Upper half 16,18,20,22 has median 19. Overall median $= (12 + 19)/2 = 15.5$. Mean $= 124/8 = 15.5$. IQR $= 19 - 12 = 7$ seconds.

In the approved tool: clear a new data list; enter all eight values (keep both 12s). Select frequency histogram; set start 10, width 5, end 25 and bins $[10,15)$, $[15,20)$, $[20,25)$. Verify counts 4,2,2. Select ordinary box plot. Check min 10, Q1 12, median 15.5, Q3 19, max 22; configure quartiles or plot these coordinates in the tool. Record the settings and save both outputs.

Frequency histogram

Frequency

**Ordinary box plot**

TEACHER DEMONSTRATION

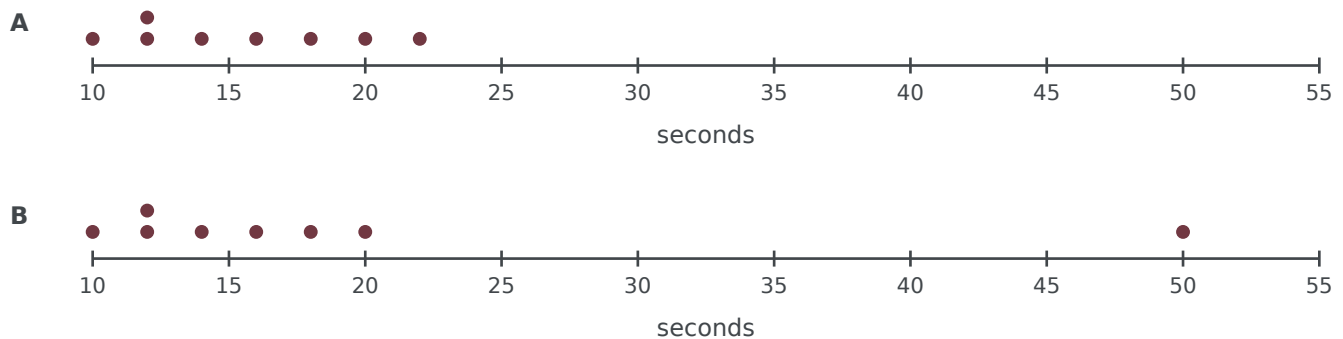
Worked model: compare and explain

Change the last observation from 22 to 50 seconds. Original: Sorted data: 10, 12, 12, 14, 16, 18, 20, 22. $n = 8$, $\text{sum} = 124$; $\text{mean} = 124/8 = 15.5$. Five-number summary (min, Q1, median, Q3, max): (10, 12, 15, 19, 22). $\text{IQR} = 19 - 12 = 7$. Sum of squared deviations = 126; population $\text{SD} = \sqrt{126/8} = 3.97$. Range = 12. Fence interval: [1.5, 29.5].

Changed: Sorted data: 10, 12, 12, 14, 16, 18, 20, 50. $n = 8$, $\text{sum} = 152$; $\text{mean} = 152/8 = 19$. Five-number summary (min, Q1, median, Q3, max): (10, 12, 15, 19, 50). $\text{IQR} = 19 - 12 = 7$. Sum of squared deviations = 1176; population $\text{SD} = \sqrt{1176/8} = 12.12$. Range = 40. Fence interval: [1.5, 29.5].

The high tail lengthens. Mean rises from 15.5 to 19; median stays 15 and IQR stays 7. SD rises from 3.97 to 12.12 seconds; range rises from 12 to 40 seconds. The new upper fence is 29.5, so 50 is flagged. The graph alone cannot tell whether 50 is an error. Mean/SD are more affected here than median/IQR.

Aligned dot plots



REPRODUCIBLE

Reasoning organizer

Learner: _____ Date: _____ Task: _____

Givens, units, and complete data**Representation / tool and settings****Calculations and checks****Contextual conclusion / limitations**

TEACHING SCRIPT

Warm-up

Core performance: O01. Optional bank: M01-M04, O01-O04. Suggested 8-18 minutes for the core discussion; complete tool work over a longer block as needed.

Target: Use technology to construct and validate data plots.

Launch: ask learners what each value measures and why repeated values count separately. First take an unprompted response to the selected M item.

Teacher language: “What must stay the same for this comparison to be fair? Show me where your statement appears in the data or graph. Which convention did you use?”

Core checkpoint for O01: A has $n = 10$, mean 45.4, median 50, IQR 2, population SD 11.54 seconds. Histogram counts: [15, 20): 1; [20, 25): 0; [25, 30): 1; [30, 35): 0; [35, 40): 0; [40, 45): 0; [45, 50): 1; [50, 55): 6; [55, 60): 1. The right endpoint belongs to the next bin; no value equals the final upper edge. Full worked calculations and graphs appear in the task key.

Watch for: dropped repeats, unequal comparison scales, inclusive bins counted twice, confusing SD with variance, and treating a center as a spread. Ask the learner to trace an actual value through the representation. For a quartile discrepancy, inspect the software convention before marking the arithmetic wrong.

Response to a gap: reconstruct the ordered list and mark its two middle positions; then split the halves. For SD, calculate each deviation, square it, average the squares over n , and take the square root. For S-ID.1, guide navigation without entering the learner’s data or selecting their final answer.

Closure and evidence: preserve the first response, note tool/settings and access supports, then ask for a short contextual conclusion. Record later prompted work separately. Select the next task according to the specific missing representation or interpretation.

TEACHING SCRIPT

I Do

Core performance: O05. Optional bank: M05-M08, O05-O08. Suggested 8-18 minutes for the core discussion; complete tool work over a longer block as needed.

Target: Use technology to construct and validate data plots.

Model: narrate the calculation or tool setting while projecting a teacher copy. Keep the original data visible; ask learners to verify one step instead of copying silently.

Teacher language: “What must stay the same for this comparison to be fair? Show me where your statement appears in the data or graph. Which convention did you use?”

Core checkpoint for O05: A has $n = 10$, mean 45.5, median 50, IQR 2, population SD 10.78 seconds. Histogram counts: [20, 25): 1; [25, 30): 1; [30, 35): 0; [35, 40): 0; [40, 45): 0; [45, 50): 2; [50, 55): 6. The right endpoint belongs to the next bin; no value equals the final upper edge. Full worked calculations and graphs appear in the task key.

Watch for: dropped repeats, unequal comparison scales, inclusive bins counted twice, confusing SD with variance, and treating a center as a spread. Ask the learner to trace an actual value through the representation. For a quartile discrepancy, inspect the software convention before marking the arithmetic wrong.

Response to a gap: reconstruct the ordered list and mark its two middle positions; then split the halves. For SD, calculate each deviation, square it, average the squares over n , and take the square root. For S-ID.1, guide navigation without entering the learner’s data or selecting their final answer.

Closure and evidence: preserve the first response, note tool/settings and access supports, then ask for a short contextual conclusion. Record later prompted work separately. Select the next task according to the specific missing representation or interpretation.

TEACHING SCRIPT

We Do

Core performance: O09. Optional bank: M09-M13, O09-O13. Suggested 8-18 minutes for the core discussion; complete tool work over a longer block as needed.

Target: Use technology to construct and validate data plots.

Elicit: have learners propose the scale and compute one checkpoint. Wait for a reason before confirming the value.

Teacher language: “What must stay the same for this comparison to be fair? Show me where your statement appears in the data or graph. Which convention did you use?”

Core checkpoint for O09: A has $n = 10$, mean 39.6, median 44, IQR 3, population SD 11.51 grams. Histogram counts: [10, 15): 1; [15, 20): 0; [20, 25): 1; [25, 30): 0; [30, 35): 0; [35, 40): 0; [40, 45): 4; [45, 50): 4. The right endpoint belongs to the next bin; no value equals the final upper edge. Full worked calculations and graphs appear in the task key.

Watch for: dropped repeats, unequal comparison scales, inclusive bins counted twice, confusing SD with variance, and treating a center as a spread. Ask the learner to trace an actual value through the representation. For a quartile discrepancy, inspect the software convention before marking the arithmetic wrong.

Response to a gap: reconstruct the ordered list and mark its two middle positions; then split the halves. For SD, calculate each deviation, square it, average the squares over n , and take the square root. For S-ID.1, guide navigation without entering the learner’s data or selecting their final answer.

Closure and evidence: preserve the first response, note tool/settings and access supports, then ask for a short contextual conclusion. Record later prompted work separately. Select the next task according to the specific missing representation or interpretation.

TEACHING SCRIPT

Collaborative practice

Core performance: O14. Optional bank: M14-M18, O14-O18. Suggested 8-18 minutes for the core discussion; complete tool work over a longer block as needed.

Target: Use technology to construct and validate data plots.

Partner roles: one learner constructs or computes; the other checks against the original list. Switch roles for a second item and retain each learner's explanation.

Teacher language: "What must stay the same for this comparison to be fair? Show me where your statement appears in the data or graph. Which convention did you use?"

Core checkpoint for O14: A has $n = 12$, mean 19.75, median 19.5, IQR 9, population SD 5.07 mL. Histogram counts: [10, 15): 2; [15, 20): 4; [20, 25): 3; [25, 30): 3. The right endpoint belongs to the next bin; no value equals the final upper edge. Full worked calculations and graphs appear in the task key.

Watch for: dropped repeats, unequal comparison scales, inclusive bins counted twice, confusing SD with variance, and treating a center as a spread. Ask the learner to trace an actual value through the representation. For a quartile discrepancy, inspect the software convention before marking the arithmetic wrong.

Response to a gap: reconstruct the ordered list and mark its two middle positions; then split the halves. For SD, calculate each deviation, square it, average the squares over n , and take the square root. For S-ID.1, guide navigation without entering the learner's data or selecting their final answer.

Closure and evidence: preserve the first response, note tool/settings and access supports, then ask for a short contextual conclusion. Record later prompted work separately. Select the next task according to the specific missing representation or interpretation.

TEACHING SCRIPT

Independent practice

Core performance: O19. Optional bank: M19-M23, O19-O23. Suggested 8-18 minutes for the core discussion; complete tool work over a longer block as needed.

Target: Use technology to construct and validate data plots.

Independent evidence: provide only the task and neutral access supports. Collect the first response before discussing corrections.

Teacher language: “What must stay the same for this comparison to be fair? Show me where your statement appears in the data or graph. Which convention did you use?”

Core checkpoint for O19: A has $n = 8$, mean 21, median 21, IQR 11, population SD 6.28 cm. Histogram counts: [10, 15): 1; [15, 20): 3; [20, 25): 0; [25, 30): 3; [30, 35): 1. The right endpoint belongs to the next bin; no value equals the final upper edge. Full worked calculations and graphs appear in the task key.

Watch for: dropped repeats, unequal comparison scales, inclusive bins counted twice, confusing SD with variance, and treating a center as a spread. Ask the learner to trace an actual value through the representation. For a quartile discrepancy, inspect the software convention before marking the arithmetic wrong.

Response to a gap: reconstruct the ordered list and mark its two middle positions; then split the halves. For SD, calculate each deviation, square it, average the squares over n , and take the square root. For S-ID.1, guide navigation without entering the learner’s data or selecting their final answer.

Closure and evidence: preserve the first response, note tool/settings and access supports, then ask for a short contextual conclusion. Record later prompted work separately. Select the next task according to the specific missing representation or interpretation.

TEACHING SCRIPT

Small-group reteach

Core performance: O24. Optional bank: M24-M27, O24-O27. Suggested 8-18 minutes for the core discussion; complete tool work over a longer block as needed.

Target: Use technology to construct and validate data plots.

Diagnose: compare the first response with the original data. Reteach only the missing step, then use a different unused item to check transfer.

Teacher language: “What must stay the same for this comparison to be fair? Show me where your statement appears in the data or graph. Which convention did you use?”

Core checkpoint for O24: A has $n = 10$, mean 43.1, median 39, IQR 3, population SD 9.2 cm. Histogram counts: [35, 40): 6; [40, 45): 2; [45, 50): 0; [50, 55): 0; [55, 60): 1; [60, 65): 0; [65, 70): 1. The right endpoint belongs to the next bin; no value equals the final upper edge. Full worked calculations and graphs appear in the task key.

Watch for: dropped repeats, unequal comparison scales, inclusive bins counted twice, confusing SD with variance, and treating a center as a spread. Ask the learner to trace an actual value through the representation. For a quartile discrepancy, inspect the software convention before marking the arithmetic wrong.

Response to a gap: reconstruct the ordered list and mark its two middle positions; then split the halves. For SD, calculate each deviation, square it, average the squares over n , and take the square root. For S-ID.1, guide navigation without entering the learner’s data or selecting their final answer.

Closure and evidence: preserve the first response, note tool/settings and access supports, then ask for a short contextual conclusion. Record later prompted work separately. Select the next task according to the specific missing representation or interpretation.

TEACHING SCRIPT

Exit ticket

Core performance: O28. Optional bank: M28-M30, O28-O30. Suggested 8-18 minutes for the core discussion; complete tool work over a longer block as needed.

Target: Use technology to construct and validate data plots.

Close: use the selected exit task without answer cues. Ask for one graph feature and one numerical statement that agree.

Teacher language: “What must stay the same for this comparison to be fair? Show me where your statement appears in the data or graph. Which convention did you use?”

Core checkpoint for O28: A has $n = 10$, mean 44.5, median 40, IQR 4, population SD 10.9 minutes. Histogram counts: [35, 40): 4; [40, 45): 4; [45, 50): 0; [50, 55): 0; [55, 60): 0; [60, 65): 1; [65, 70): 0; [70, 75): 1. The right endpoint belongs to the next bin; no value equals the final upper edge. Full worked calculations and graphs appear in the task key.

Watch for: dropped repeats, unequal comparison scales, inclusive bins counted twice, confusing SD with variance, and treating a center as a spread. Ask the learner to trace an actual value through the representation. For a quartile discrepancy, inspect the software convention before marking the arithmetic wrong.

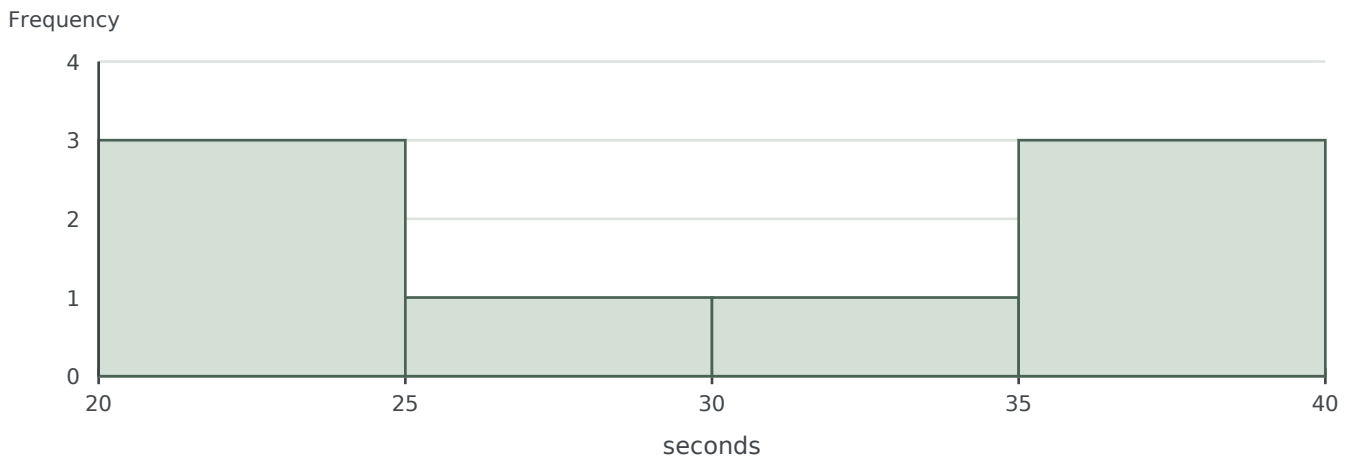
Response to a gap: reconstruct the ordered list and mark its two middle positions; then split the halves. For SD, calculate each deviation, square it, average the squares over n , and take the square root. For S-ID.1, guide navigation without entering the learner’s data or selecting their final answer.

Closure and evidence: preserve the first response, note tool/settings and access supports, then ask for a short contextual conclusion. Record later prompted work separately. Select the next task according to the specific missing representation or interpretation.

MULTIPLE CHOICE

M01**M01 • Warm-up • Read a histogram bin frequency.**

Fictional machine cycle times (seconds): 20, 22, 23, 27, 31, 35, 36, 38. Bins have width 5 and use left-inclusive, right-exclusive intervals. How many values belong to $[25, 30)$?

Frequency histogram

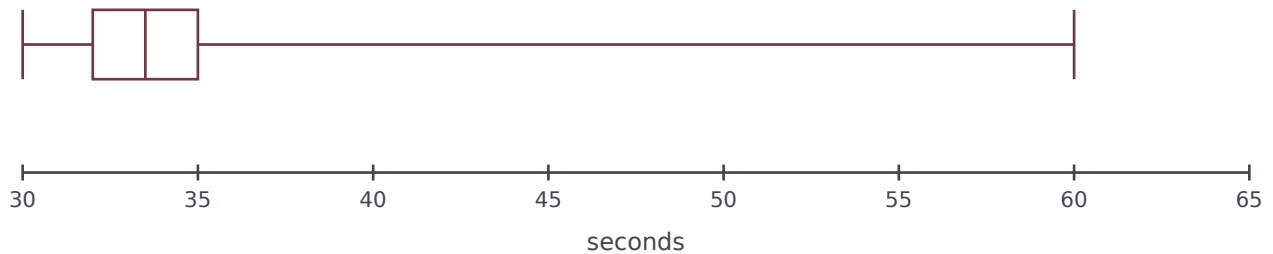
- A. 6
- B. 2
- C. 1
- D. 3

Reasoning / data check: _____

MULTIPLE CHOICE

M02**M02 • Warm-up • Identify the median on a box plot.**

Fictional machine cycle times (seconds): 30, 32, 32, 33, 33, 34, 34, 35, 49, 60.
Using the median-of-halves convention, where is the median line on the box plot?

Ordinary box plot

- A. 49.50 seconds
- B. 31.00 seconds
- C. 43.00 seconds
- D. 33.50 seconds

Reasoning / data check: _____

OPEN / PERFORMANCE

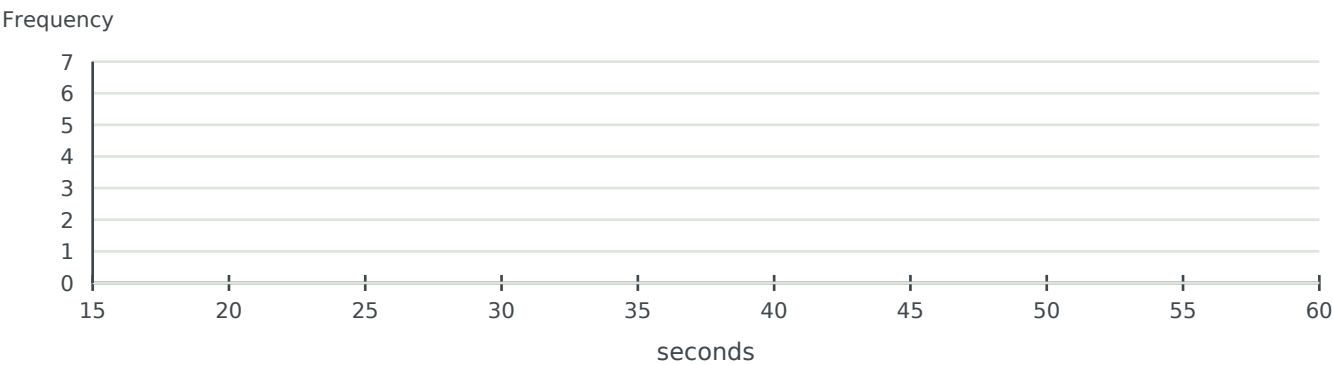
001 • Warm-up

Target: Use technology to construct and validate data plots.

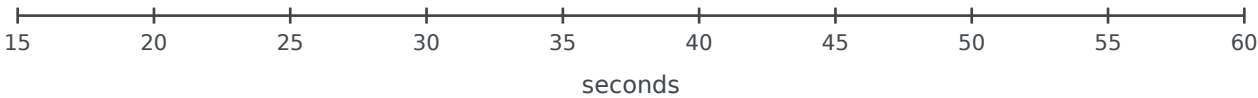
Use a school-approved graphing calculator or statistics application. Enter the complete fictional machine cycle times dataset (seconds): 18, 28, 49, 50, 50, 50, 50, 51, 53, 55. Generate a frequency histogram with bin edges 15, 20, 25, 30, 35, 40, 45, 50, 55, 60 and left-inclusive/right-exclusive bins. Generate an ordinary min-to-max box plot using the declared quartile convention. Record the tool and commands/settings; attach, print, or faithfully sketch both actual outputs in the separate workspaces. Then audit the bin counts against the original list. Label units and report the five-number summary. Do not substitute a hand drawing for running the technology.

Tool: _____ Commands/settings: _____

Histogram output: sketch actual tool output or attach print



Box-plot output: sketch actual tool output or attach print



Five-number summary, validation, and explanation

OPEN / PERFORMANCE

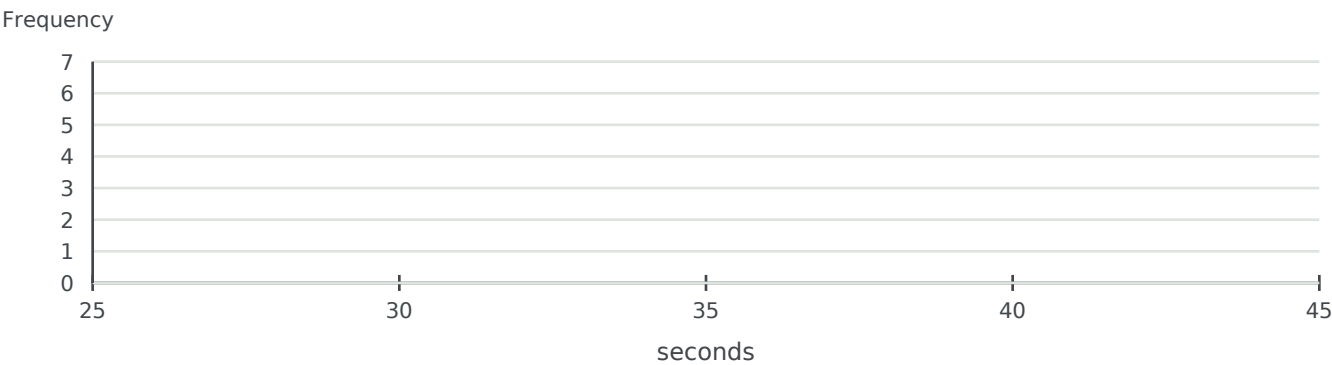
002 • Warm-up

Target: Use technology to construct and validate data plots.

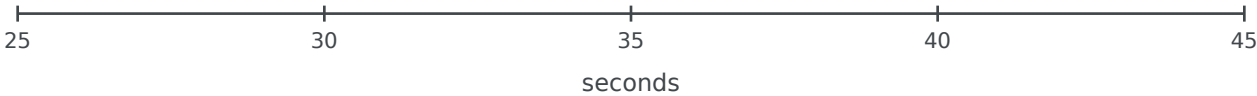
Use a school-approved graphing calculator or statistics application. Enter the complete fictional machine cycle times dataset (seconds): 28, 28, 29, 30, 30, 30, 31, 31, 32, 41, 41, 42. Generate a frequency histogram with bin edges 25, 30, 35, 40, 45 and left-inclusive/right-exclusive bins. Generate an ordinary min-to-max box plot using the declared quartile convention. Record the tool and commands/settings; attach, print, or faithfully sketch both actual outputs in the separate workspaces. Then explain how repeated values are counted. Label units and report the five-number summary. Do not substitute a hand drawing for running the technology.

Tool: _____ Commands/settings: _____

Histogram output: sketch actual tool output or attach print



Box-plot output: sketch actual tool output or attach print



Five-number summary, validation, and explanation

TEACHER KEY

M01 and M02 • worked key**M01 target: Read a histogram bin frequency.****Answer C: 1**

Count values ≥ 25 and < 30 : 27; frequency = 1. A: 6 differs from the recomputed 1; check the stated statistic, operation, and rounding rather than infer a misconception from this choice alone. B: 2 differs from the recomputed 1; check the stated statistic, operation, and rounding rather than infer a misconception from this choice alone. C: agrees with the calculation. D: 3 differs from the recomputed 1; check the stated statistic, operation, and rounding rather than infer a misconception from this choice alone.

Evidence: a selected letter alone is recognition evidence. Ask for the calculation or graph feature supporting the choice before attributing a specific misconception. Use the matching performance task to examine construction and explanation.

M02 target: Identify the median on a box plot.**Answer D: 33.50 seconds**

There are 10 sorted values. Average the middle pair 33 and 34 to get 33.5. A: 49.5 differs from the recomputed 33.5; check the stated statistic, operation, and rounding rather than infer a misconception from this choice alone. B: 31 differs from the recomputed 33.5; check the stated statistic, operation, and rounding rather than infer a misconception from this choice alone. C: 43 differs from the recomputed 33.5; check the stated statistic, operation, and rounding rather than infer a misconception from this choice alone. D: agrees with the calculation.

Evidence: a selected letter alone is recognition evidence. Ask for the calculation or graph feature supporting the choice before attributing a specific misconception. Use the matching performance task to examine construction and explanation.

TEACHER KEY

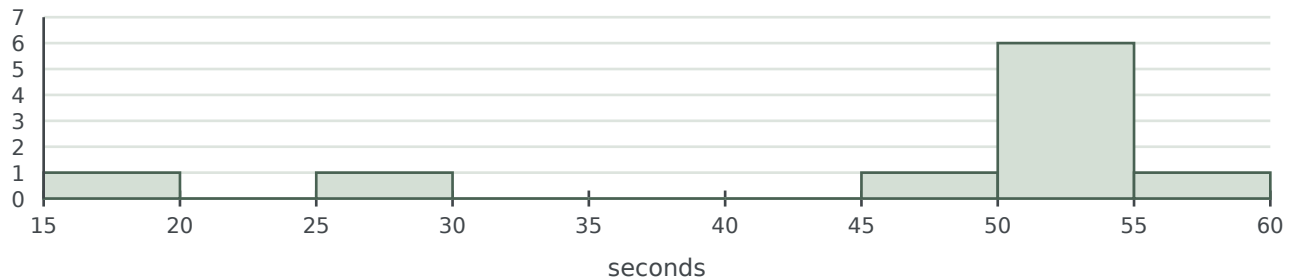
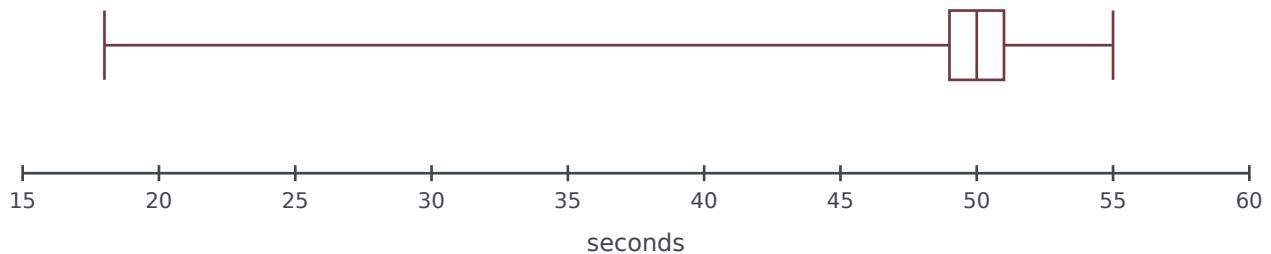
001 • worked key

Target: Use technology to construct and validate data plots.

Histogram frequencies: [15, 20): 1; [20, 25): 0; [25, 30): 1; [30, 35): 0; [35, 40): 0; [40, 45): 0; [45, 50): 1; [50, 55): 6; [55, 60): 1. The right endpoint belongs to the next bin; no value equals the final upper edge. Sorted data: 18, 28, 49, 50, 50, 50, 50, 51, 53, 55. $n = 10$, $\text{sum} = 454$; $\text{mean} = 454/10 = 45.4$. Five-number summary (min, Q1, median, Q3, max): (18, 49, 50, 51, 55). $\text{IQR} = 51 - 49 = 2$. Sum of squared deviations = 1332.4; population $\text{SD} = \sqrt{1332.4/10} = 11.54$. Range = 37. Fence interval: [46, 54]. Both horizontal axes are machine cycle times (seconds); histogram vertical axis is frequency. Ordinary whiskers reach 18 and 55. The frequencies sum to 10; each listed datum lies in exactly one specified interval. Technology evidence: inspect saved output and tool/settings record; verify the actual learner ran both representations. A correct hand sketch alone does not establish the technology target. Tool defaults may use interpolated quartiles; configure median-of-halves or use the computed five-number summary to construct the ordinary box plot in the tool.

Frequency histogram

Frequency

**Ordinary box plot**

Assess: accurate representation; correct calculations/conventions; reasoning tied to evidence; contextual conclusion with units. Accept equivalent exact calculations and defensible explanations. Use the dimension rubric; record actual tool use separately where required.

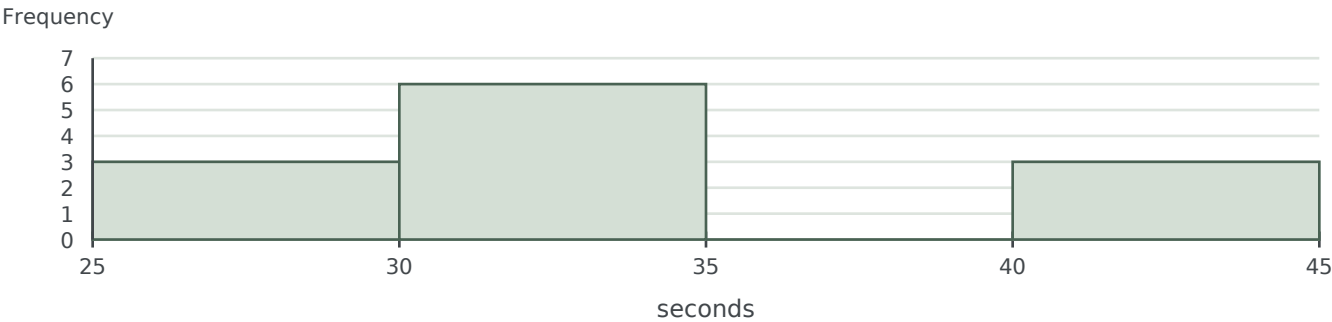
TEACHER KEY

002 • worked key

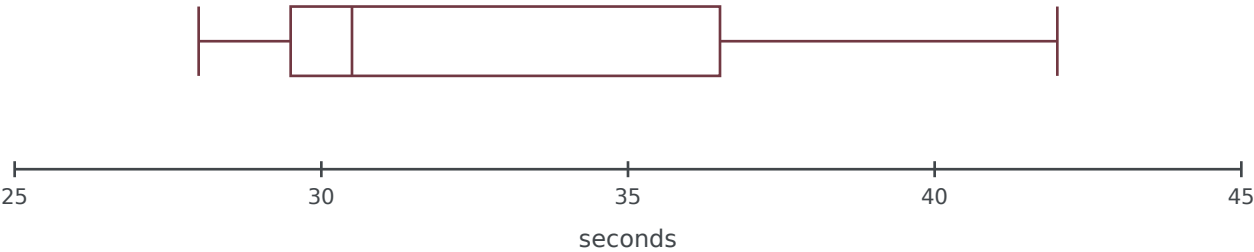
Target: Use technology to construct and validate data plots.

Histogram frequencies: [25, 30): 3; [30, 35): 6; [35, 40): 0; [40, 45): 3. The right endpoint belongs to the next bin; no value equals the final upper edge. Sorted data: 28, 28, 29, 30, 30, 30, 31, 31, 32, 41, 41, 42. $n = 12$, $\text{sum} = 393$; $\text{mean} = 393/12 = 32.75$. Five-number summary (min, Q1, median, Q3, max): (28, 29.5, 30.5, 36.5, 42). $\text{IQR} = 36.5 - 29.5 = 7$. Sum of squared deviations = 310.25; population SD = $\sqrt{(310.25/12)} = 5.08$. Range = 14. Fence interval: [19, 47]. Both horizontal axes are machine cycle times (seconds); histogram vertical axis is frequency. Ordinary whiskers reach 28 and 42. Each repeated occurrence contributes one to its bin; a box plot does not display individual multiplicities. Technology evidence: inspect saved output and tool/settings record; verify the actual learner ran both representations. A correct hand sketch alone does not establish the technology target. Tool defaults may use interpolated quartiles; configure median-of-halves or use the computed five-number summary to construct the ordinary box plot in the tool.

Frequency histogram



Ordinary box plot



Assess: accurate representation; correct calculations/conventions; reasoning tied to evidence; contextual conclusion with units. Accept equivalent exact calculations and defensible explanations. Use the dimension rubric; record actual tool use separately where required.