Staff complete keys, component criteria and next teaching

Do not send this document, staff data/payload or whole stage index to a learner. Accept correct alternative reasoning and usual communication. Accuracy/components matter, not speed, presentation polish, amount written or compliance with touch/drawing. The four descriptive evidence states below are not a numerical scale or grade.

For each component: independently shown = accurate meaning/reason produced without a mathematical cue; shown with named help = accurate result with the actual cue/action recorded; partial = record exactly which part was shown and what remains unresolved; not observed = no relevant evidence yet, including a declined/paused turn. Neutral reading/scribing may still be recorded as access support. Adult-computed correct answers are not independent learner computation.

f-first · Named whole and fraction representation

Full source: ORIGINAL FICTIONAL SOURCE: One paper notice is the whole. It has 4 equal-width sections at the same height. 1 sections are marked READY. The diagram shows these equal sections; they are not real measurements. No response has been supplied.

Q 1 · What is the whole, and why do these parts qualify as equal parts?

Worked/acceptable response: The complete paper notice; sections have equal width and common height, hence equal area. Piece count alone would not establish equality.

Component criterion: Named whole and justified equal-size parts.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Compare a new equal and unequal halves partition; name its whole.

Q 2 · What unit fraction is one section of this whole?

Worked/acceptable response: 1/4: one of 4 equal parts of that whole.

Component criterion: Unit fraction with denominator meaning.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use a new ten-equal-part strip, one part, without the held facts.

Q 3 · What fraction is READY? Explain numerator and denominator.

Worked/acceptable response: 1/4; 1 selected equal sections out of 4.

Component criterion: Multiple with selected-count and whole meanings.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use a new four-equal-group set with two selected.

Q 4 · Show or describe the READY fraction in a different representation with its whole named.

Worked/acceptable response: Accept an equal-length strip, equal-gap 0–1 number line or equally counted set split into 4 equal groups with 1 groups selected; state its whole. Do not require a drawing or a specific decoration.

Component criterion: Second coherent representation preserving the same fraction relationship.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Translate an unrelated one-half set into a strip or full spoken description.

f-later · Named whole and fraction representation

Full source: ORIGINAL FICTIONAL SOURCE: One fictional trail sign is the whole. It has 3 equal-width sections at the same height. 2 sections are marked READY. The diagram shows these equal sections; they are not real measurements. No response has been supplied.

Q 1 · What is the whole, and why do these parts qualify as equal parts?

Worked/acceptable response: The complete fictional trail sign; sections have equal width and common height, hence equal area. Piece count alone would not establish equality.

Component criterion: Named whole and justified equal-size parts.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Compare a new equal and unequal halves partition; name its whole.

Q 2 · What unit fraction is one section of this whole?

Worked/acceptable response: 1/3: one of 3 equal parts of that whole.

Component criterion: Unit fraction with denominator meaning.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use a new ten-equal-part strip, one part, without the held facts.

Q 3 · What fraction is READY? Explain numerator and denominator.

Worked/acceptable response: 2/3; 2 selected equal sections out of 3.

Component criterion: Multiple with selected-count and whole meanings.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use a new four-equal-group set with two selected.

Q 4 · Show or describe the READY fraction in a different representation with its whole named.

Worked/acceptable response: Accept an equal-length strip, equal-gap 0–1 number line or equally counted set split into 3 equal groups with 2 groups selected; state its whole. Do not require a drawing or a specific decoration.

Component criterion: Second coherent representation preserving the same fraction relationship.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Translate an unrelated one-half set into a strip or full spoken description.

f-reserve · Named whole and fraction representation

Full source: ORIGINAL FICTIONAL SOURCE: One story-display strip is the whole. It has 5 equal-width sections at the same height. 3 sections are marked READY. The diagram shows these equal sections; they are not real measurements. No response has been supplied.

Q 1 · What is the whole, and why do these parts qualify as equal parts?

Worked/acceptable response: The complete story-display strip; sections have equal width and common height, hence equal area. Piece count alone would not establish equality.

Component criterion: Named whole and justified equal-size parts.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Compare a new equal and unequal halves partition; name its whole.

Q 2 · What unit fraction is one section of this whole?

Worked/acceptable response: 1/5: one of 5 equal parts of that whole.

Component criterion: Unit fraction with denominator meaning.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use a new ten-equal-part strip, one part, without the held facts.

Q 3 · What fraction is READY? Explain numerator and denominator.

Worked/acceptable response: 3/5; 3 selected equal sections out of 5.

Component criterion: Multiple with selected-count and whole meanings.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use a new four-equal-group set with two selected.

Q 4 · Show or describe the READY fraction in a different representation with its whole named.

Worked/acceptable response: Accept an equal-length strip, equal-gap 0–1 number line or equally counted set split into 5 equal groups with 3 groups selected; state its whole. Do not require a drawing or a specific decoration.

Component criterion: Second coherent representation preserving the same fraction relationship.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Translate an unrelated one-half set into a strip or full spoken description.

w-first · Same-whole completion and useful repair

Full source: ORIGINAL FICTIONAL SOURCE: Whole A is one fictional display plan with 10 equal-width sections at a common height. 6 sections are finished. Whole B is a separate strip of the same height, twice as wide as A, also divided into 10 equal sections. A draft says "a finished section of A and one section of B have the same area because both have the same fraction name". No actual making or reader trial occurred.

Q 1 · What unit fraction of whole A is one section, and what multiple of A is finished?

Worked/acceptable response: 1/10 per section; 6/10 finished.

Component criterion: Unit fraction and multiple of the named whole.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use new thirds with one part selected; identify unit and multiple.

Q 2 · How much more of A completes it? Give a same-denominator relation.

Worked/acceptable response: 4/10 needed; 6/10 + 4/10 = 10/10 =1 whole A.

Component criterion: Correct missing same-denominator fraction conserving A.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Reassemble a new five-part whole with two ready.

Q 3 · Does the draft about section areas follow? Explain using the two wholes.

Worked/acceptable response: No. Each has fraction name 1/10 of its own whole, but B is twice as wide at the same height; its corresponding section has twice A-section area.

Component criterion: Same fraction name does not establish equal sizes for different wholes.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Compare new halves of two differently sized rectangles.

Q 4 · Give one useful revised label for A and one way to check it, without claiming an actual trial.

Worked/acceptable response: Accept "6 of A’s 10 equal sections are finished;4 more complete A" or equivalent. Check equal sections/all parts or propose a neutral willing-reader check; a proposal is not a performed test.

Component criterion: Useful exact label and qualified check/plan.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Make a new quarters label and record whether a willing-reader check really occurred.

w-later · Same-whole completion and useful repair

Full source: ORIGINAL FICTIONAL SOURCE: Whole A is one fictional game guide with 5 equal-width sections at a common height. 1 sections are finished. Whole B is a separate strip of the same height, twice as wide as A, also divided into 5 equal sections. A draft says "a finished section of A and one section of B have the same area because both have the same fraction name". No actual making or reader trial occurred.

Q 1 · What unit fraction of whole A is one section, and what multiple of A is finished?

Worked/acceptable response: 1/5 per section; 1/5 finished.

Component criterion: Unit fraction and multiple of the named whole.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use new thirds with one part selected; identify unit and multiple.

Q 2 · How much more of A completes it? Give a same-denominator relation.

Worked/acceptable response: 4/5 needed; 1/5 + 4/5 = 5/5 =1 whole A.

Component criterion: Correct missing same-denominator fraction conserving A.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Reassemble a new five-part whole with two ready.

Q 3 · Does the draft about section areas follow? Explain using the two wholes.

Worked/acceptable response: No. Each has fraction name 1/5 of its own whole, but B is twice as wide at the same height; its corresponding section has twice A-section area.

Component criterion: Same fraction name does not establish equal sizes for different wholes.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Compare new halves of two differently sized rectangles.

Q 4 · Give one useful revised label for A and one way to check it, without claiming an actual trial.

Worked/acceptable response: Accept "1 of A’s 5 equal sections are finished;4 more complete A" or equivalent. Check equal sections/all parts or propose a neutral willing-reader check; a proposal is not a performed test.

Component criterion: Useful exact label and qualified check/plan.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access

support separately from mathematical help.

Specific next teaching with unrelated facts: Make a new quarters label and record whether a willing-reader check really occurred.

w-reserve · Same-whole completion and useful repair

Full source: ORIGINAL FICTIONAL SOURCE: Whole A is one paper banner plan with 4 equal-width sections at a common height. 2 sections are finished. Whole B is a separate strip of the same height, twice as wide as A, also divided into 4 equal sections. A draft says "a finished section of A and one section of B have the same area because both have the same fraction name". No actual making or reader trial occurred.

Q 1 · What unit fraction of whole A is one section, and what multiple of A is finished?

Worked/acceptable response: 1/4 per section; 2/4 finished.

Component criterion: Unit fraction and multiple of the named whole.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use new thirds with one part selected; identify unit and multiple.

Q 2 · How much more of A completes it? Give a same-denominator relation.

Worked/acceptable response: 2/4 needed; 2/4 + 2/4 = 4/4 =1 whole A.

Component criterion: Correct missing same-denominator fraction conserving A.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Reassemble a new five-part whole with two ready.

Q 3 · Does the draft about section areas follow? Explain using the two wholes.

Worked/acceptable response: No. Each has fraction name 1/4 of its own whole, but B is twice as wide at the same height; its corresponding section has twice A-section area.

Component criterion: Same fraction name does not establish equal sizes for different wholes.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Compare new halves of two differently sized rectangles.

Q 4 · Give one useful revised label for A and one way to check it, without claiming an actual trial.

Worked/acceptable response: Accept "2 of A’s 4 equal sections are finished;2 more complete A" or equivalent. Check equal sections/all parts or propose a neutral willing-reader check; a proposal is not a performed test.

Component criterion: Useful exact label and qualified check/plan.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Make a new quarters label and record whether a willing-reader check really occurred.

t-first · Categorical records and justified table

Full source: ORIGINAL FICTIONAL SOURCE: Question: What type labels are in these fictional display labels? One card is one record; variable is type label. Complete available labels in order: star, leaf, star, moon, leaf, star. There are 1 additional unavailable label records. The proposed category rows are star, leaf, moon, sun. Unavailable is a status, not a named type. No real survey or preference information is supplied.

Q 1 · State the data unit and variable. Is the variable categorical or a discrete numerical count?

Worked/acceptable response: Unitone card; variable type label, categorical. Frequencies count cards; the variable itself is not a number of features.

Component criterion: Question/unit/variable/type connection.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use a new simple three-card set; name one record and one category.

Q 2 · Make or describe a frequency table for all named categories and record unavailable separately.

Worked/acceptable response: star 3; leaf 2; moon 1; sun 0; unavailable 1 separately.

Component criterion: All categorical frequencies correct and unavailable separate.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Track another five-record list once each before recording its totals.

Q 3 · Give known-record and all-record totals, and explain what the zero named category can mean.

Worked/acceptable response: 6 known, 7 all records. sun 0 means none among known records; unavailable may still have that type, so not a claim about all records.

Component criterion: Known/all totals with precise zero/unknown scope.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Compare a new fully known empty category with one explicitly unavailable record.

Q 4 · Give one statement supported by these records and one specific way to check the table.

Worked/acceptable response: Accept a correct scoped count/comparison about these records only; check every known record once against the list and reconcile frequency total 6. Not a claim about preferences/all local kits.

Component criterion: Context-limited statement and one-to-one checking method.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Ask what a new table about objects cannot tell us about people.

t-later · Categorical records and justified table

Full source: ORIGINAL FICTIONAL SOURCE: Question: What type labels are in these fictional project tickets? One card is one record; variable is type label. Complete available labels in order: draw, fold, draw, join, fold, draw, join. There are 0 additional unavailable label records. The proposed category rows are draw, fold, join, paint. Unavailable is a status, not a named type. No real survey or preference information is supplied.

Q 1 · State the data unit and variable. Is the variable categorical or a discrete numerical count?

Worked/acceptable response: Unitone card; variable type label, categorical. Frequencies count cards; the variable itself is not a number of features.

Component criterion: Question/unit/variable/type connection.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use a new simple three-card set; name one record and one category.

Q 2 · Make or describe a frequency table for all named categories and record unavailable separately.

Worked/acceptable response: draw 3; fold 2; join 2; paint 0; unavailable 0 separately.

Component criterion: All categorical frequencies correct and unavailable separate.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Track another five-record list once each before recording its totals.

Q 3 · Give known-record and all-record totals, and explain what the zero named category can mean.

Worked/acceptable response: 7 known, 7 all records. paint 0 means none among known records; there is no unavailable record in this supplied set.

Component criterion: Known/all totals with precise zero/unknown scope.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access

support separately from mathematical help.

Specific next teaching with unrelated facts: Compare a new fully known empty category with one explicitly unavailable record.

Q 4 · Give one statement supported by these records and one specific way to check the table.

Worked/acceptable response: Accept a correct scoped count/comparison about these records only; check every known record once against the list and reconcile frequency total 7. Not a claim about preferences/all local kits.

Component criterion: Context-limited statement and one-to-one checking method.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Ask what a new table about objects cannot tell us about people.

t-reserve · Categorical records and justified table

Full source: ORIGINAL FICTIONAL SOURCE: Question: What type labels are in these fictional activity cards? One card is one record; variable is type label. Complete available labels in order: book, game, book, puzzle, game. There are 2 additional unavailable label records. The proposed category rows are book, game, puzzle, music. Unavailable is a status, not a named type. No real survey or preference information is supplied.

Q 1 · State the data unit and variable. Is the variable categorical or a discrete numerical count?

Worked/acceptable response: Unitone card; variable type label, categorical. Frequencies count cards; the variable itself is not a number of features.

Component criterion: Question/unit/variable/type connection.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use a new simple three-card set; name one record and one category.

Q 2 · Make or describe a frequency table for all named categories and record unavailable separately.

Worked/acceptable response: book 2; game 2; puzzle 1; music 0; unavailable 2 separately.

Component criterion: All categorical frequencies correct and unavailable separate.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Track another five-record list once each before recording its totals.

Q 3 · Give known-record and all-record totals, and explain what the zero named category can mean.

Worked/acceptable response: 5 known, 7 all records. music 0 means none among known records; unavailable may still have that type, so not a claim about all records.

Component criterion: Known/all totals with precise zero/unknown scope.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Compare a new fully known empty category with one explicitly unavailable record.

Q 4 · Give one statement supported by these records and one specific way to check the table.

Worked/acceptable response: Accept a correct scoped count/comparison about these records only; check every known record once against the list and reconcile frequency total 5. Not a claim about preferences/all local kits.

Component criterion: Context-limited statement and one-to-one checking method.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Ask what a new table about objects cannot tell us about people.

v-first · Discrete values and frequencies

Full source: ORIGINAL FICTIONAL SOURCE: Question: How many features does each of these fictional paper bundles have? Unit is one paper bundle; variable is its whole-number paper-piece count. Available per-item values in order: 0, 2, 2, 3, 3, 3. There are 1 additional items whose values are unavailable. A listed 0 is an observed empty count in this model, not unavailable. No real object observation occurred.

Q 1 · Name the data unit and variable; explain why its values are discrete numerical counts.

Worked/acceptable response: One paper bundle; variable is its whole-number paper-piece count. Values are distinct whole-number counts. Frequency is the number of items with each value, not that feature count itself.

Component criterion: Unit and per-item discrete variable correctly distinguished.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use new three described packets with separate per-packet counts.

Q 2 · Make or describe a frequency table of every available value, keeping unavailable separate.

Worked/acceptable response: value 0: 1 items; value 2: 2 items; value 3: 3 items; unavailable 1 items separate.

Component criterion: Exact values/frequencies and unavailable status.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Build a new four-item count list with two repeated values.

Q 3 · Explain the row for value 2, and say what 0 means here.

Worked/acceptable response: Value 2 occurs on 2 items.0 is the known zero-feature count on one item, not a missing response.

Component criterion: Row meaning and actual zero value distinguished from missing.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access

support separately from mathematical help.

Specific next teaching with unrelated facts: Compare a new explicitly empty packet with a sealed unknown packet.

Q 4 · Give known-item and all-item totals; explain one limit and a check using the original records.

Worked/acceptable response: 6 known items,7 all items. Check frequencies sum 6 and each value counted once; unavailable values remain unknown and the table is limited to these fictional items.

Component criterion: Known/all totals, faithful checking and context limit.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Reconcile another full list while keeping units and missing items separate.

v-later · Discrete values and frequencies

Full source: ORIGINAL FICTIONAL SOURCE: Question: How many features does each of these fictional sticker-description cards have? Unit is one described sticker card; variable is its whole-number sticker count. Available per-item values in order: 0, 1, 1, 2, 2, 4. There are 0 additional items whose values are unavailable. A listed 0 is an observed empty count in this model, not unavailable. No real object observation occurred.

Q 1 · Name the data unit and variable; explain why its values are discrete numerical counts.

Worked/acceptable response: One described sticker card; variable is its whole-number sticker count. Values are distinct whole-number counts. Frequency is the number of items with each value, not that feature count itself.

Component criterion: Unit and per-item discrete variable correctly distinguished.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use new three described packets with separate per-packet counts.

Q 2 · Make or describe a frequency table of every available value, keeping unavailable separate.

Worked/acceptable response: value 0: 1 items; value 1: 2 items; value 2: 2 items; value 4: 1 items; unavailable 0 items separate.

Component criterion: Exact values/frequencies and unavailable status.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Build a new four-item count list with two repeated values.

Q 3 · Explain the row for value 1, and say what 0 means here.

Worked/acceptable response: Value 1 occurs on 2 items.0 is the known zero-feature count on one item, not a missing response.

Component criterion: Row meaning and actual zero value distinguished from missing.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Compare a new explicitly empty packet with a sealed unknown packet.

Q 4 · Give known-item and all-item totals; explain one limit and a check using the original records.

Worked/acceptable response: 6 known items,6 all items. Check frequencies sum 6 and each value counted once; unavailable values remain unknown and the table is limited to these fictional items.

Component criterion: Known/all totals, faithful checking and context limit.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Reconcile another full list while keeping units and missing items separate.

v-reserve · Discrete values and frequencies

Full source: ORIGINAL FICTIONAL SOURCE: Question: How many features does each of these fictional simple-outline cards have? Unit is one simple-outline card; variable is its whole-number corner count. Available per-item values in order: 0, 3, 4, 4, 5. There are 2 additional items whose values are unavailable. A listed 0 is an observed empty count in this model, not unavailable. No real object observation occurred.

Q 1 · Name the data unit and variable; explain why its values are discrete numerical counts.

Worked/acceptable response: One simple-outline card; variable is its whole-number corner count. Values are distinct whole-number counts. Frequency is the number of items with each value, not that feature count itself.

Component criterion: Unit and per-item discrete variable correctly distinguished.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Use new three described packets with separate per-packet counts.

Q 2 · Make or describe a frequency table of every available value, keeping unavailable separate.

Worked/acceptable response: value 0: 1 items; value 3: 1 items; value 4: 2 items; value 5: 1 items; unavailable 2 items separate.

Component criterion: Exact values/frequencies and unavailable status.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Build a new four-item count list with two repeated values.

Q 3 · Explain the row for value 4, and say what 0 means here.

Worked/acceptable response: Value 4 occurs on 2 items.0 is the known zero-feature count on one item, not a missing response.

Component criterion: Row meaning and actual zero value distinguished from missing.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access

support separately from mathematical help.

Specific next teaching with unrelated facts: Compare a new explicitly empty packet with a sealed unknown packet.

Q 4 · Give known-item and all-item totals; explain one limit and a check using the original records.

Worked/acceptable response: 5 known items,7 all items. Check frequencies sum 5 and each value counted once; unavailable values remain unknown and the table is limited to these fictional items.

Component criterion: Known/all totals, faithful checking and context limit.

Observation: independently shown / shown with named help / partial (state which meaning) / not observed. Apply the full definitions above, recording access support separately from mathematical help.

Specific next teaching with unrelated facts: Reconcile another full list while keeping units and missing items separate.

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