

# Utah 12 Statistics

FREE PREVIEW

Full-Year Teacher Planner, Blank Editable Planner & School-Submission Binder

This preview shows the real structure and a genuine sample of the completed planner. The full product contains 9 units, 36 weekly plans and 180 daily plans, plus blank editable versions of every form.

|                  |                                                           |
|------------------|-----------------------------------------------------------|
| State            | Utah                                                      |
| Grade            | 12 (High)                                                 |
| Subject          | Statistics                                                |
| Course category  | Mathematics                                               |
| Standards family | Mathematics                                               |
| Framework        | Utah Core Standards                                       |
| Issuing agency   | Utah State Board of Education                             |
| Scope            | 36 instructional weeks · 180 instructional days · 9 units |

This is a statewide standards index, not a local course catalog. Course names, grade placement, electives, and graduation sequences vary by district.

## What you get

| Folder                  | Contents                                                                                          |
|-------------------------|---------------------------------------------------------------------------------------------------|
| 01 START HERE           | Read-me, contents, printing and digital instructions, standards verification guide, this preview  |
| 02 FILLED FULL YEAR     | Completed planner in colour and ink-friendly PDF, plus editable DOCX                              |
| 03 BLANK EDITABLE       | Blank planner in colour, ink-friendly and fillable PDF, plus editable DOCX                        |
| 04 ASSESSMENTS AND DATA | Baseline observation, quarterly rubrics, anecdotal forms, portfolio checklist                     |
| 05 SCHOOL SUBMISSION    | Submission covers, alignment summary, evidence checklist, observation, reflection, signature page |
| 06 LICENSE AND CREDITS  | Terms of use, credits and licences, copyright notice                                              |

The pages that follow are reproduced **exactly** as they appear in the full completed planner.

## Week 9 — Counting in Two Directions

### Unit 3: Data That Is Not a Number · Month 3 · Quarter 1 · Semester 1 · Instructional Days 41–45

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Essential question | How do you organise data when both variables are categories?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Standards          | <p><b>Two-Way Tables -&gt; III.2 STATISTICS—Conditional Probability and the Rules of Probability</b> — Display and compare data to make predictions and form late conclusions. a. Describe the effect of outliers on predictions. b. Recognize and discuss the pitfalls of extrapolation in predictions. c. Compare actual data measurements with predicted values, and discuss the reasonableness of predictions.</p> <p><b>Attend to Precision -&gt; I.1 STATISTICS—Conditional Probability and the Rules of Probability</b> — Use sample survey data collected through random samples to draw conclusions about populations. a. Recognize sources of bias in surveys, and discuss how surveys may be intentionally biased to support certain agendas. b. Explain the importance of randomness in good survey design. c. Pose a question, choose an appropriate method of random selection, conduct a survey, and summarize the results in graphical displays. d. Distinguish between different survey designs such as SRS, cluster sampling, stratified sampling, and systematic sampling.*</p> |
| Learning target    | "I can build a two-way table and read all three kinds of proportion from it."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Local dates        | _____ (enter your school dates)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

### Measurable objectives

- Students will generate a two-way categorical table in order to find and evaluate solutions to real-world problems.

### Success criteria (student-friendly)

- "I generate a correct two-way table with totals."
- "I compute joint, marginal and conditional proportions."
- "I choose the proportion that answers the question asked."

### Academic vocabulary

two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion

### Materials and technology

- Notebooks
- Supplied data sets
- Grid paper

### Differentiation and supports

| Support area            | This week's plan                                                                                                                                                         |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Special education / IEP | Reduce group size; pair visual cue cards with all verbal directions; allow gesture or picture response in place of speech; pre-teach the week's target in a 1:1 warm-up. |
| Section 504             | Provide the child's documented accommodations throughout; permit movement breaks and alternative seating at any point in the sequence.                                   |

| Support area           | This week's plan                                                                                                                                                                                       |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Multilingual learners  | Introduce each vocabulary word with an object or image; accept home-language responses; send the vocabulary list home where a translation is available; pair with a peer who shares the home language. |
| Advanced / extension   | Ask the learner to teach the skill to a peer, extend the task, or record a demonstration for the class reference wall.                                                                                 |
| Intervention / reteach | Reteach the target in a short small group using the same materials; split the day's check for understanding into two smaller steps.                                                                    |
| Enrichment             | Extend into an open-ended centre or project connected to the essential question.                                                                                                                       |

### Assessment and evidence

Student builds two-way tables and selects the correct proportion.

### Family communication

Ask your child how the same table can give three different percentages.

## Day 41 — A Table With Two Ways In

Week 9, Day 1 • Unit 3 • Standards: III.2, I.1

|                   |                                                                                                                          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------|
| Focus             | Construction.                                                                                                            |
| Learning target   | "I can build a two-way table and read all three kinds of proportion from it."                                            |
| Vocabulary in use | two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion |
| Local date        | _____                                                                                                                    |

### Learning sequence

Connect: a supplied list of two hundred records, each carrying two categories. Teach: a two-way table puts one variable's categories down the side and the other's across the top, with each cell counting the records having both. Add row totals, column totals and a grand total - they are not decoration, they are what the next two days need, and they are also the arithmetic check. Try: shared construction of one table from supplied records, totals included. Apply: students build two tables from supplied data and verify the totals agree. Reflect: the totals catching an error is the reason to write them.

### Check for understanding

Student constructs a correct two-way table with totals.

### Differentiation in the moment

| If the learner...  | Then...                                                                   |
|--------------------|---------------------------------------------------------------------------|
| needs more support | Model the step again with guided support, then fade to a gesture cue.     |
| is ready for more  | Invite the learner to demonstrate for a peer or add a second example.     |
| is dysregulated    | Pause instruction, move to co-regulation, and return to the target later. |

### Closure and reflection

Gather the group. Restate the learning target. Ask one learner to demonstrate. Name one specific thing the group did well, then preview tomorrow.

### Teacher reflection (fictional example)

*Fictional Example — Customize and Verify Before School Submission.*

Most learners met the target. Two needed the visual cue repeated during guided practice; I will pre-teach with them tomorrow. The extension held attention longer than planned, so I shortened closure.

## Day 42 — Three Percentages From One Cell

Week 9, Day 2 · Unit 3 · Standards: III.2, I.1

|                   |                                                                                                                          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------|
| Focus             | Joint, marginal, conditional.                                                                                            |
| Learning target   | "I can build a two-way table and read all three kinds of proportion from it."                                            |
| Vocabulary in use | two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion |
| Local date        | _____                                                                                                                    |

### Learning sequence

Connect: one cell holds 45. Teach: 45 out of the GRAND total is the joint proportion; a row or column total out of the grand total is a marginal proportion; 45 out of its OWN ROW total, or out of its own column total, are two different conditional proportions. Four legitimate percentages come out of one cell and they answer four different questions. This is where most misreadings of statistics begin. Try: shared computation of all four for one supplied cell. Apply: students compute all four for three cells and state the question each answers. Reflect: the number is the same; the denominator is the claim.

### Check for understanding

Student computes joint, marginal and both conditional proportions.

### Differentiation in the moment

| If the learner...  | Then...                                                                   |
|--------------------|---------------------------------------------------------------------------|
| needs more support | Model the step again with guided support, then fade to a gesture cue.     |
| is ready for more  | Invite the learner to demonstrate for a peer or add a second example.     |
| is dysregulated    | Pause instruction, move to co-regulation, and return to the target later. |

### Closure and reflection

Gather the group. Restate the learning target. Ask one learner to demonstrate. Name one specific thing the group did well, then preview tomorrow.

### Teacher reflection (fictional example)

*Fictional Example — Customize and Verify Before School Submission.*

Most learners met the target. Two needed the visual cue repeated during guided practice; I will pre-teach with them tomorrow. The extension held attention longer than planned, so I shortened closure.

## Day 43 — Which One Answers the Question

Week 9, Day 3 · Unit 3 · Standards: III.2, I.1

|                   |                                                                                                                          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------|
| Focus             | Choosing the denominator.                                                                                                |
| Learning target   | "I can build a two-way table and read all three kinds of proportion from it."                                            |
| Vocabulary in use | two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion |
| Local date        | _____                                                                                                                    |

### Learning sequence

Connect: three supplied questions about the same table. Teach: 'what fraction of everybody' wants the grand total; 'what fraction of THIS GROUP' wants that group's own total; and swapping the two is the classic error - the fraction of A who are B is not the fraction of B who are A, and the two can differ enormously. Week 15 gives this a name. Try: shared matching of four questions to four denominators. Apply: students answer six questions from a supplied table, stating the denominator each time. Reflect: writing the denominator down before computing prevents nearly every error here.

### Check for understanding

Student selects the correct denominator for a stated question.

### Differentiation in the moment

| If the learner...  | Then...                                                                   |
|--------------------|---------------------------------------------------------------------------|
| needs more support | Model the step again with guided support, then fade to a gesture cue.     |
| is ready for more  | Invite the learner to demonstrate for a peer or add a second example.     |
| is dysregulated    | Pause instruction, move to co-regulation, and return to the target later. |

### Closure and reflection

Gather the group. Restate the learning target. Ask one learner to demonstrate. Name one specific thing the group did well, then preview tomorrow.

### Teacher reflection (fictional example)

*Fictional Example — Customize and Verify Before School Submission.*

Most learners met the target. Two needed the visual cue repeated during guided practice; I will pre-teach with them tomorrow. The extension held attention longer than planned, so I shortened closure.

## Day 44 — Using a Table to Decide Something

Week 9, Day 4 • Unit 3 • Standards: III.2, I.1

|                   |                                                                                                                          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------|
| Focus             | The standard's purpose clause.                                                                                           |
| Learning target   | "I can build a two-way table and read all three kinds of proportion from it."                                            |
| Vocabulary in use | two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion |
| Local date        | _____                                                                                                                    |

### Learning sequence

Teach: so the table is a means. Given a supplied practical question - which of two processes produces fewer faults, which of two routes is more often on time - build the table, compute the comparable proportions and answer the question in a sentence. Try: shared solution of one supplied decision problem end to end. Apply: students answer two supplied decision problems from tables they build. Reflect: the answer is the sentence, not the table.

### Check for understanding

Student answers a practical question using a self-built two-way table.

### Differentiation in the moment

| If the learner...  | Then...                                                                   |
|--------------------|---------------------------------------------------------------------------|
| needs more support | Model the step again with guided support, then fade to a gesture cue.     |
| is ready for more  | Invite the learner to demonstrate for a peer or add a second example.     |
| is dysregulated    | Pause instruction, move to co-regulation, and return to the target later. |

### Closure and reflection

Gather the group. Restate the learning target. Ask one learner to demonstrate. Name one specific thing the group did well, then preview tomorrow.

### Teacher reflection (fictional example)

*Fictional Example — Customize and Verify Before School Submission.*

Most learners met the target. Two needed the visual cue repeated during guided practice; I will pre-teach with them tomorrow. The extension held attention longer than planned, so I shortened closure.

## Day 45 — Percentages That Do Not Add Up

Week 9, Day 5 · Unit 3 · Standards: III.2, I.1

|                   |                                                                                                                          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------|
| Focus             | Precision.                                                                                                               |
| Learning target   | "I can build a two-way table and read all three kinds of proportion from it."                                            |
| Vocabulary in use | two-way table, cell, row total, column total, grand total, joint proportion, marginal proportion, conditional proportion |
| Local date        | _____                                                                                                                    |

### Learning sequence

Connect: a supplied report whose percentages total 118%. Teach: percentages computed against different denominators cannot be added, and a set that should total 100% and does not signals either different denominators, double counting or rounding. Precision here is stating the denominator with every percentage - 'of all respondents', 'of those who answered' - which makes the error impossible to hide. Try: shared diagnosis of two supplied faulty tables. Apply: students diagnose three faulty reports and rewrite one correctly with denominators stated. Reflect: a percentage with no denominator attached is not yet a fact.

### Check for understanding

Student diagnoses percentage errors and states denominators explicitly.

### Differentiation in the moment

| If the learner...  | Then...                                                                   |
|--------------------|---------------------------------------------------------------------------|
| needs more support | Model the step again with guided support, then fade to a gesture cue.     |
| is ready for more  | Invite the learner to demonstrate for a peer or add a second example.     |
| is dysregulated    | Pause instruction, move to co-regulation, and return to the target later. |

### Closure and reflection

Gather the group. Restate the learning target. Ask one learner to demonstrate. Name one specific thing the group did well, then preview tomorrow.

### Teacher reflection (fictional example)

*Fictional Example — Customize and Verify Before School Submission.*

Most learners met the target. Two needed the visual cue repeated during guided practice; I will pre-teach with them tomorrow. The extension held attention longer than planned, so I shortened closure.

## Important before you buy

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- This is a **digital download**. Nothing is shipped.
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