

DATA DETECTIVES

Quiz Pack — All 6 Episodes

10 questions per episode · Multiple choice, True/False & short answer

Includes a full Answer Key at the end

DATA DETECTIVES — EPISODE 1 QUIZ

What Is Data?

Name: _____

Date: _____

Score: _____ / 10

Section A — Multiple Choice (1 point each)

1. What is data?
 - A) A type of computer program
 - B) Information written down as numbers or words
 - C) A drawing or painting
 - D) Only numbers, never words
2. Which of the following is an example of a DIMENSION in Tableau?
 - A) Total votes
 - B) Average price
 - C) Food name
 - D) Temperature
3. In a data table, what does a ROW represent?
 - A) A type of chart
 - B) A column label
 - C) One single observation or data point
 - D) The title of the spreadsheet
4. What does 'data visualization' mean?
 - A) Storing data in a database
 - B) Turning data into pictures like charts and graphs
 - C) Deleting data you don't need
 - D) Counting data by hand
5. In Tableau, where do you drag a Dimension to put it on the vertical axis?
 - A) Columns shelf
 - B) Rows shelf
 - C) Marks card
 - D) Filters shelf

Section B — True or False (1 point each)

6. Data can only be numbers — words are not data.
☐ True ☐ False
7. A bar chart makes it easier to compare values than a raw table of numbers.
☐ True ☐ False

8. Tableau Public is a paid software that costs money to download.

■ True ■ False

Section C — Short Answer (1 point each)

9. Name TWO real-world examples of data you see or use at school every day.

10. In your own words, explain the difference between a Dimension and a Measure. Give one example of each.

DATA DETECTIVES — EPISODE 2 QUIZ

Your First Bar Chart

Name: _____

Date: _____

Score: _____ / 10

Section A — Multiple Choice (1 point each)

1. What is a Calculated Field in Tableau?
 - A) A field that Tableau automatically fills with random numbers
 - B) A custom field you create by writing a formula
 - C) A field that can only contain dates
 - D) A field imported from another program
2. Which Tableau feature lets you show the exact value of each bar on the chart?
 - A) Color
 - B) Filter
 - C) Label
 - D) Sort
3. Which formula correctly sums two months of candy sales?
 - A) [January] × [February]
 - B) SUM([January]) + SUM([February])
 - C) AVG([January], [February])
 - D) COUNT([January]) + [February]
4. When you sort a bar chart 'Descending', the bars are arranged:
 - A) Alphabetically A to Z
 - B) From the smallest value at the top to the largest at the bottom
 - C) From the largest value at the top to the smallest at the bottom
 - D) Randomly
5. In our candy dataset, the data has one row per candy type and one column per month. This is called:
 - A) Long format
 - B) Wide format
 - C) Tall format
 - D) Deep format

Section B — True or False (1 point each)

6. You can only use one color for all bars in a Tableau bar chart.
☐ True ☐ False

7. A Calculated Field can be used in charts just like any other field.

■ True ■ False

8. Sorting a bar chart from largest to smallest makes it easier to see which item is best.

■ True ■ False

Section C — Short Answer (1 point each)

9. A friend says, 'I can just look at the numbers in the table — I don't need a chart.' Write 2 sentences explaining why a chart is MORE helpful for comparing candy sales.

10. Describe ONE way you could use a calculated field in a chart about your school's sports teams.

DATA DETECTIVES — EPISODE 3 QUIZ

Colors, Filters & Sorting

Name: _____

Date: _____

Score: _____ / 10

Section A — Multiple Choice (1 point each)

1. What does dragging a field to the Color box on the Marks card do?
 - A) Changes the background of the whole chart
 - B) Makes every bar the same color
 - C) Colors chart elements based on the values of that field
 - D) Adds a color filter to the data
2. What is a Filter in Tableau?
 - A) A tool that makes charts look prettier
 - B) A rule that limits which data is shown in your chart
 - C) A way to add new data rows
 - D) A function that calculates averages
3. In the animal dataset, the cheetah has the highest value for which measure?
 - A) Weight (lbs)
 - B) Lifespan (years)
 - C) Max Speed (mph)
 - D) All of the above
4. What does 'Show Filter' allow a viewer to do?
 - A) Print the chart
 - B) Delete data from the dataset
 - C) Interactively toggle which categories are shown in real time
 - D) Sort the data automatically
5. A scatter plot uses two axes to show:
 - A) The relationship between two number variables
 - B) How values change over time
 - C) Parts of a whole as slices
 - D) Categories arranged alphabetically

Section B — True or False (1 point each)

6. When you use 'Show Filter', clicking different options immediately updates the chart.
☐ True ☐ False
7. Color can encode a category AND be used to highlight one group of data points.
☐ True ☐ False

8. A scatter plot needs at least two Dimension fields to work.

■ True ■ False

Section C — Short Answer (1 point each)

9. Why might a nature magazine use a filter when presenting animal data to readers? Give a specific example.

10. In the animal speed scatter plot, describe what 'positive correlation' means using a real example from the data.

DATA DETECTIVES — EPISODE 4 QUIZ

Line Charts — Tracking Change Over Time

Name: _____

Date: _____

Score: ____ / 10

Section A — Multiple Choice (1 point each)

1. Which chart type is BEST for showing how something changes over time?
 - A) Pie chart
 - B) Bar chart
 - C) Line chart
 - D) Treemap
2. What does 'pivoting' data in Tableau do?
 - A) Rotates the chart 90 degrees
 - B) Converts wide format data to long format
 - C) Deletes unused columns
 - D) Sorts the data alphabetically
3. In our temperature dataset, how do you get SIX separate lines (one per city)?
 - A) Drag City to the Rows shelf
 - B) Drag City to the Color box on the Marks card
 - C) Create 6 separate charts
 - D) Use the Sort button 6 times
4. An annotation on a chart is used to:
 - A) Delete a data point
 - B) Highlight or explain a specific point of interest to the reader
 - C) Change the color of a line
 - D) Filter the data to one time period
5. Which US city has the most stable (least changing) temperature across the year based on our data?
 - A) Chicago
 - B) New York
 - C) Miami
 - D) Los Angeles

Section B — True or False (1 point each)

6. Wide format data has one row per city and one column per month.
☐ True ☐ False

7. After pivoting, Tableau creates two new columns: one for the category name and one for the value.

■ True ■ False

8. You can only add one annotation per chart in Tableau.

■ True ■ False

Section C — Short Answer (1 point each)

9. A student says, 'I can use a bar chart to show temperature changes through the year.' Is this a good choice? Explain why a line chart is better for this purpose.

10. Describe a real-world situation where you would want to use a multi-line chart. Who would be the audience, and what question would it answer?

DATA DETECTIVES — EPISODE 5 QUIZ

More Chart Types

Name: _____

Date: _____

Score: ____ / 10

Section A — Multiple Choice (1 point each)

1. A pie chart is BEST used when:
 - A) You have 20+ categories to compare
 - B) You want to show change over time
 - C) You want to show how a few parts add up to a whole
 - D) You want to find a relationship between two variables
2. In a treemap, what does the SIZE of each rectangle represent?
 - A) The color of the category
 - B) A numeric value, like number of participants
 - C) The alphabetical order of the labels
 - D) Nothing — all rectangles are the same size
3. A bubble chart is a scatter plot that adds which extra visual encoding?
 - A) Color only
 - B) Size of the dots
 - C) Labels on the axes
 - D) A trend line
4. The formula $[\text{Wins}] / ([\text{Wins}] + [\text{Losses}] + [\text{Ties}])$ calculates:
 - A) Total games played
 - B) Winning percentage
 - C) Average score per game
 - D) Number of ties
5. If a scatter plot shows dots forming a diagonal line from bottom-left to top-right, this is called:
 - A) Negative correlation
 - B) No correlation
 - C) Positive correlation
 - D) A trend break

Section B — True or False (1 point each)

6. A pie chart with 30 slices is easy to read and understand.
☐ True ☐ False
7. In a bubble chart, three different variables can be shown: X axis, Y axis, and bubble size.
☐ True ☐ False

8. The Show Me panel in Tableau suggests different chart types based on the fields you have selected.

■ True ■ False

Section C — Short Answer (1 point each)

9. You have data on 5 subjects and want to show what percentage of students chose each one as their favorite. Which chart type would you pick — bar chart or pie chart? Explain your reasoning.

10. Describe a real-world use of a scatter plot. What two variables would you put on the axes, and what pattern would you hope to find?

DATA DETECTIVES — EPISODE 6 QUIZ

Tell a Story with a Dashboard

Name: _____

Date: _____

Score: _____ / 10

Section A — Multiple Choice (1 point each)

1. What is a Tableau dashboard?
 - A) A single chart type that combines bars and lines
 - B) A single screen combining multiple worksheets and charts
 - C) A special type of scatter plot
 - D) A way to filter a single chart
2. What does clicking the 'Use as Filter' funnel icon on a dashboard chart do?
 - A) Permanently removes that chart from the dashboard
 - B) Prints the chart
 - C) Makes clicking that chart update all other charts to show matching data
 - D) Adds a text box to the dashboard
3. In a 'tiled' dashboard layout, charts:
 - A) Float freely anywhere on the canvas
 - B) Are arranged in a non-overlapping grid
 - C) Can only be circles
 - D) Must all be the same size
4. When building a dashboard, what should you do BEFORE going to the Dashboard tab?
 - A) Publish to Tableau Public immediately
 - B) Build and name all your individual worksheets first
 - C) Delete all filters from your charts
 - D) Change all charts to the same color
5. What does publishing to Tableau Public give you?
 - A) A printed copy of your dashboard
 - B) A way to share your interactive visualization online with a URL
 - C) An automatically updated chart connected to live data
 - D) A password-protected private dashboard

Section B — True or False (1 point each)

6. A dashboard can contain charts that were built in different worksheets.
☐ True ☐ False
7. Filter actions on a dashboard require a paid Tableau subscription.
☐ True ☐ False

8. A good dashboard should answer a specific question and tell a clear data story.

■ True ■ False

Section C — Short Answer (1 point each)

9. Imagine you are a school principal looking at the Student Happiness Dashboard. What is ONE thing you might decide to do based on what the dashboard shows? Use data evidence from the dashboard in your answer.

10. Design your own dashboard idea: What topic would you choose? What 3 charts would you include? What question would your dashboard answer?

ANSWER KEY — FOR EDUCATORS ONLY

DATA DETECTIVES — EPISODE 1 ANSWER KEY

What Is Data?

Multiple Choice

Q1: B

Q2: C

Q3: C

Q4: B

Q5: B

True / False

Q6: False

Q7: True

Q8: False

Short Answer — Marking Notes

Q9: Any two of: test scores, lunch choices, attendance, homework grades, etc.

Q10: Dimension = label/category (e.g., Food name). Measure = number (e.g., Votes).

DATA DETECTIVES — EPISODE 2 ANSWER KEY

Your First Bar Chart

Multiple Choice

Q1: B

Q2: C

Q3: B

Q4: C

Q5: B

True / False

Q6: False

Q7: True

Q8: True

Short Answer — Marking Notes

Q9: Charts show patterns at a glance; tables require reading every number. Bar lengths are visual — instant comparison.

Q10: Any sensible example e.g., Calculated field for Win% or Total points.

DATA DETECTIVES — EPISODE 3 ANSWER KEY

Colors, Filters & Sorting

Multiple Choice

Q1: C

Q2: B

Q3: C

Q4: C

Q5: A

True / False

Q6: True

Q7: True

Q8: False

Short Answer — Marking Notes

Q9: E.g., A nature magazine could filter to show only endangered animals to highlight conservation issues.

Q10: E.g., Faster animals tend to be lighter. As weight goes up, speed tends to go down (negative correlation for most).

DATA DETECTIVES — EPISODE 4 ANSWER KEY

Line Charts

Multiple Choice

Q1: C

Q2: B

Q3: B

Q4: B

Q5: D

True / False

Q6: True

Q7: True

Q8: False

Short Answer — Marking Notes

Q9: A bar chart shows categories at fixed points; a line chart connects points to show direction of change — more natural for time series.

Q10: Any valid example, e.g., tracking a school's test scores month by month.

DATA DETECTIVES — EPISODE 5 ANSWER KEY

More Chart Types

Multiple Choice

Q1: C

Q2: B

Q3: B

Q4: B

Q5: C

True / False

Q6: False

Q7: True

Q8: True

Short Answer — Marking Notes

Q9: Pie chart — only 5 slices, each represents a proportion of the whole, easy to read.

Q10: Any valid example, e.g., X = study hours, Y = test score, hoping for positive correlation.

DATA DETECTIVES — EPISODE 6 ANSWER KEY

Dashboard Storytelling

Multiple Choice

Q1: B

Q2: C

Q3: B

Q4: B

Q5: B

True / False

Q6: True

Q7: False

Q8: True

Short Answer — Marking Notes

Q9: Any evidence-based action, e.g., 'Students who sleep more are happier, so I might recommend earlier bedtimes.'

Q10: Accept any well-reasoned dashboard design with 3 named charts and a clear question.