

# Graphing Basics

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## WHAT'S COVERED

This lesson will explore graphing basics by defining and discussing the following:

1. Purpose and Types
2. Six Components of a Line Graph

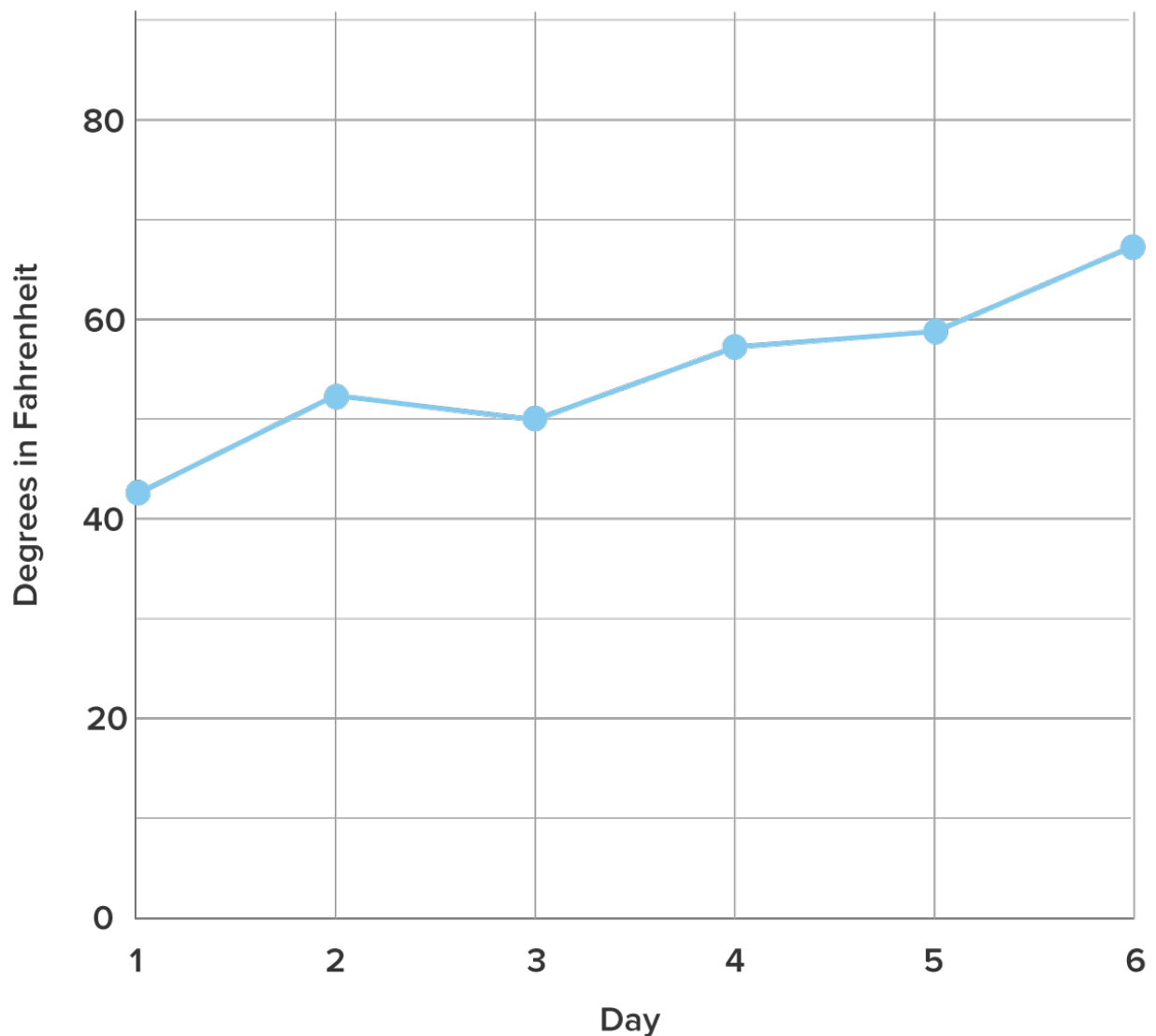
## 1. Purpose and Types

Core to ABA is careful evaluation of the effects of the procedures we implement. One of the features that distinguishes ABA from virtually all other treatments for autism spectrum disorder (ASD) is the insistence that each individual component of a patient's treatment program needs to be evaluated using objective data.

Data must be collected and graphed on a daily basis to ease visual inspection and treatment decisions based on the data. When treatments are not working, it is not a failure but an opportunity to change aspects of the patient's environment until producing the best result for the patient.

What are graphs? **Graphs** are visual representations that display a comparison of one or more sets of data over a period of time. They provide a snapshot of data gathered over time in a format that can be viewed on a single page.

# Temperatures in New York City



One type of graph, a **line graph**, uses lines to connect data points and shows changes in data over time. By drawing and connecting lines between data points, the line graph highlights trends in the data over time.



## BIG IDEA

Behavior technicians use these two types of line graphs:

- skill repertoire building data analysis graph
- behavior management data analysis graph



## TERMS TO KNOW

### Graphs

Visual representations that display a comparison of one or more sets of data over a period of time

### Line Graph

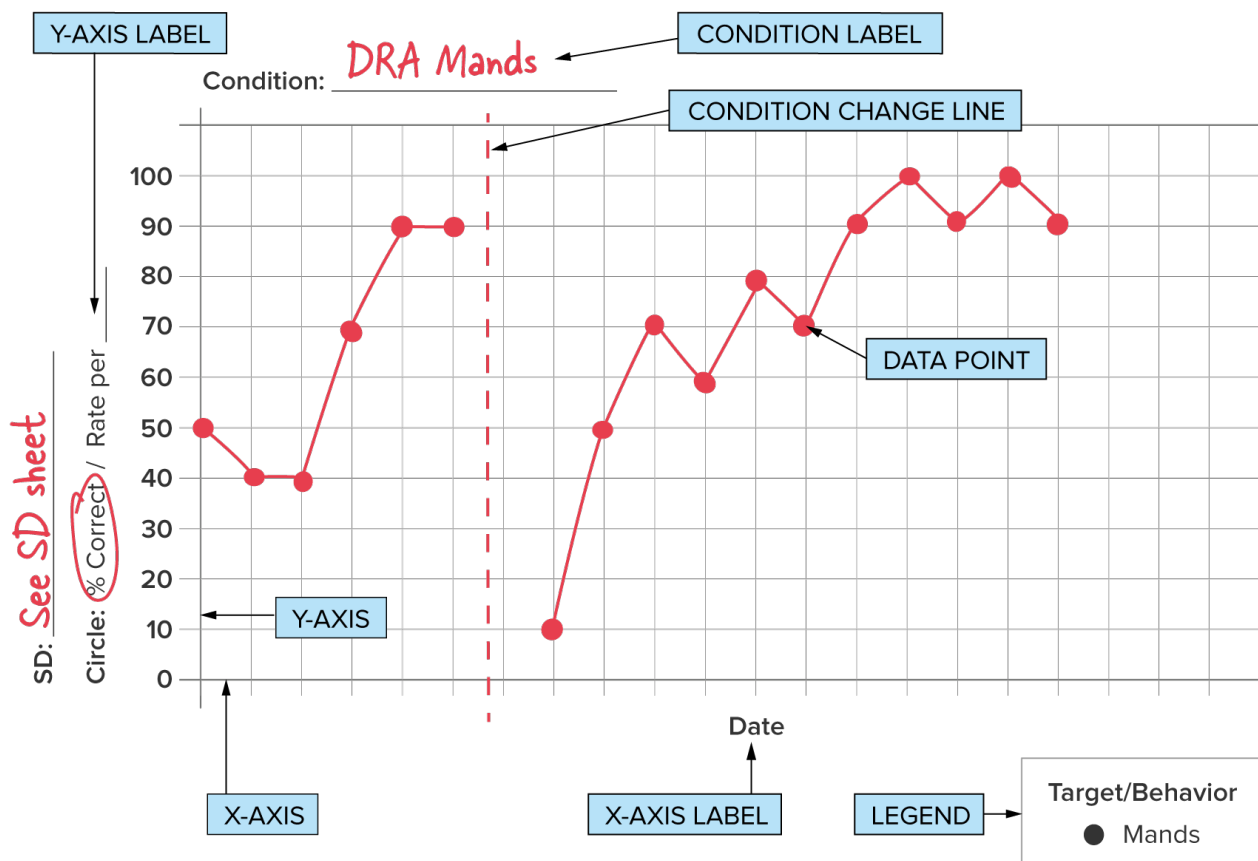
Uses lines to connect data points and shows changes in data over time

## 2. Six Components of a Line Graph

Line graphs contain six critical features that communicate information to make data-based decisions for a patient's program.

The six components include these:

- **X-axis and Y-axis:** X-axis is the horizontal line across the bottom of the graph and represents the passage of time. Y-axis is the vertical line on the left side of the graph and represents the value of the summary measure for the graphed items or targets. Note, the x-axis is always horizontal and the y-axis is always vertical (think: y to the sky).
- **Axis Labels:** Axis labels are brief descriptions of each axis, written adjacent to the axis it represents. The labels describe the units of time and measurement included on the graph.
- **Legend:** The legend lists the graphed targets and identifies the symbol that corresponds to each of them. Note that on this legend, there is only one type of data point that shows mands. But some graphs may have more than one type, for example, data points that show tacts.
- **Data Points:** The data points are plotted on the graph and indicate the appropriate numerical value, according to the axis labels and legend.
- **Condition Labels:** Condition labels provide brief descriptions of the teaching procedure or intervention written along the top of the graph, above the data that were collected during that condition.
- **Condition Change Line:** This is a thin, vertical line drawn on the graph at the corresponding point in time when the condition changed. The condition change line clearly identifies when the changes were made in the teaching procedure or intervention.





## SUMMARY

In this lesson, you explored graphing basics, a format for fulfilling ABA requirements that data be collected and graphed on a daily basis. With graphs, we can visually inspect data and make treatment decisions based on the data. It is critical that each individual component of a patient's treatment program be evaluated using objective data. You learned that the **purpose** of graphs is to provide a snapshot of data gathered over a period of time, in a visual format that can be viewed on a single page. You also learned about two **types** of line graphs used by behavior technicians: skill repertoire building data analysis graphs and behavior management data analysis graphs. Lastly, you learned about the **six components of a line graph**: the x-axis and y-axis, axis labels, legend, data points, condition labels, and condition change line.



## TERMS TO KNOW

### Graphs

Visual representations that display a comparison of one or more sets of data, over a period of time.

### Line Graph

Uses lines to connect data points and shows changes in data over time.