

Module 1: What is Earth Science?

Topic 2 Content: Types of Graphs Notes

Introduction

Types of Graphs

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There are many different types of graphs, and each one has a different purpose. Learning how to create and interpret graphs is an important part of conducting scientific investigations. Different types of data require different types of graphs. Click on the label for each type of graph to learn more.

Estimated Carbon Dioxide Emission from China, 1990-2010

Year	Millions of Metric Tons of Carbon Dioxide
1990	1000
1995	1500
2000	2000
2005	2500
2010	3000
2015	4000

Trace Elements in Venus' Atmosphere

Element Name	Parts Per Million
Sulfur Dioxide	100
Acetylene	20
Water Vapor	10
Carbon Monoxide	5
Nitric Oxide	2
Benzene	1

The Chemical Composition of Oil

Substance	Percentage
Alkanes	30%
Cycloalkanes	40%
Aromatic Hydrocarbons	25%
Other Substances	5%

Line Graph

Bar Graph

Pie Graph

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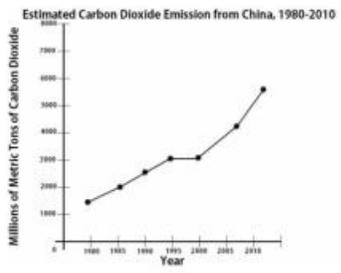
Topic 2 Content: Types of Graphs Notes

Line Graph

Types of Graphs

Line Graph

Line Graph



Year	Millions of Metric Tons of Carbon Dioxide
1980	1500
1985	2000
1990	2500
1995	3000
2000	3000
2005	4000
2010	5500

A line graph displays quantitative data, which includes exact measurements. A line graph is a type of graph that draws trends by connecting data points on a graph. The y-axis label contains the dependent variable information. On this graph, the y-axis graphs the millions of metric tons of carbon dioxide. The x-axis label contains the independent variable information. On this graph, the x-axis graphs the year in five year intervals. The data from this particular graph is best shown as a line graph. Here, the linear trend shows that more carbon dioxide is released into the atmosphere as time progresses.

Bar Graph

Pie Graph

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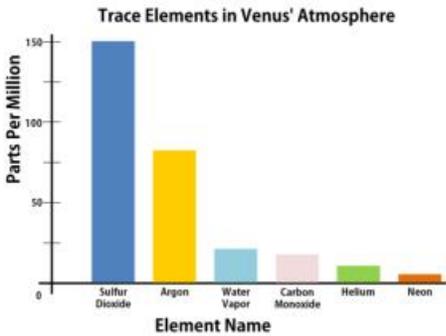
Types of Graphs

Line Graph

Bar Graph

Bar Graph

Trace Elements in Venus' Atmosphere



Element Name	Parts Per Million
Sulfur Dioxide	150
Argon	80
Water Vapor	20
Carbon Monoxide	15
Helium	10
Neon	5

Parts Per Million

Element Name

Bar graphs are used to compare non-numerical and qualitative data, such as color, texture, or smell. A bar graph is a horizontal or vertical representation of data in different sized bars. The y-axis label contains the dependent variable information. On this graph, the y-axis graphs the quantity in parts per million. One part per million equals one milligram of something per liter of water. The x-axis label contains the independent variable information. On this

Pie Graph

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Pie Graph

Types of Graphs

Line Graph
Bar Graph
Pie Graph

Pie Graph

The Chemical Composition of Oil

Chemical Substance	Percentage
Alkanes	30%
Cycloalkanes	40%
Aromatic Hydrocarbons	25%
Other Substances	5%

The pie chart (circle graph) is a circular chart used to show proportions or percentages. The chart gets its name due to the resemblance to a pie which has been sliced. Pie charts are used to graph statistical data. The sum of the percentages in the chart should always equal one hundred percent. Notice how this graph uses different colors to represent the different chemical substances found within petroleum oil. Also, notice how this type of graph does not utilize x- and y-axes.

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