

Luna's Space Adventure

Grade 5 · Mode, range and misleading graphs · 5.DS.A.1

Name _____

Date _____

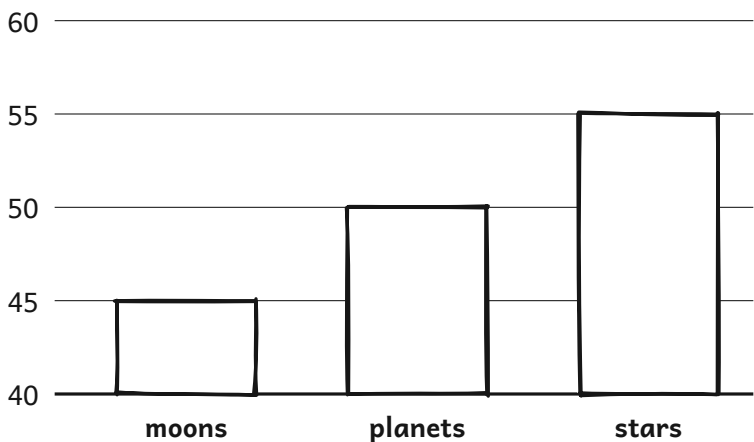


Astronaut Luna is exploring a far-off corner of space. Solve each problem to help Luna's mission go smoothly!

Mode and range Mode: the most common. Range: greatest – least.

Data	Mode	Range
46, 37, 37, 37, 35, 49, 22		
49, 37, 9, 9, 24, 9, 12		
46, 18, 4, 36, 14, 4, 4		
18, 59, 43, 15, 39, 59, 59		

Is this graph fair? Check where the scale starts before you compare bars.



Where does the scale start? _____

The stars bar looks 3 times as tall as the moons bar. Are there really 3 times as many? _____

How many more stars than moons? _____

Yes or no? Think about how a graph is drawn.

A graph's scale starts at 50. Can a short bar still stand for a big number? **yes** **no**

The range is the biggest number in a data set. **yes** **no**

Skipping numbers on a scale can mislead a reader. **yes** **no**

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ANSWER KEY

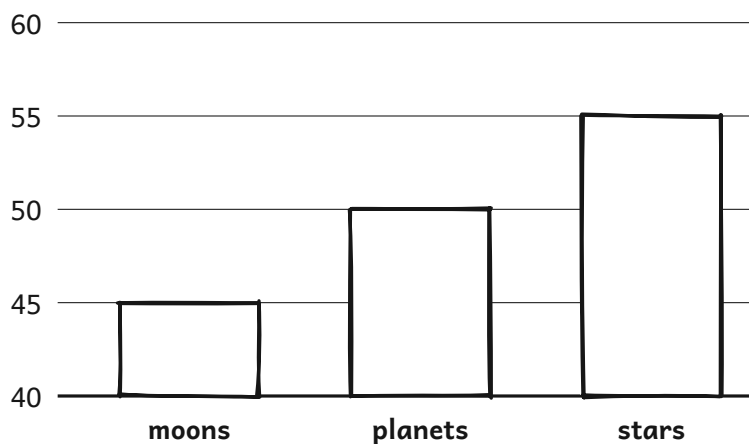


Astronaut Luna is exploring a far-off corner of space. Solve each problem to help Luna's mission go smoothly!

Mode and range Mode: the most common. Range: greatest – least.

Data	Mode	Range
46, 37, 37, 37, 35, 49, 22	37	27
49, 37, 9, 9, 24, 9, 12	9	40
46, 18, 4, 36, 14, 4, 4	4	42
18, 59, 43, 15, 39, 59, 59	59	44

Is this graph fair? Check where the scale starts before you compare bars.



Where does the scale start?

40

The stars bar looks 3 times as tall as the moons bar. Are there really 3 times as many?

no

How many more stars than moons?

10

Yes or no? Think about how a graph is drawn.

A graph's scale starts at 50. Can a short bar still stand for a big number?

yes

no

The range is the biggest number in a data set.

yes

no

Skipping numbers on a scale can mislead a reader.

yes

no



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GUIDE

1 What this sheet practises

Finding the mode and range of a data set, and judging whether a graph is misleading, such as when its scale doesn't start at 0.

2 A problem from the sheet, worked out

Mode and range Mode: the most common. Range: greatest – least.

Data	Mode	Range
46, 37, 37, 37, 35, 49, 22	37	27
49, 37, 9, 9, 24, 9, 12	9	40
46, 18, 4, 36, 14, 4, 4	4	42
18, 59, 43, 15, 39, 59, 59	59	44

How: Order the numbers. The mode appears most often; the range is the greatest minus the least. Before comparing bars, check the scale's starting point and steps.

3 Words to know

mode the value that appears most often

range greatest minus least

data set a group of numbers collected

misleading graph a graph that gives the wrong idea

4 Watch for

- Giving the greatest number as the range.
- Picking the first number as the mode without counting.
- Trusting bar heights when the scale starts above 0.

5 Where it fits

BEFORE

5.MD.B.2

Make line plots with fractional measurements and use them to solve problems.

THIS SHEET

5.DS.A.1

Make and read graphs, find the mode and range, and judge whether a graph is misleading.

NEXT

5.G.A.2

Plot points in the first quadrant to solve problems.

6 Helping at home

Record everyone's bedtime for a week and find the mode and range. Then draw two bar graphs, one starting at 0 and one not, and compare.

