

Luna's Space Adventure

Grade 4 · Bar graphs and scales · 4.DS.A.1

Name _____

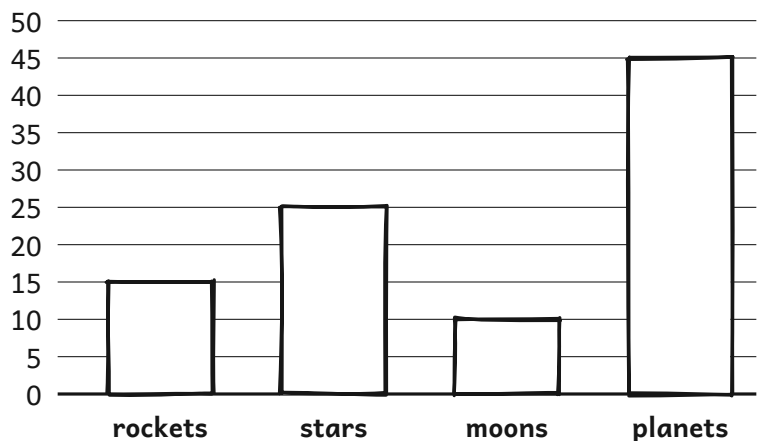
Date _____



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

Read the bar graph

Each line is 5.



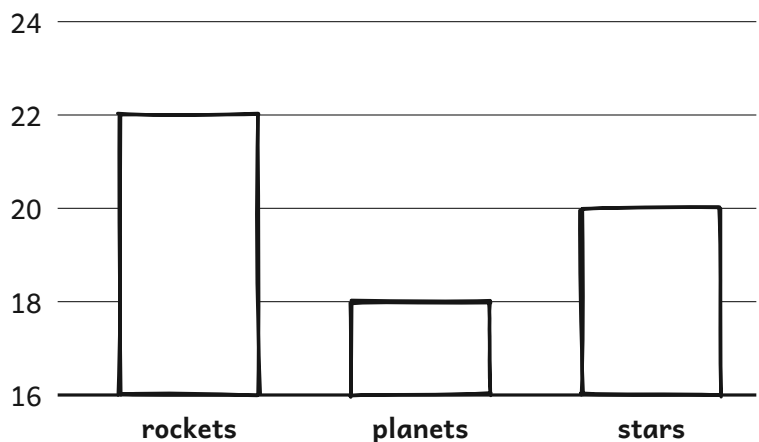
How many moons? _____

How many more planets than stars? _____

How many planets and moons together? _____

Look again

This scale doesn't start at 0. How does that change the picture?



Where does the scale start? _____

The rockets bar looks 3 times as tall as the planets bar. Are there really 3 times as many? _____

How many more rockets than planets? _____

Yes or no?

Think about how a graph is drawn.

Two graphs show the same data. Can one make a difference look bigger? **yes** **no**

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

A bar twice as tall always means twice as much. **yes** **no**

Luna's Space Adventure

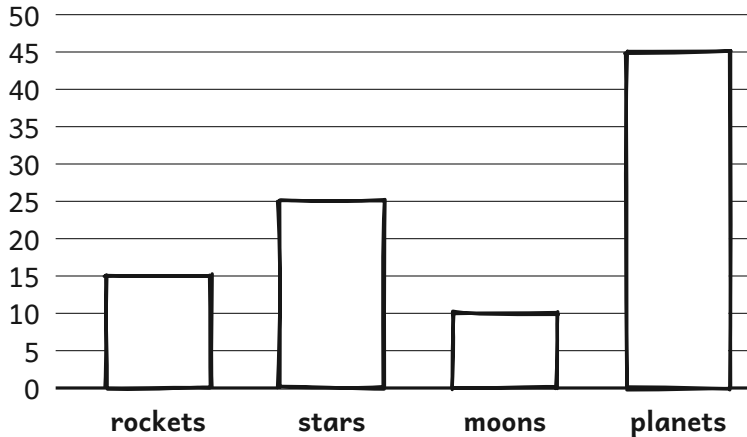
Grade 4 · Bar graphs and scales · 4.DS.A.1

ANSWER KEY



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

Read the bar graph Each line is 5.

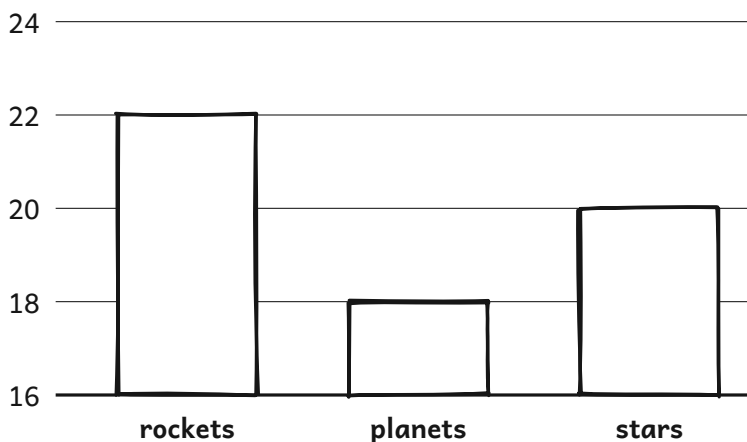


How many moons? 10

How many more planets than stars? 20

How many planets and moons together? 55

Look again This scale doesn't start at 0. How does that change the picture?



Where does the scale start? 16

The rockets bar looks 3 times as tall as the planets bar. Are there really 3 times as many? no

How many more rockets than planets? 4

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

Two graphs show the same data. Can one make a difference look bigger? **yes** no

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

A bar twice as tall always means twice as much. yes **no**



Luna's Space Adventure

Grade 4 · Bar graphs and scales · 4.DS.A.1

GUIDE

1 What this sheet practises

Reading and drawing bar graphs with scales of 2, 5 and 10, and seeing how a scale that doesn't start at 0 changes what a graph seems to say.

2 A problem from the sheet, worked out

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

Two graphs show the same data. Can one make a difference look bigger?

yes

no

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

yes

no

A bar twice as tall always means twice as much.

yes

no

How: Read the scale first: each line might be 2, 5 or 10. A bar between two lines is halfway. Then check where the scale starts before comparing bar heights.

3 Words to know

scale the numbers up the side and how far apart they are

bar graph a graph with bars whose heights show amounts

interval the jump between scale lines

misleading making something look different than it is

4 Watch for

- Counting each line as 1 when the scale goes by 5.
- Reading a bar halfway between lines as the line below.
- Saying a bar is three times as much because it looks three times as tall.

5 Where it fits

BEFORE

3.MD.B.3

Draw scaled picture and bar graphs and answer how-many-more questions.

THIS SHEET

4.DS.A.1

Make and read bar graphs and line plots, and see how a graph's design changes its message.

NEXT

5.MD.B.2

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

6 Helping at home

Find a bar graph in the news or a magazine. Check where its scale starts, and ask whether the bars look fair.

