Name & Surname: _____ Class: _____ Date: _____

Scaled Graphs in Action

One picture or step can stand for many!

About 35 minutes Level ★★★☆☆

Task A

/8

Work out the average and range for these counts.

1 Pencils in 7 supply boxes

5	10	5	15	5	10	20

In order: ☐ ☐ ☐ ☐ ☐ ☐ ☐

Mean: _____ **Median:** _____

Mode: _____ **Range:** _____

2 Crayons in 5 art bins

10	12	8	10	10

In order: ☐ ☐ ☐ ☐ ☐

Mean: _____ **Median:** _____

Mode: _____ **Range:** _____

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Read and Draw Graphs

Practice reading scales and drawing scaled graphs.

Key words

data: numbers or facts collected to show in a graph

key: box that tells what each picture stands for

title: words at the top that tell what the graph is about

scale: what each picture stands for or what each step counts by

axes: the two lines with labels and numbers on a bar graph

Task B

/10

Use the scale and key to read and draw graphs.

WARM UP

1 A bar scale counts by **2s**. A bar is 5 steps tall. How **many** is that?

Answer: _____

2 The key says each **picture** stands for **5** votes. What do 3 pictures show?

Answer: _____

3 A bar for **oranges** ends at 30 on a scale of **10s**. How many oranges?

Answer: _____

4 Each **icon** stands for 10 books. Draw 4 icons. How many **books** is that?

Answer: _____

PRACTICE

5 The **yogurt** bar shows 14 and the **pretzel** bar shows 18. How many fewer chose yogurt?

Answer: _____

6 Favorite Fruit votes: Bananas 50, Grapes 70, Oranges 60, Pears 90. Which **fruit** got the **fewest** votes?

Answer: _____

7 Pets data: Dogs 20, Cats 10, Fish 15. Key: Each **paw** = 5 pets. How many **paws** for Dogs?

Answer: _____

PROBLEM SOLVING

8 Lunch votes: Pizza 30, Tacos 20, Soup 10, Salad 40. Draw a scaled **bar graph** with steps of **10**. What number does the Salad bar reach?

Answer: _____

9 Using the **lunch** votes above, how many **more** chose Salad than Soup?

Answer: _____

10 Explain how you **know** a scale of **10s** fits all the lunch numbers.

Answer: _____

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Spot the Mistake

Find what went wrong in these scaled graph problems.

Task C /4

Find the wrong step and fix the scale mistake.



Student A

Key: Each star = 5 votes. 4 stars show how many **votes**?

1. Count 4 stars
2. Write 4 votes
3. So the answer is 4

The mistake is in step: _____

What went wrong?

.....

Correct answer: _____



Student B

Scale counts by **10s**. Apples bar is 6 steps tall. How **many** apples?

1. The scale counts by 10
2. The bar is 6 steps tall
3. So the answer is 6

The mistake is in step: _____

What went wrong?

.....

Correct answer: _____

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Graph It Yourself

Draw new scaled graphs and solve two-step problems.

Task D /10

Draw each graph and check the scale as you go.

WARM UP

1. A scale counts by **2s**. A bar is 7 steps tall. How **many** is that?

Answer: _____

2. Key: Each **dot** stands for **2** stickers. What do 8 dots show?

Answer: _____

3. A bar ends at 45 on a scale that counts by **5s**. How **many** is that?

Answer: _____

4. Each **cup** icon = 10 marbles. Draw 6 icons. How many **marbles**?

Answer: _____

PRACTICE

5. Recess games: Tag 16, Hide and Seek 12, Jump Rope 8, Kickball 20. Scale by **2s**. How many **steps** tall is the Kickball bar?

Answer: _____

6. Using the **games** data above, how many **more** chose Tag than Jump Rope?

Answer: _____

7. Using the **games** data above, how many chose Tag and Jump Rope **together**?

Answer: _____

PROBLEM SOLVING

8. Art supplies: Markers 25, Crayons 35, Paints 15, Chalk 5. Draw a scaled **picture graph** with key Each triangle = **5** supplies. How many triangles for Crayons?

Answer: _____

9. Draw a scaled **bar graph** for the art supplies with steps of **5**. What number does the Markers bar **reach**?

Answer: _____

10. Explain how you **know** your art bar graph **bars** are right.

Answer: _____

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Scales on Lines

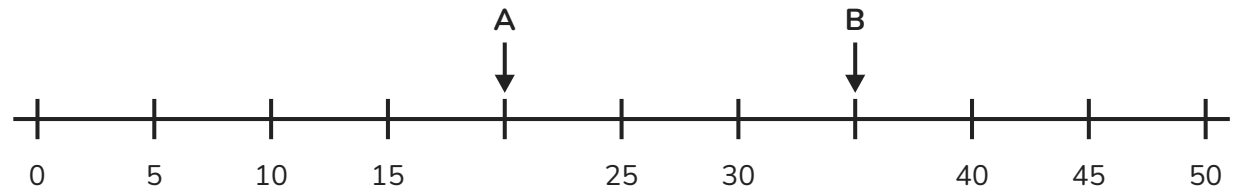
Read number line scales, then make up your own questions.

↑↓ Task E

/6

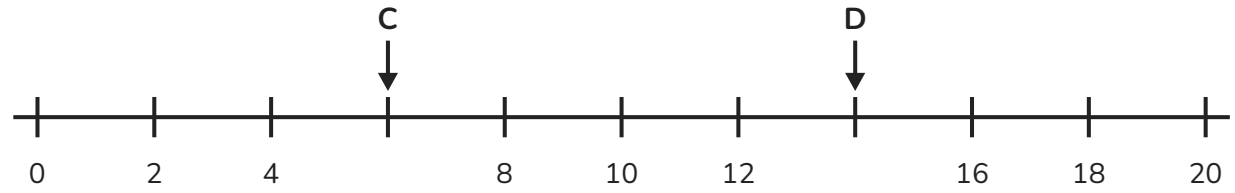
Read each number line like a graph scale.

1



A = ☐ **B =** ☐ Draw an arrow to show: 40

2



C = ☐ **D =** ☐ Draw an arrow to show: 18

Task F

Write a graph question that each answer could fit.

The answer is: **20 votes**

What could the question be?

.....

.....

.....

The answer is: **60**

What could the question be?

.....

.....

.....

How did I do?

Circle a face for each line.

I can draw a scaled picture graph with a key. ☹ 😐 ☺

I can draw a scaled bar graph with a scale of 2, 5, or 10. ☹ 😐 ☺

I can solve one- and two-step problems from scaled graphs. ☹ 😐 ☺

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Answer sheet: Scaled Graphs in Action

Task A

1. In order: 5, 5, 5, 10, 10, 15, 20. Mean 10; Median 10; Mode 5; Range 15
2. In order: 8, 10, 10, 10, 12. Mean 10; Median 10; Mode 10; Range 4

Task B

1. 10
2. 15
3. 30
4. 40
5. 4
6. bananas
7. 4
8. 40
9. 30
10. All the numbers 10, 20, 30, and 40 are multiples of 10, so each bar ends exactly on a line.

Task C

1. Step 2 is wrong: They counted each picture as 1 and missed the key. Each star stands for 5. Correct answer: 20
2. Step 3 is wrong: They used the number of steps, not the scale value. Multiply 6 steps by 10. Correct answer: 60

Task D

1. 14
2. 16
3. 45
4. 60
5. 10
6. 8
7. 24
8. 7
9. 25
10. Each bar ends on its number on the scale of 5s and has gaps, labels, and a title.

Task E

1. A = 20; B = 35; arrows at 40
2. C = 6; D = 14; arrows at 18

Task F

Answers will vary, e.g. 20 votes → What do 4 pictures show if each picture stands for 5 votes? 60 → What does a 6-step bar show on a scale that counts by 10s?

Pictures: Characters: Open Peeps by Pablo Stanley (CC0)

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