Name & Surname: _____ Class: _____ Date: _____

Graphs That Count

Draw picture graphs and bar graphs by 1s

About 45 minutes Level ★★★☆☆

Graphs Show Data

A **graph** shows a data set with up to 4 categories so we can compare fast.

- Give the graph a **title** and label each category.
- For a picture graph, draw 1 **picture** for each vote and follow the key.
- For a bar graph, color 1 box for each vote and count up by 1s.

Task A

/4

Warm up with counting. Find the mode and range for each set.

1 Crayons in 6 boxes

4	5	4	3	4	2

In order: ☐ ☐ ☐ ☐ ☐ ☐

Mode: _____ **Range:** _____

2 Books read in 7 weeks

2	3	2	5	3	2	4

In order: ☐ ☐ ☐ ☐ ☐ ☐ ☐

Mode: _____ **Range:** _____

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Picture Graph Practice

Draw and read picture graphs where 1 picture equals 1 vote.

Key words

picture graph: a graph that uses pictures to show data

data: information we collect and count

bar graph: a graph that uses bars to show numbers

key: a note that says what 1 picture stands for

Task B

/10

Use the lunch data to draw 1 picture for each vote. Pizza 6, Salad 4, Soup 3, Sandwich 5.

WARM UP

1. How many **pictures** do you draw for Pizza?

Answer: _____

2. How many **pictures** do you draw for Soup?

Answer: _____

3. How many votes for Salad and Sandwich **together**?

Answer: _____

PRACTICE

4. How many more **pictures** for Pizza than for Soup?

Answer: _____

5. How many fewer votes for Soup than for **Sandwich**?

Answer: _____

6. What is the **total** votes in all 4 groups?

Answer: _____

7. If 2 more students choose Salad, how many Salad **pictures** now?

Answer: _____

PROBLEM SOLVING

8. A student draws 5 Soup **pictures**. What is wrong and what should it be?

Answer: _____

9. How many more votes for Pizza and Sandwich **together** than Salad and Soup together?

Answer: _____

10. Explain how you **know** your picture graph matches the data.

Answer: _____

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Bar Graph Practice

Draw and read bar graphs that count up by 1s.

Task C

/10

Use the pet data to color 1 box for each vote. Fish 7, Bird 2, Hamster 5, Turtle 6.

WARM UP

1. How tall in **boxes** is the Fish bar?

   Answer: _____

2. How tall in **boxes** is the Bird bar?

   Answer: _____

3. How many pets are Fish and Turtle **together**?

   Answer: _____

PRACTICE

4. How many more **votes** for Hamster than Bird?

   Answer: _____

5. What is the **total** number of pets in all 4 groups?

   Answer: _____

6. How many fewer votes for Turtle than for **Fish**?

   Answer: _____

7. If 1 more Bird is added, how tall is the Bird **bar** now?

   Answer: _____

PROBLEM SOLVING

8. How many more Fish and Hamster **together** than Bird and Turtle together?

   Answer: _____

9. A student colors the Turtle bar to 5 **boxes**. What is wrong and what should it be?

   Answer: _____

10. Explain how you **know** your bar graph uses a single-unit scale.

    Answer: _____

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Check Your Skills

Choose the right answer and read graph scales.

Task D

Example done for you

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Check the best answer about picture graphs and bar graphs.

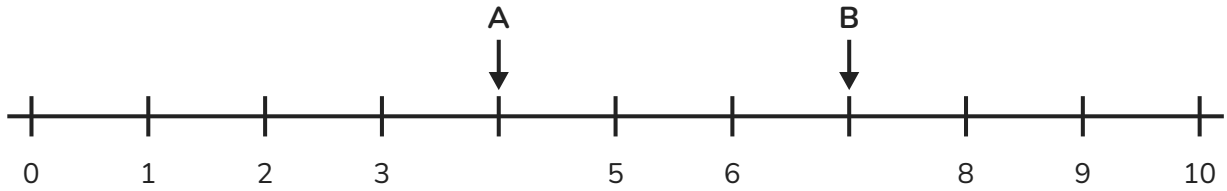
1. What does the **key** '1 star = 1 vote' mean?
   - [x] Each star stands for 1 vote
   - [ ] Each star stands for 2 votes
   - [ ] Each star is just for fun
2. A bar graph with a **single-unit** scale counts up by:
   - [ ] 1s
   - [ ] 5s
   - [ ] 10s
3. Class data: Apples 4, Bananas 6. How many **pictures** for Bananas if 1 picture = 1 vote?
   - [ ] 6
   - [ ] 4
   - [ ] 10
4. Which **mistake** makes a bar graph wrong?
   - [ ] Bars start at 0 with equal spaces
   - [ ] One bar floats above the bottom line
   - [ ] Title tells what the graph shows

Task E

/5

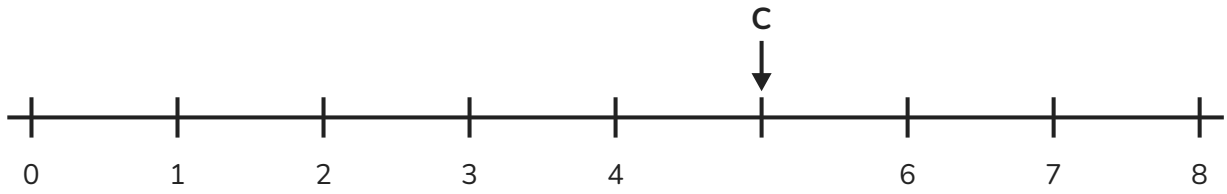
Read the scale like a bar graph side. Letters show bar tops.

1



A = ____ **B =** ____ Draw an arrow to show: 9

2



C = ____ Draw an arrow to show: 2

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Fix and Follow

Spot graph mistakes and follow worked steps.

Task F

/4

Find the wrong step in each student's work and fix it.



Student A

Picture graph data: Cats 5, Dogs 3. Key is 1 picture = 1 vote. How many **pictures** for Dogs?

1. Dogs have 3 votes
2. Key means 1 picture for each vote
3. So draw 5 pictures for Dogs

The mistake is in step: _____

What went wrong?

.....

Correct answer: _____



Student B

Bar graph for Fish 6 with numbers going up by 1s. How tall is the **bar**?

1. Write 0, 1, 2, 3, 4, 5, 6 on the side
2. Start at 0 and color 6 boxes tall
3. Top of bar is at 5

The mistake is in step: _____

What went wrong?

.....

Correct answer: _____

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Graphs That Count

Task G

/2

Follow the steps in each example, then try the next one.

WORKED EXAMPLE

Favorite toys: Cars 5, Balls 4, Dolls 2. How many votes in all?

1. List pictures needed: 5, 4, 2
2. Add to find total: 5 + 4 + 2
3. Total = 11

Answer: 11

YOUR TURN

Favorite snacks: Apples 3, Crackers 5, Cheese 4. How many votes in all?

Answer: _____

WORKED EXAMPLE

Bar graph: Red 6, Blue 4. How many more votes for Red?

1. Red bar goes to 6, Blue bar goes to 4
2. Subtract: 6 - 4
3. Answer is 2 more

Answer: 2

YOUR TURN

Bar graph: Green 7, Yellow 3. How many more votes for Green?

Answer: _____

How did I do?

Circle a face for each line.

I can draw a picture graph with 1 picture for each vote.

I can draw a bar graph that counts up by 1s.

I can answer questions about graphs.

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Answer sheet: Graphs That Count

Task A

1. In order: 2, 3, 4, 4, 4, 5. Mode 4; Range 3
2. In order: 2, 2, 2, 3, 3, 4, 5. Mode 2; Range 3

Task B

1. 6
2. 3
3. 9
4. 3
5. 2
6. 18
7. 6
8. Soup should be 3 pictures
9. 4
10. I drew 1 picture for each vote and counted each row to match 6, 4, 3, 5.

Task C

1. 7
2. 2
3. 13
4. 3
5. 20
6. 1
7. 3
8. 4
9. Turtle should be 6 boxes tall
10. Numbers go up by 1s and each vote adds 1 box from 0.

Task D

1. a) Each star stands for 1 vote
2. a) 1s
3. a) 6
4. b) One bar floats above the bottom line

Task E

1. A = 4; B = 7; arrows at 9
2. C = 5; arrows at 2

Task F

1. Step 3 is wrong: They used the Cats count for Dogs. Use the count for the right category. Correct answer: 3 pictures
2. Step 3 is wrong: They miscounted the top box. The 6th box ends at 6, not 5. Correct answer: 6

Task G

1. 12
2. 4

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

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