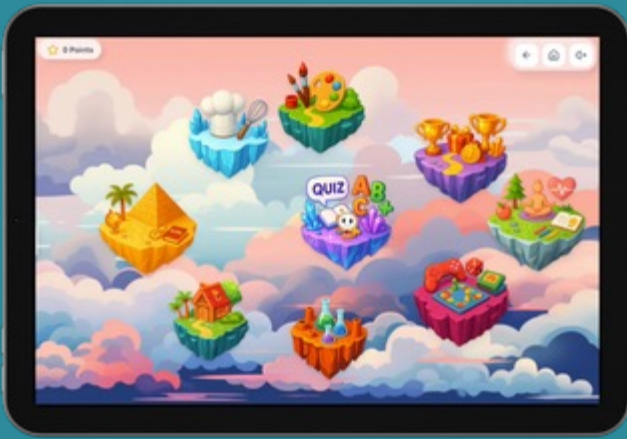


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Graphing - Year 1

Table of Contents	
Presentation: Graphing	
Classroom Display: Graphing Steps	
Game 1: Farmyard Graphing Trail	
Game 2: Roll, Tally and Graph	
Worksheet 1: Count, Tally and Total	
Worksheet 2: Build a Column Graph	
Worksheet 3: Build a Picture Graph	
Worksheet 4: Read a Picture Graph	
Worksheet 5: Compare Two Graphs	
Worksheet 6: My Survey and Graph	
Quiz: Graphing	
Assessment: Zoo Snack Data Challenge	
Rubric: Graphing Rubric	



GRAPHING STEPS

1

ASK A QUESTION –

Choose one clear question.



2

COLLECT ANSWERS –

Ask each person once.



3

MAKE TALLIES –

Record one tally for each answer.



4

FIND TOTALS –

Count the tallies in each category.



5

MAKE A GRAPH –

Use a picture graph or column graph.



6

READ AND COMPARE –

Find more, fewer, most, least or equal.



data • category • tally • total • graph



FARMYARD GRAPHING TRAIL



START

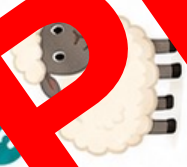
1



2



3



4



5



6



7



8



16



15



14



13



12



11



10



9



17



18



19



20



21



22



23



24



FINISH

YOU NEED: one die, counters and a pencil.

HOW TO PLAY:

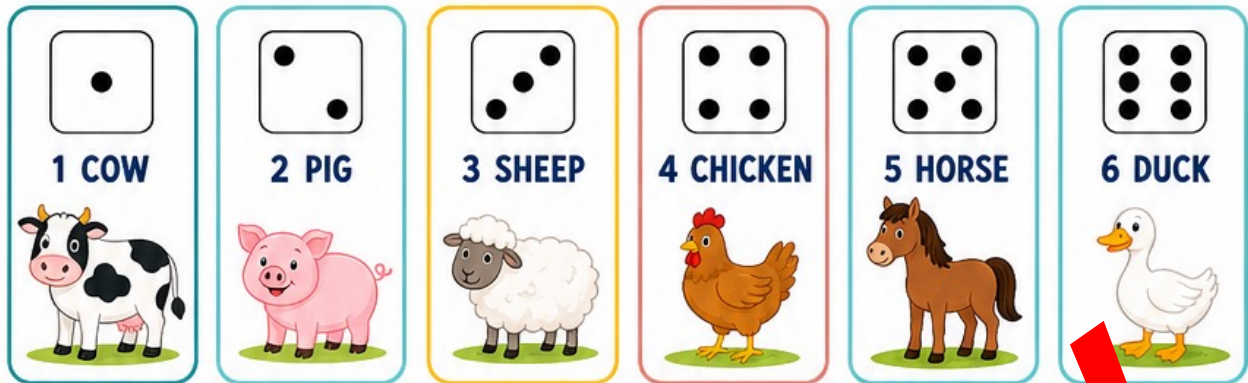
1. Roll and move.
2. Name the animal you land on.
3. Add one tally for that animal.
4. At FINISH, total the tallies and compare.

ANIMAL	TALLY	TOTAL
COW		
PIG		
SHEEP		
CHICKEN		
HORSE		
DUCK		



ROLL, TALLY AND GRAPH

Roll a die 20 times. Tally the result, write each total, then colour the column graph.



ANIMAL	TALLY	TOTAL
COW		
PIG		
SHEEP		
CHICKEN		
HORSE		
DUCK		

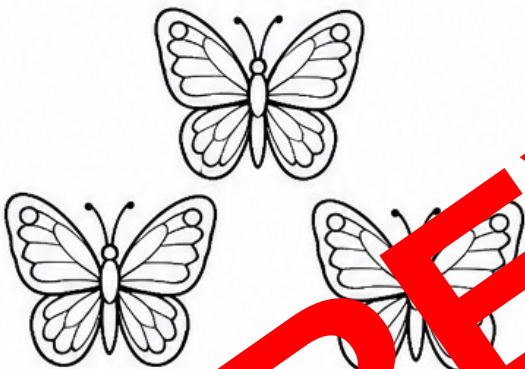
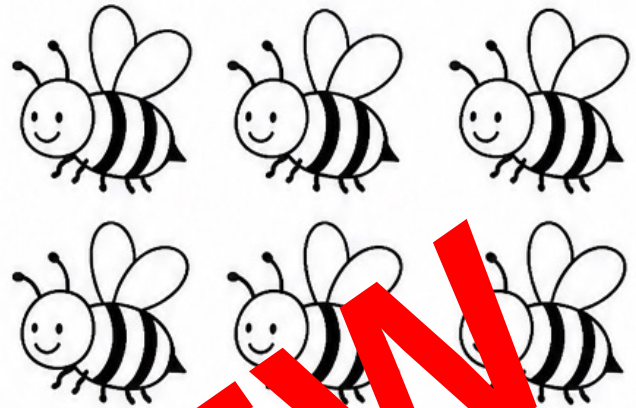
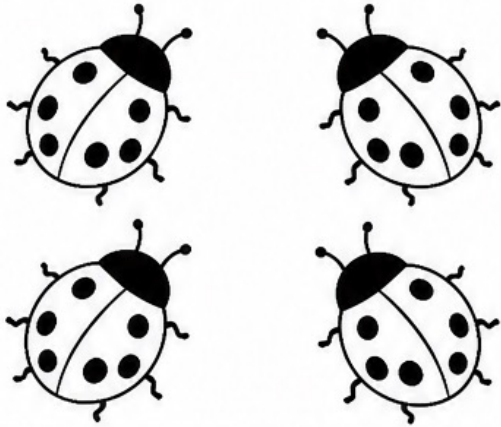
TOTAL
ROLLS

9						
8						
7						
6						
5						
4						
3						
2						
1						
0						
	COW	PIG	SHEEP	CHICKEN	HORSE	DUCK
						

COUNT, TALLY AND TOTAL

Name: _____ Date: _____

Count each kind of garden minibeast. Record tally marks and the total.



MINIBEAST	TALLY	TOTAL
Ladybird		
Bee		
Butterfly		
Snail		

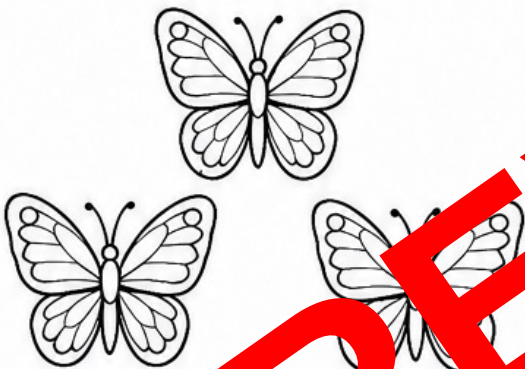
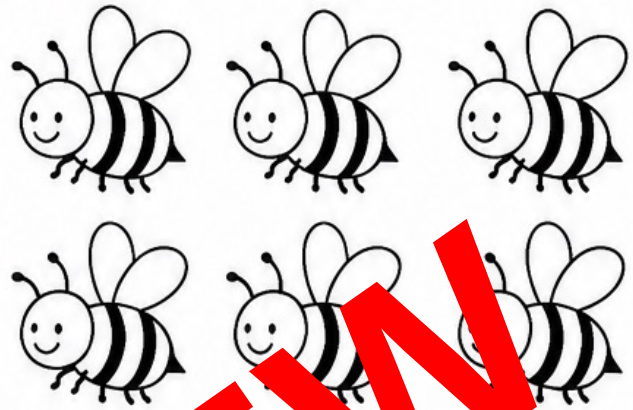
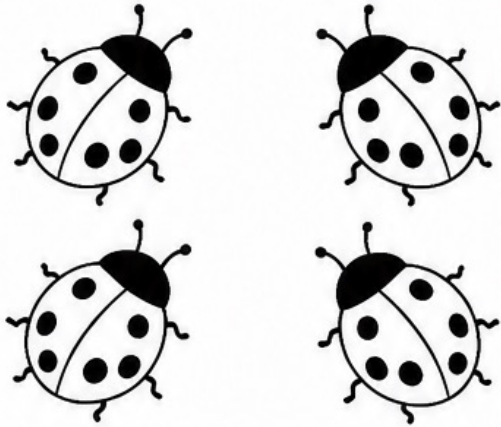
1. Which minibeast has the most?

2. How many minibeasts are there altogether?

COUNT, TALLY AND TOTAL

Name: ANSWERS Date: _____

Count each kind of garden minibeast. Record tally marks and the total.



MINIBEAST	TALLY	TOTAL
Ladybird		4
Bee	 	6
Butterfly		3
Snail	 	5

1. Which minibeast has the most?

Bee

2. How many minibeasts are there altogether?

18

BUILD A COLUMN GRAPH



Name: _____ Date: _____



Use the table to colour the column graph. Then answer the questions.

PLAYGROUND BALLS	
Soccer ball	4
Basketball	6
Tennis ball	3
Football	



1. Which ball has the most votes?

2. How many more votes does basketball have than tennis?

3. How many votes are there altogether?

BUILD A COLUMN GRAPH

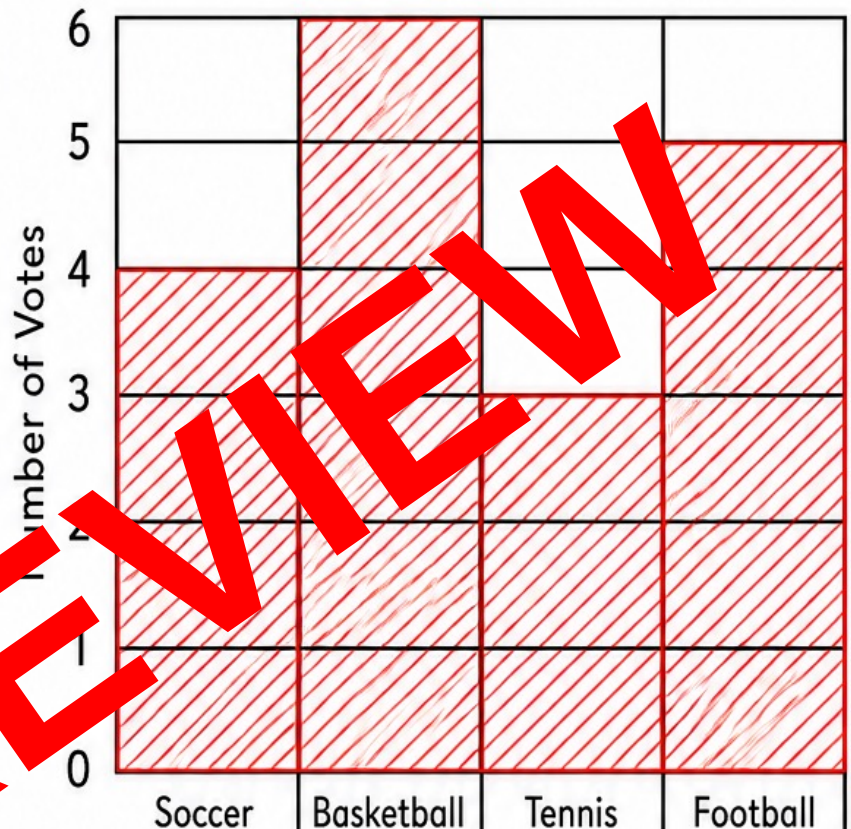


Name: **ANSWERS** Date: _____



Use the table to colour the column graph. Then answer the questions.

PLAYGROUND BALLS	
Soccer ball	4
Basketball	6
Tennis ball	3
Football	



1. Which ball has the most votes?

Basketball

2. How many more votes does basketball have than tennis?

3

3. How many votes are there altogether?

18

BUILD A PICTURE GRAPH

Name: _____

Date: _____

Use the lunch-choice table to draw a picture graph. Then answer the questions.

Lunch Choice	Number of Children
 Sandwich	4
 Apple	2
 Yoghurt	5
 Crackers	3



KEY: one small circle = one lunch choice.

 Sandwich						
 Apple						
 Yoghurt						
 Crackers						

- Which choice is the most popular? _____
- How many more children chose yoghurt than apple? _____
- How many choices were recorded altogether? _____

BUILD A PICTURE GRAPH

Name: ANSWERS

Date: _____

Use the lunch-choice table to draw a picture graph. Then answer the questions.

Lunch Choice	Number of Children
 Sandwich	4
 Apple	2
 Yoghurt	5
 Crackers	3



KEY: one small circle = one lunch choice.

 Sandwich						
 Apple						
 Yoghurt						
 Crackers						

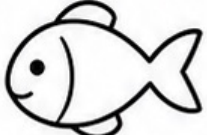
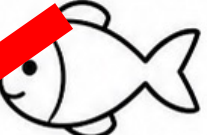
- Which choice is the most popular? Yoghurt
- How many more children chose yoghurt than apple? 3
- How many choices were recorded altogether? 14

READ A PICTURE GRAPH

Name: _____

Date: _____

OUR CLASS PETS

Dogs	    
Cats	  
Fish	   
Birds	 

KEY: one picture = one child.

1. Which pet has the most votes? _____
2. Which pet has the least votes? _____
3. How many more votes do dogs have than cats? _____
4. How many children chose fish? _____
5. How many votes are there altogether? _____

READ A PICTURE GRAPH

Name: ANSWERS

Date: _____

OUR CLASS PETS

Dogs	    
Cats	  
Fish	   
Birds	 

KEY: one picture = one child.

1. Which pet has the most votes?

Dogs

2. Which pet has the least votes?

Birds

3. How many more votes do dogs have than cats?

2

4. How many children chose fish?

4

5. How many votes are there altogether?

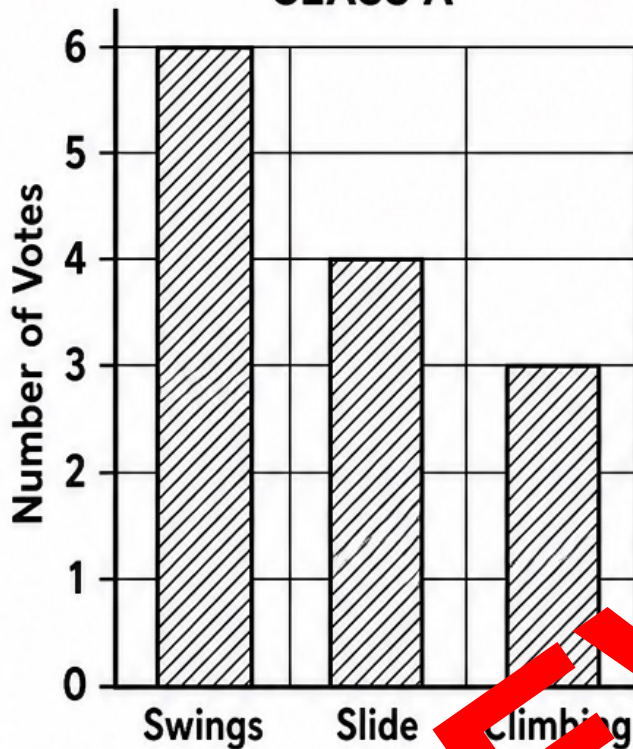
14

COMPARE TWO GRAPHS

Name: _____

Date: _____

GRAPH A
CLASS A



GRAPH B
CLASS B



1. What is Class A's most popular choice?

2. What is Class B's most popular choice?

3. Which choice has one more vote in Class B than Class A?

4. How many votes are in Class A altogether?

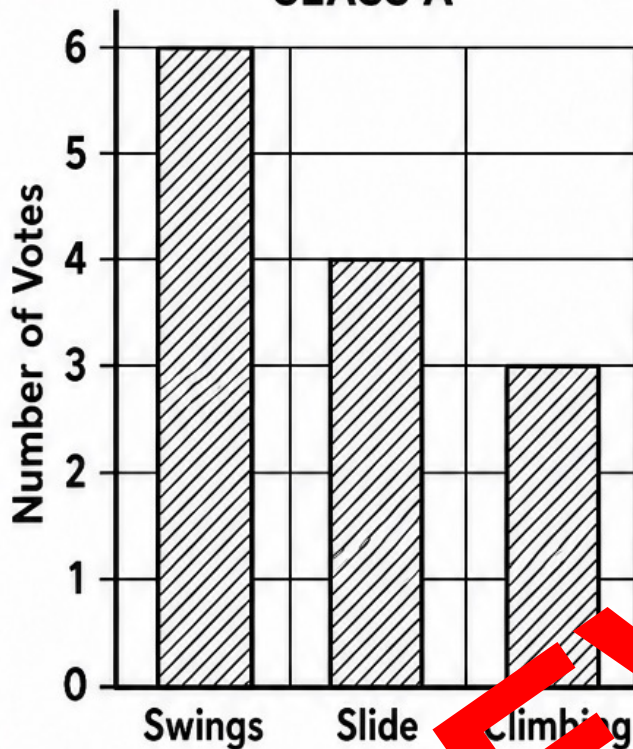
5. True or false: Both classes recorded the same total.

COMPARE TWO GRAPHS

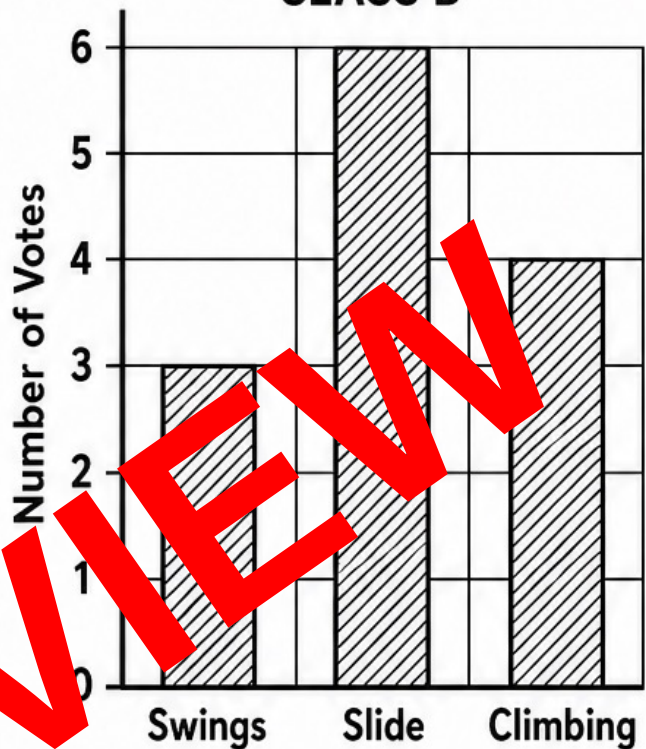
Name: ANSWERS

Date: _____

GRAPH A
CLASS A



GRAPH B
CLASS B



1. What is Class A's most popular choice?

Swings

2. What is Class B's most popular choice?

Slide

3. Which choice has one more vote in Class B than Class A?

Climbing

4. How many votes are in Class A altogether?

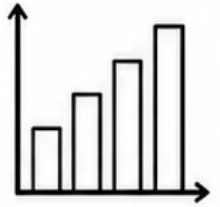
13

5. True or false: Both classes recorded the same total.

True



MY SURVEY AND GRAPH



Name: _____

Date: _____

1. MY QUESTION

2. MY FOUR CATEGORIES

A

B

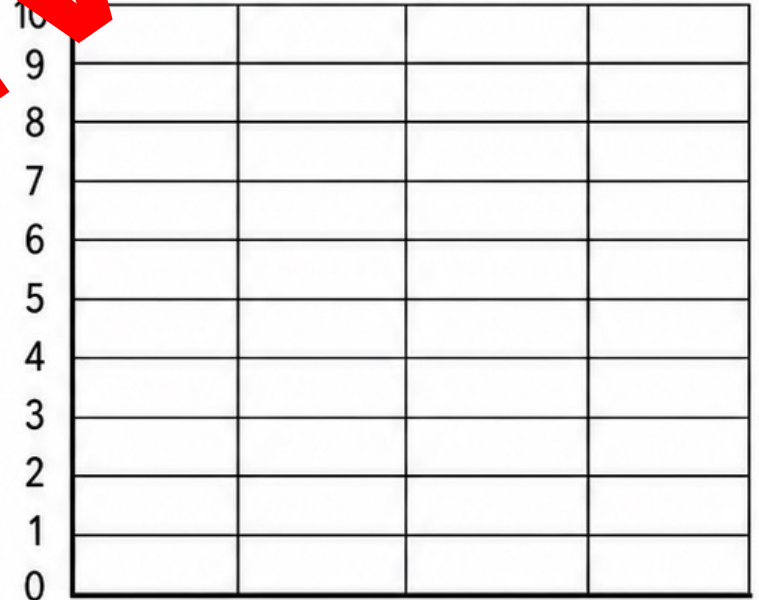
C

D

3. COLLECT DATA

CATEGORY	TALLY	TOTAL
A		
B		
C		
D		

4. MAKE A COLUMN GRAPH



5. WHAT DID YOU FIND?

Most: _____

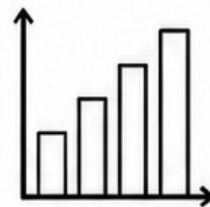
Least: _____

The difference is: _____

- ☐ I asked one clear question.
- ☐ I recorded one answer for each person.
- ☐ I labelled my graph.



MY SURVEY AND GRAPH



Name: **ANSWERS**

Date: _____

1. MY QUESTION

Answers will vary.

2. MY FOUR CATEGORIES

A

B

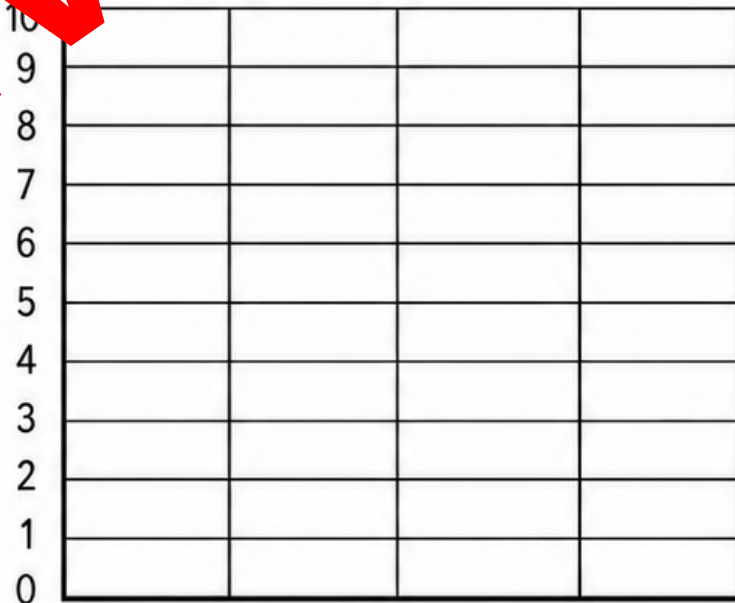
C

D

3. COLLECT DATA

CATEGORY	TALLY	TOTAL
A		
B		
C		
D		

4. MAKE A COLUMN GRAPH



5. WHAT DID YOU FIND?

Most: _____

Least: _____

The difference is: _____

Check: clear question; four categories; one tally per response; totals match the graph; labels included; comparisons match the data.

☐

I asked one clear question.

☐

I recorded one answer for each person.

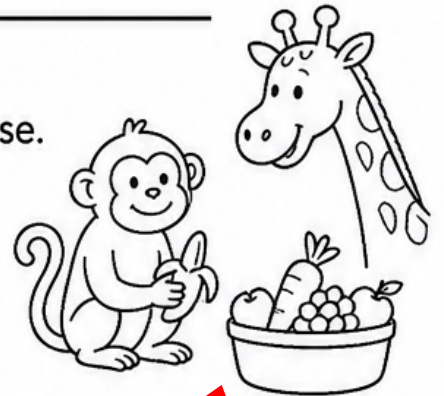
☐

I labelled my graph.

ZOO SNACK DATA CHALLENGE — PAGE 1

Name: _____ Date: _____

The zookeeper asked which snack the animals chose.
Read the tally table and complete the totals.



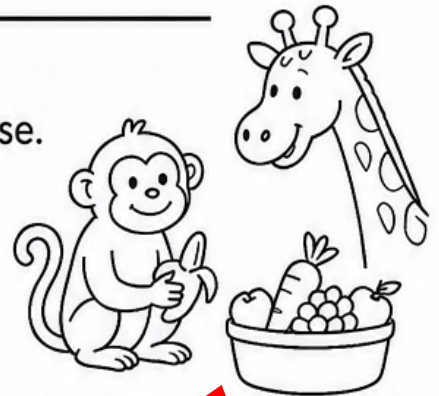
SNACK	TALLY	TOTAL
Bananas		
Apples	 	
Grapes		
Carrots	 	

- Write each total in the table.
- Circle the snack with the most votes.
- Underline the snack with the least votes.
- How many more votes do apples have than grapes? _____
- How many responses were recorded altogether? _____

ZOO SNACK DATA CHALLENGE — PAGE 1

Name: ANSWERS Date: _____

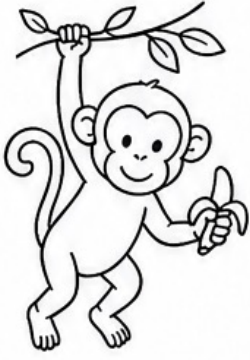
The zookeeper asked which snack the animals chose.
Read the tally table and complete the totals.



SNACK	TALLY	TOTAL
Bananas		4
Apples	 	6
<u>Grapes</u>		3
Carrots	 	5

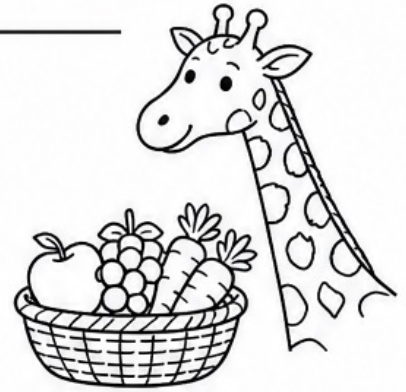
- Write each total in the table.
- Circle the snack with the most votes.
- Underline the snack with the least votes.
- How many more votes do apples have than grapes? 3
- How many responses were recorded altogether? 18

ZOO SNACK DATA CHALLENGE – PAGE 2



Name: _____ Date: _____

Bananas	4
Apples	6
Grapes	3
Carrots	5



Use the data to complete the column graph. Then answer the questions.

6. Complete the graph.



7. Write one sentence that compares two snacks.

8. True or false: Carrots have fewer votes than bananas.

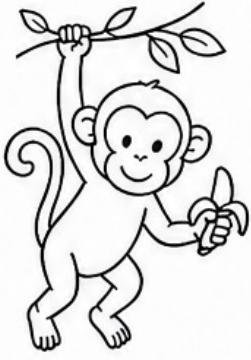
☐ True

☐ False

9. Which two snacks have a total of 7 votes?

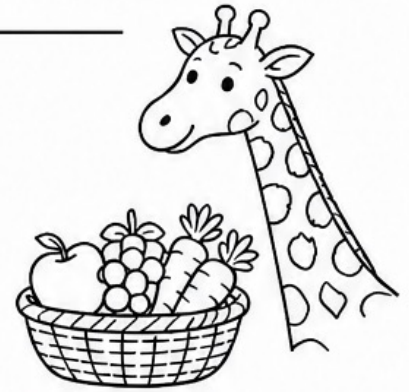
10. Write one way to check that the graph is correct.

ZOO SNACK DATA CHALLENGE – PAGE 2



Name: **ANSWERS** Date: _____

Bananas	4
Apples	6
Grapes	3
Carrots	5



Use the data to complete the column graph. Then answer the questions.

6. Complete the graph.



7. Write one sentence that compares two snacks.

Example: Apples have 2 more votes than bananas.

8. True or false: Carrots have fewer votes than bananas.

☐ True

☒ False

9. Which two snacks have a total of 7 votes?

Bananas and grapes.

10. Write one way to check that the graph is correct.

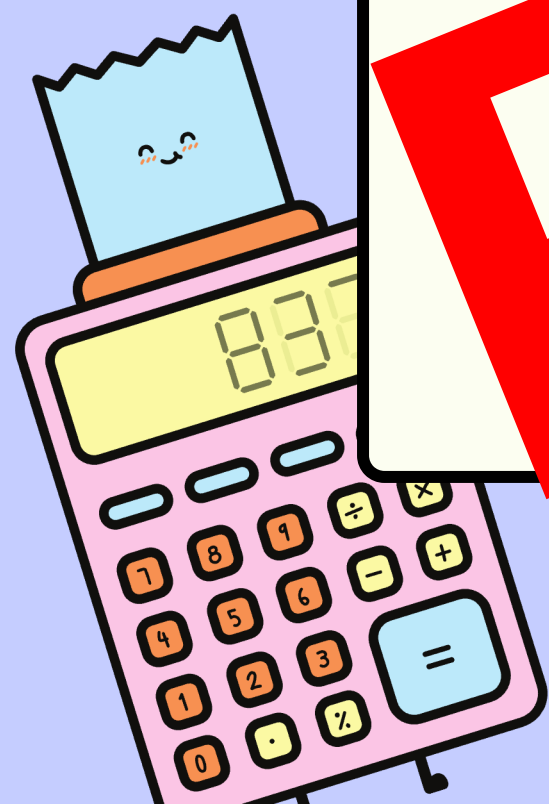
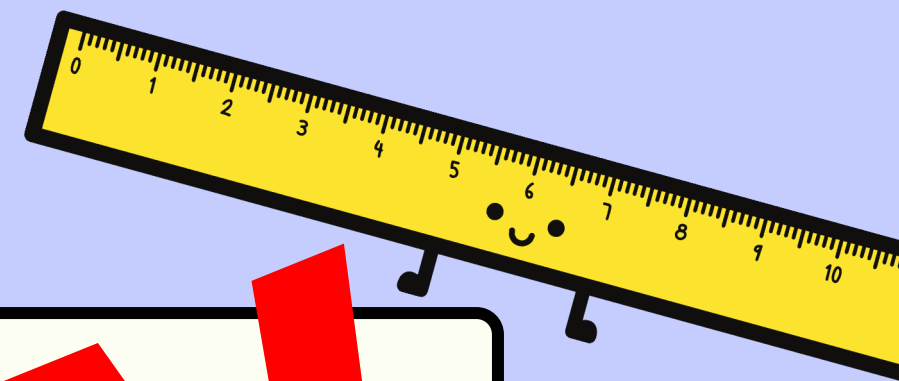
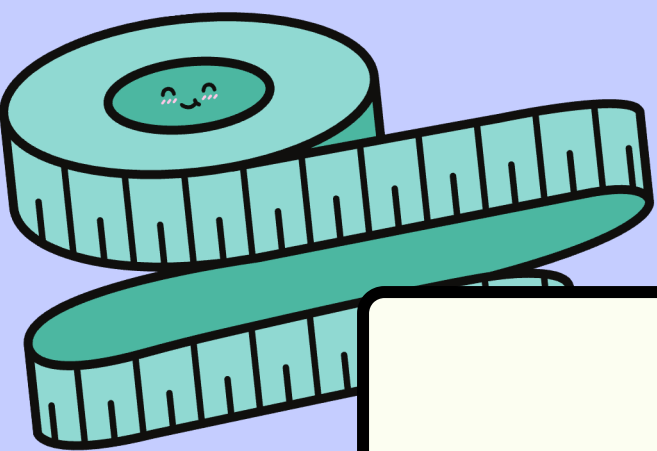
Check that every column matches the data table.

GRAPHING RUBRIC

CRITERIA	BEGINNING	DEVELOPING	ACHIEVING	CONFIDENT	EXCEEDING
Collects data	Needs substantial support to collect data.	Collects some data with support.	Collects most data with occasional support.	Collects data accurately and independently.	Collects data accurately, independently and clearly explained.
Records tallies and totals	Needs substantial support to record tallies and totals.	Records some tallies and totals with support.	Records most tallies and totals with occasional support.	Records tallies and totals accurately and independently.	Records tallies and totals accurately, independently and clearly explained.
Builds a graph	Needs substantial support to build a graph.	Builds part of the graph with support.	Builds most of the graph with occasional support.	Builds the graph accurately and independently.	Builds the graph accurately, independently and clearly explained.
Labels the graph	Needs substantial support to label the graph.	Labels some parts of the graph with support.	Labels most parts of the graph with occasional support.	Labels the graph accurately and independently.	Labels the graph accurately, independently and clearly explained.
Reads graph information	Needs substantial support to read the graph.	Reads some information from the graph with support.	Reads most information from the graph with occasional support.	Reads graph information accurately and independently.	Reads graph information accurately, independently and clearly explained.
Compares and explains	Needs substantial support to compare and explain.	Compares and explains with support.	Compares and explains with occasional support.	Compares and explains accurately and independently.	Compares and explains accurately, independently and clearly explained.

Overall level: _____

Feedback: _____



PREVIEW

Graphing



Data Tells a Story

Data is information we collect. It can help us answer a question about a group.

PREVIEW



Ask a Clear Question

A good data question has answers that fit into categories.

Example: Which fruit do you choose for lunch – apple, banana or orange?



Choose the Categories

Categories are the answer groups. Each answer belongs in one category.

Apple | Banana | Orange



Collect Fairly

Ask every person the same question.

Record one answer for each person.

Do not count anyone twice.



Record with Tally Marks

Draw one tally mark for each response.

The fifth tally crosses the first four, making groups of five easy to count.



Turn Tallies into Totals

Count the tally marks in each category. Write the total beside the

tallies

Apple: 4 | Banana: 6 | Orange: 3



Make a Picture Graph

Use one repeated picture for each response.

Line up the pictures so the groups are easy to compare.

PREVIEW



Read the Key

The key tells what each picture means.

Key: one picture represents one person.

PREVIEW



Read a Picture Graph

Look across each row and use the key.
Count carefully to find the total for every category.

PREVIEW



Compare the Data

Use these words to describe the graph:
more | fewer | most | least | equal

PREVIEW



Make a Column Graph

Draw one column for each category.

The height of the column shows the total.

PREVIEW



Label the Graph

A clear graph needs a title, category labels, and a number scale.

Labels tell the reader what the graph shows.

PREVIEW



Read the Columns

Find the top of each column and read across to the number scale.

A taller column represents a larger total.

PREVIEW



Check Your Graph

Compare the graph with the tally table. The total should match.

Check that the categories and numbers are labelled.

PREVIEW



Guided Example

Playground choices: swings 6, slide 4, climbing frame 3.

Swings is the most popular choice.

The climbing frame has the fewest votes.

Swings has 2 more votes than the slide.



Plan Your Own Survey

1. Ask a clear question.
2. Choose categories.
3. Collect the answer from each person.
4. Tally and total.
5. Make and label a graph.

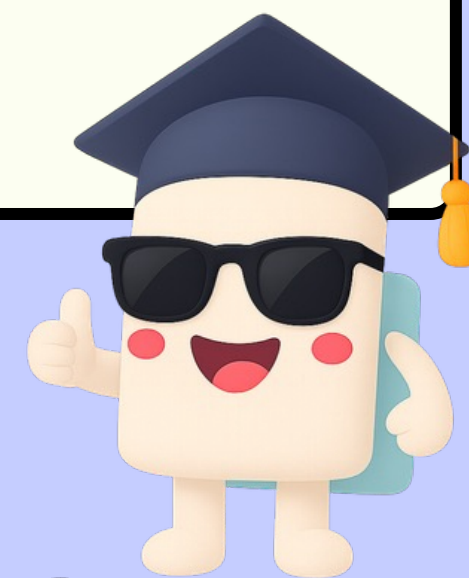
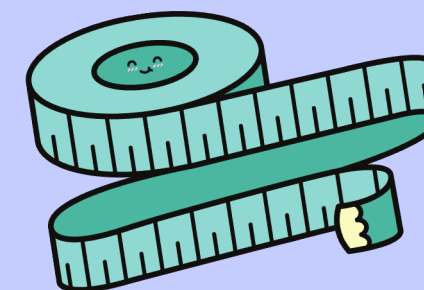
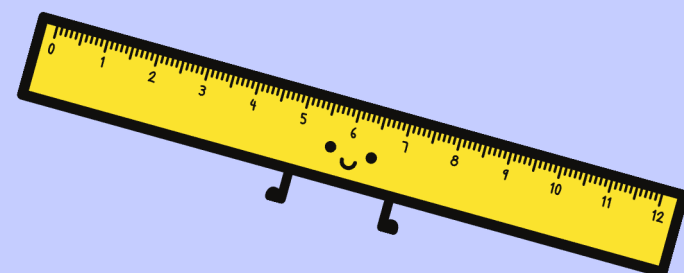
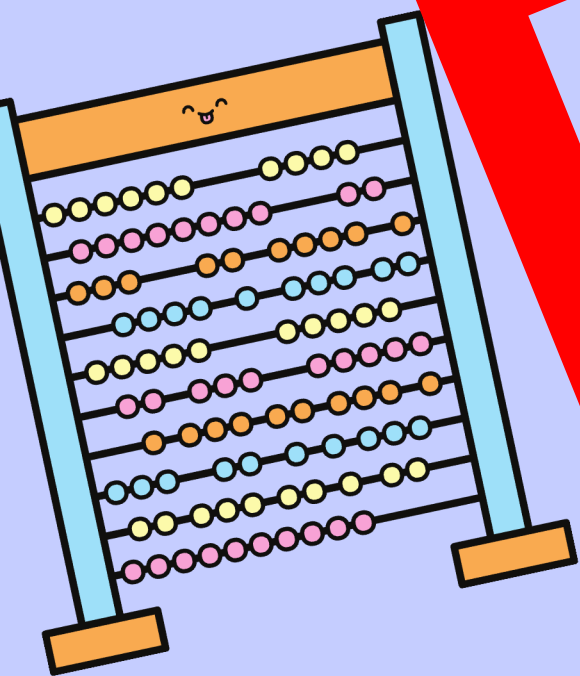
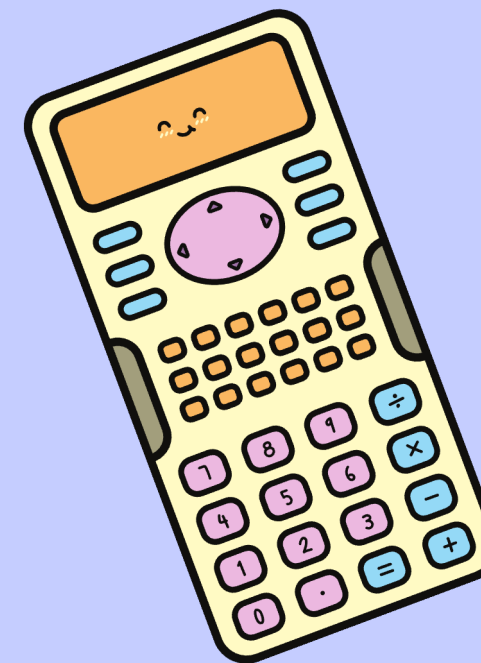
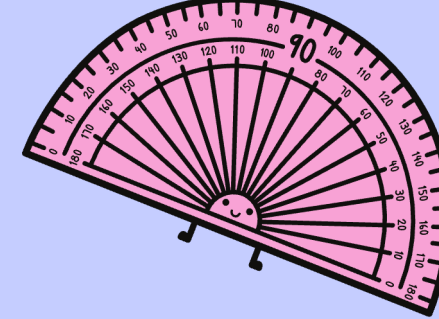
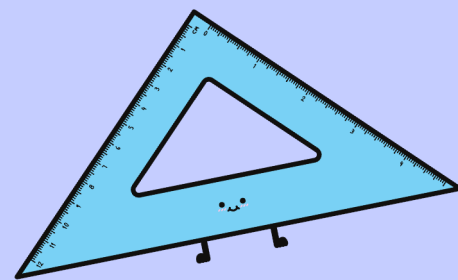
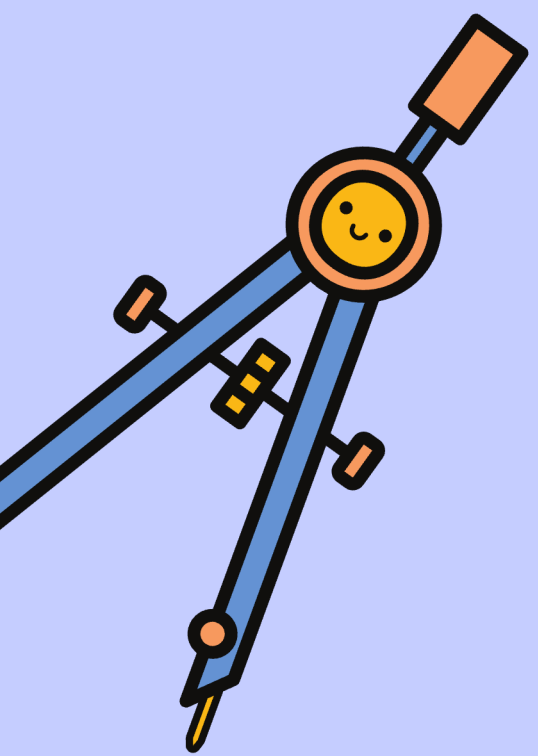


Review

Data is information.

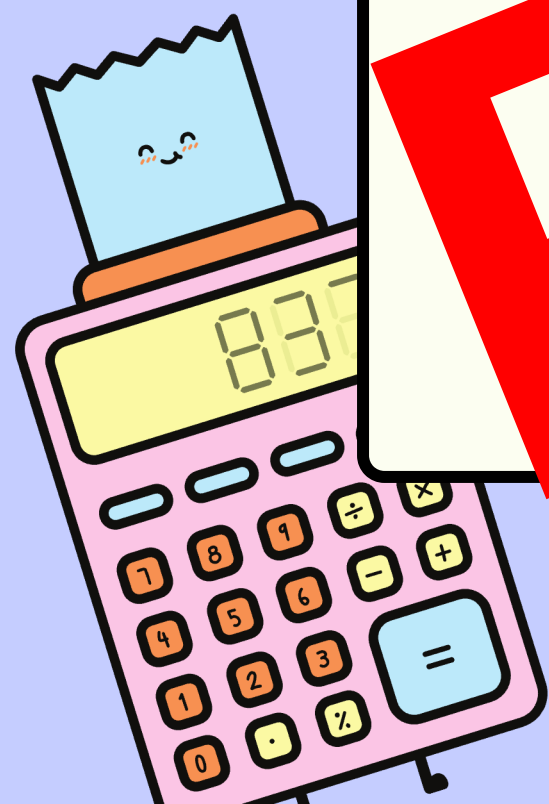
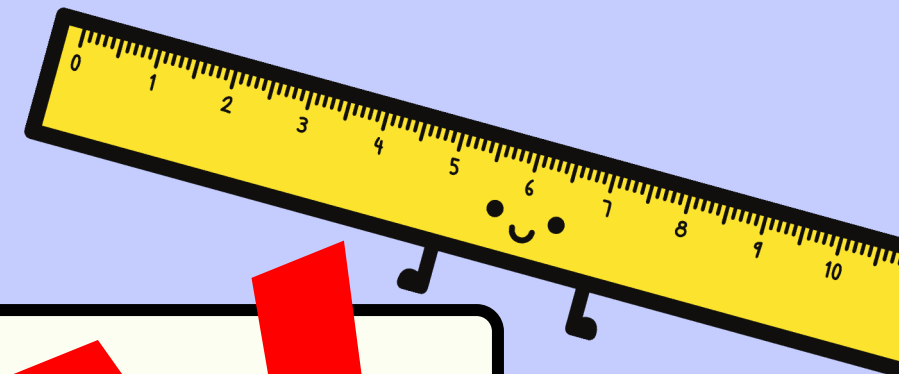
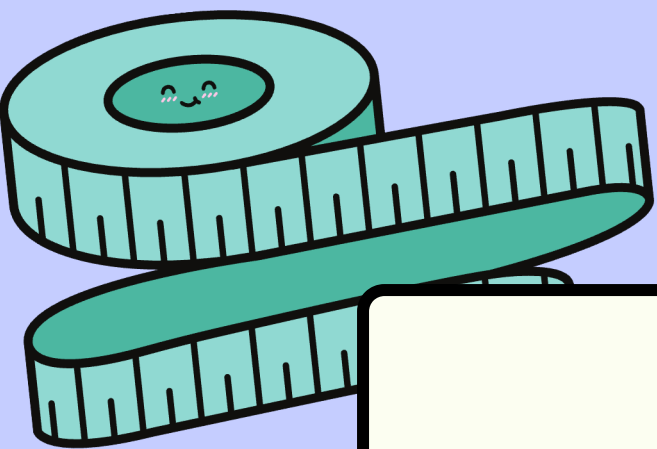
We can collect it, organize it, represent it in a graph, and compare what the graph shows.





PREVIEW

Well Done!



Graphing Quiz

PREVIEW



Question 1

True or False

Data is information collected to help answer a question.

PREVIEW



Answer 1

True

Data is information that we collect and use.

PREVIEW



Question 2

Which is a clear survey question?

A. Do you like things?

B. How do you travel to school?

C. Is school good and why and when?

D. Tell me everything about your morning.



Answer 2

B. How do you travel to school?

It asks one closed question.

PREVIEW



Question 3

Short Answer

How many tally marks should you record for one person's answer?

PREVIEW



Answer 3

One tally ar

PREVIEW



Question 4

A group has four tally marks and then three more tally marks.

What is the total?

A. 5

B. 6

C. 7

D. 8



Answer 4

PREVIEW

C. 7



Question 5

Short Answer

A picture-graph key says one star represents two votes. How many votes do three stars represent?



Answer 5

6 votes

PREVIEW



Question 6

A table shows cats 5, dogs 3 and fish 2. Which categories are

even?

A. Cats and dogs

B. Dogs and fish

C. Cats and fish

D. All three



Answer 6

C. Cats and fish are equal because both have a total of 5.

PREVIEW



Question 7

A column graph shows red 4 and blue 4. Which colour has more

votes

A. Red

B. Blue

C. They are equal

D. There is not enough information



Answer 7

B. Blue has 6 votes, which is more than 4.

PREVIEW



Question 8

True or False

On a simple column graph, a taller column represents a larger total.



Answer 8

PREVIEW

True



Question 9

Short Answer

Name two labels that help readers understand a graph.

PREVIEW



Answer 9

Any two of:

a title, category labels, no numbers on the scale.

PREVIEW



Question 10

A survey shows apples 2, bananas 5 and oranges 3. Which fruit has the most votes?

- A. Apples
- B. Bananas
- C. Oranges
- D. They are equal

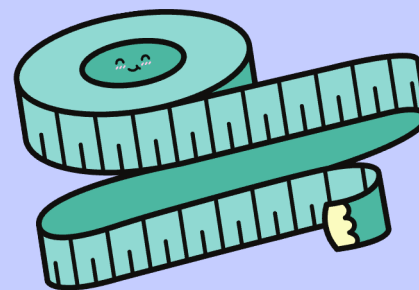
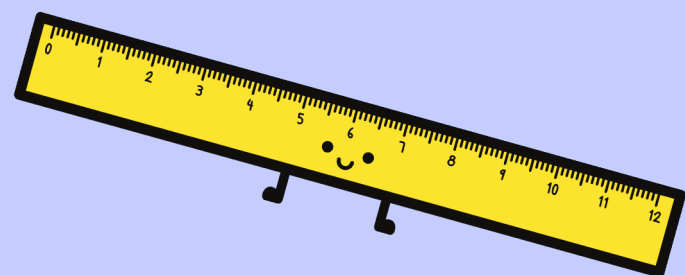
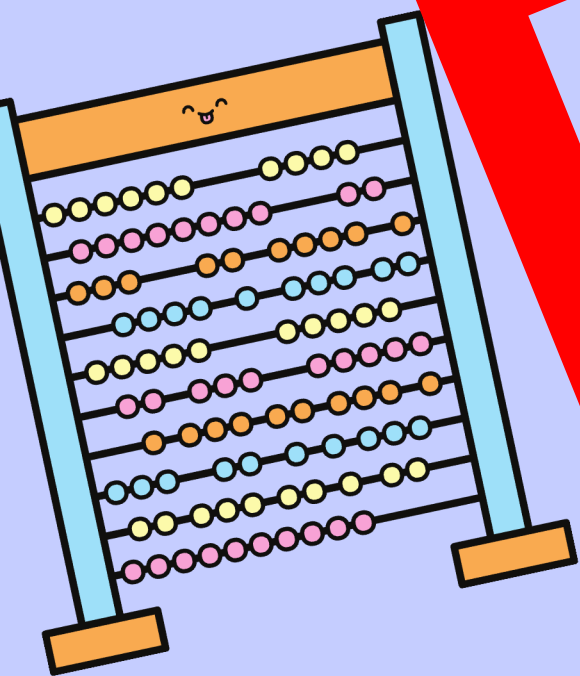
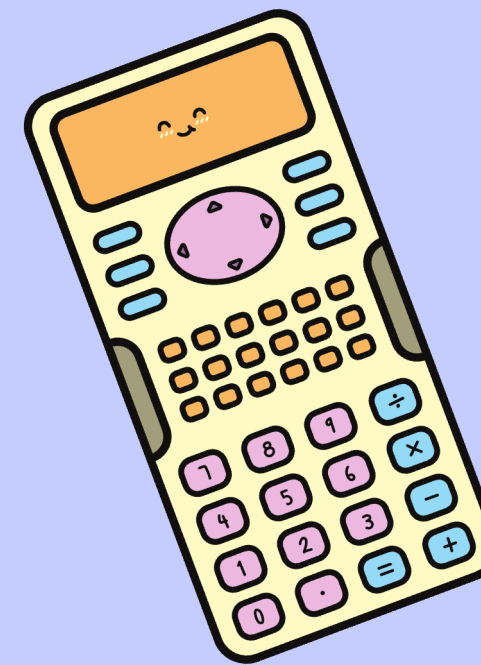
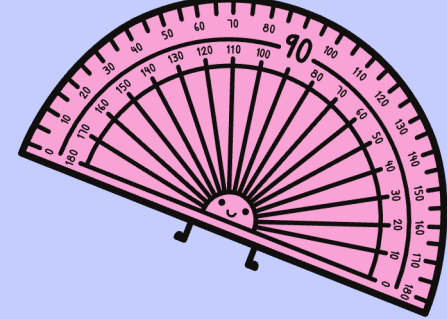
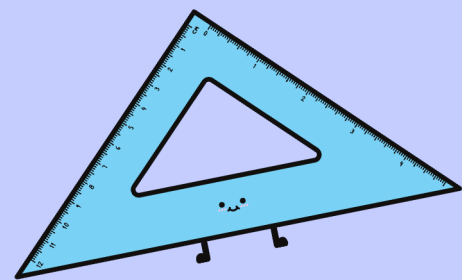
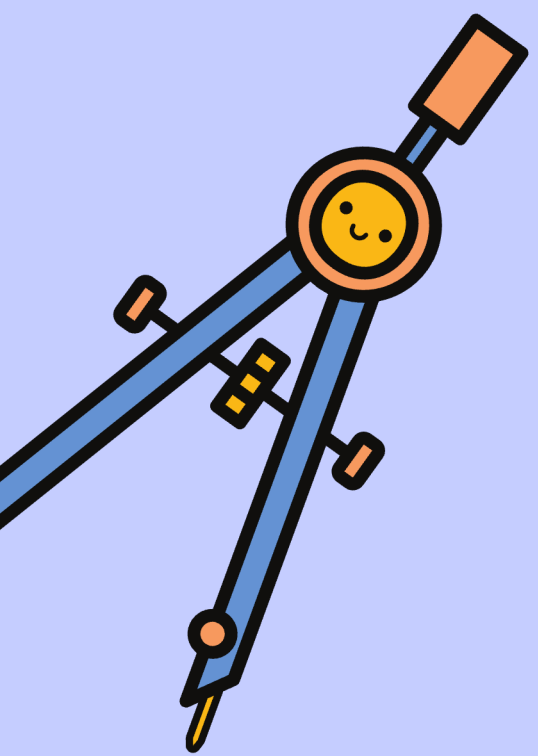


Answer 10

A. Apples have the least votes with 2.

PREVIEW





PREVIEW

Well Done!