Chapter 10: Fun at Class Party!

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Exercise 10.1 — Let us Do — Party Preparations (Measuring Length)

Q1 What are the various activities shown in the picture?

SOLUTION

Look carefully at the picture of Class 3 children preparing for the party.

Identify each activity: children measuring the door height, measuring table length using hand spans, measuring with footsteps, and using paper strings to measure.

Name each activity you can see — measuring length using hand span, footstep, and paper strings are the key ones shown.

Activities shown in the picture: (1) A girl measuring the length of a table using hand spans. (2) Two girls hanging colourful paper strings as decorations near the window/board area. (3) A girl standing beside the door, using a paper string or strip to measure the door's height. (4) A boy crouching near the table (observing/measuring). The main measurement tools shown are hand spans and paper strings.

Q2 How does Shelly find the height of the door?

SOLUTION

Look at the picture to see what tool Shelly is using.

Shelly uses a measuring scale (ruler or metre rod) and places it along the door to find its height.

She reads the markings on the scale to get the measurement.

Shelly stands next to the door and holds a paper string (measuring strip) upright along the door from bottom to top to find its height. She uses the paper string as an informal measuring tool against the door.

Q3 Leena and Adi use their hand spans to measure the length of the same table. Will they both get the same measurement?

SOLUTION

A hand span is the distance from the tip of the little finger to the tip of the thumb when the hand is spread wide.

Different people have different hand sizes — a child's hand span is smaller than an adult's.

If Leena's hand span is smaller than Adi's, she will count MORE hand spans to cover the same table length.

If Adi's hand span is larger, he will count FEWER hand spans.

Since their hand sizes are likely different, they will get DIFFERENT measurements (different number of hand spans).

This shows why we need a standard unit of measurement — so everyone gets the same number.

No, they will NOT get the same measurement. Their hand spans are different sizes, so they will count different numbers of hand spans for the same table length.

Q4 Circle the child with the longest ponytail.

SOLUTION

Compare the lengths of all the ponytails shown in the picture.

The longest ponytail hangs furthest down — circle that child.

Circle the girl on the left side of the picture who is seated/crouching near the desk — her ponytail hangs the longest (lowest) compared to the other children shown.

Q5 Tick the paper strings in the classroom that are as long as the height of the window.

SOLUTION

Look at the height of the window in the picture.

Compare each paper string's length with the window height.

Tick only those paper strings whose length matches (is equal to) the height of the window.

Tick the paper strings hanging on the classroom walls/board that visually match the height of the window. From the picture, the strings hanging vertically along the sides of the board that reach approximately the same length as the window's height should be ticked. (This is a visual comparison activity — tick strings whose length equals the window height.)

Q6 Find the distance between the two walls of the classroom. How did you find it? Can there be other ways of measuring it?

SOLUTION

You can measure the distance between the two walls using footsteps — walk from one wall to the other counting each step.

You can also use a metre rope, a long string, or a measuring tape stretched from one wall to the other.

Another way: use paper strings laid end to end between the walls and count how many are needed.

Other ways include using a pencil length repeatedly, or a hand span repeatedly.

Measure using footsteps, a metre rope, paper strings, or a measuring tape. Other ways include using pencil lengths or hand spans placed end to end between the walls.

Q7 Identify all the ways that children are using to measure length in this picture. Which way do you think is better and why?

SOLUTION

Ways shown in the picture: (a) hand span, (b) footsteps, (c) paper strings, (d) metre rod/scale.

Each informal method (hand span, footsteps) gives different results for different people.

A metre rod or measuring tape gives the same result for everyone because it is a standard unit.

The standard unit (metre rod) is better because: everyone gets the same answer, the result does not change with the person, and it is easy to compare lengths.

Ways shown: hand span, footsteps, paper strings, metre rod. Using a metre rod (standard unit) is better because it gives the same result for everyone, unlike hand span or footsteps which vary from person to person.

Exercise 10.2 — Let us Do — Paper Strings and the Board

Q1 In the picture above, colour the paper strings as instructed: (a) Colour the shortest paper string with red. (b) Colour the longest paper string with green.

SOLUTION

(a) Look at all the paper strings hanging on the board. Find the one that is shortest — it ends highest up or is visibly the smallest. Colour it red.

(b) Look for the string that hangs the lowest or stretches the farthest — that is the longest. Colour it green.

To compare lengths, either lay them next to each other or visually compare their start and end points from a common starting level.

The picture shows several colourful paper strings of different lengths hanging along the border of the green board. (a) Colour the shortest paper string RED — it is the shortest visible string along the border (the one that hangs/extends the least). (b) Colour the longest paper string GREEN — it is the string that extends the furthest/hangs the lowest along the border.

Q2 How many more colourful paper strings will be needed to decorate the border of the green board?

SOLUTION

Look at the picture to count the total number of paper strings already on the border of the board.

Count how many strings are needed to go all the way around the entire border.

Subtract the number already placed from the total needed.

Number still needed = Total strings needed for the full border − Strings already placed.

From the picture, the green board's border is partially decorated with colourful paper strings on the top and partway down the sides. The border still needs strings along the remaining sides. Count the strings already placed and compare with what the full border needs. Based on the picture, more paper strings are needed to complete the bottom and the remaining portions of the sides. (Students count the gap and find how many more are needed.)

Q3 How many paper strings are needed to decorate the entire border of the board?

SOLUTION

Look at the size of one paper string unit shown in the picture.

Estimate or count how many such strings are needed to go along the top, bottom, and both sides of the board.

Total = strings along top + strings along bottom + strings along left side + strings along right side.

From the picture, the full border of the green board (all four sides — top, bottom, left, right) needs to be covered with paper strings. Count how many of the unit paper strings (shown by the symbol in the question) fit around the entire border by counting or estimating each side.

(Students measure each side using the unit string and add up the total for all four sides.)

Exercise 10.3 — Let us Do — Drawing and Comparing Strings

Q1 Cut and paste a wool or cotton thread as long as the line given below.

SOLUTION

Use a piece of wool or cotton thread.
Place one end of the thread at the start of the given line.
Mark where the line ends on the thread.
Cut the thread at the marked point.
Paste the cut thread exactly along the line.
Cut a thread equal in length to the given line and paste it along that line.

Q2 Draw a string longer than the string given below.

SOLUTION

Look at the length of the given string in the picture.
Draw a line that starts at one point and extends clearly beyond the length of the given string.
Any line that is visibly longer than the given string is correct.
The string given in the picture is a decorative string with 3 star-shaped ornaments on it, going horizontally across about half the page width. Draw a line (string) that starts at one end and extends clearly beyond the right end of this given string — any line longer than the given star-string is correct.

Q3 Draw a string shorter than the decoration string Shelly and Adi are holding.

SOLUTION

Look at the decoration string held by Shelly and Adi in the picture.
Draw a line that is clearly shorter than that string.
Any line that is visibly shorter than the decoration string is correct.
The decoration string held by Shelly and Adi is a long string of colourful leaf/petal-shaped lights that stretches nearly the full width of the picture (about the width of both children standing apart). Draw a line that is clearly shorter than this wide span — any short line is correct.

Q4 Draw the other half of the moustache which matches the half moustache on the face as shown in the picture.

SOLUTION

Look at the half moustache shown on the face.
It is one side of a symmetric (mirror image) moustache.
Draw the exact mirror image on the other side of the face, matching the curve, length, and shape of the given half.
The face in the picture shows a man in a turban with only the RIGHT half of a moustache

drawn — it curves gently upward and to the right from the centre of the upper lip. Draw the mirror image of this on the LEFT side of the face: start from the same centre point of the upper lip and draw a matching curve going upward and to the left, same shape and length as the right half.

Q5 Look at the string lights and help Adi choose the longest one. How did you find out? Discuss.

SOLUTION

Look at all the string lights shown in the picture.
Compare their lengths — the longest one will stretch the farthest from one end to the other.
If strings are curly or bent, imagine straightening them out to compare.
The longest string is the one that would be longest if stretched out flat.
You can find this by visually comparing, or by tracing each string with your finger to feel which one is the longest.
The picture shows two string lights. The upper string is longer — it forms a large sweeping arc with many bulbs (going up and to the right across most of the picture). The lower string is shorter and more compact with fewer bulbs and ends with a plug. The UPPER (arcing) string is the longest. Adi should choose the upper string light.

Exercise 10.4 — Are These True For All? — Body Measurements

Q1 Your head is 3 handspans round. True or False?

SOLUTION

Use a string or thread to measure the round (circumference) of your head.
Then measure your hand span (tip of little finger to tip of thumb when spread wide).
Lay the head-string next to hand spans and count how many hand spans fit.
Since everyone's head size and hand span are different, this may be true for some children and false for others.
Typically, a child's head circumference is about 50–55 cm and a hand span is about 12–15 cm, so 3 hand spans ≈ 36–45 cm, which is usually LESS than the head circumference.
For most children this statement will be FALSE.
Not true for all. Measure and check: for most Class 3 children, the head circumference is larger than 3 hand spans, so the answer is likely False.

Q2 The length of your forearm is equal to the length of your feet. True or False?

SOLUTION

Measure the length of your forearm: from the elbow to the tip of the middle finger.
Measure the length of your foot: from heel to the tip of the longest toe.
Compare the two lengths.
This is a well-known body proportion (Vitruvian Man observation): for most people, the forearm length ≈ the foot length.
For most children this will be TRUE.
True for most people. The forearm length (elbow to middle fingertip) is approximately equal to the foot length (heel to longest toe). Verify by measuring your own.

Q3 Your height is equal to the length of your arms wide open. True or False?

SOLUTION

Measure your height: from the top of your head to the bottom of your feet.
Measure your arm span: the distance from the tip of one hand to the tip of the other when arms are stretched out wide.
Compare the two measurements.
This is another well-known body proportion: for most people, height ≈ arm span (wingspan).
For most children this will be TRUE.
True for most people. Your height and arm span (arms stretched wide) are approximately equal. Measure and check with your friends.

Exercise 10.5 — Let us Do — Measuring with Metre

Q1 Find the lengths of different objects by using one metre, half metre, and quarter metre ropes. Write their names and tick in the appropriate boxes.

SOLUTION

Make three ropes: one metre long, half metre long (fold the one-metre rope in half), and quarter metre long (fold the half-metre rope in half again).

For each object in the classroom (e.g., desk, chair, bag, pencil box, window):

1. Hold the one-metre rope against the object — is the object less than or more than one metre?

2. If less than one metre, compare with the half-metre rope — is it less than or more than half a metre?

3. If less than half a metre, compare with the quarter-metre rope — is it less than or more than a quarter metre?

Tick the correct box for each object based on your comparison.

Example: A pencil box is likely less than a quarter metre. A door is more than one metre.

Measure each classroom object with the metre, half-metre, and quarter-metre ropes and tick the correct column. Answers will vary by object and classroom.

Q2 Draw a line on the floor as the 'start line' and then mark another line one metre from the start line. Stand on the start line and jump. Write the names of children who jump more than a quarter of a metre, half of a metre and a metre.

SOLUTION

Mark a start line on the floor.

Mark a second line exactly 1 metre away from the start line.

Also mark a line at 25 cm (quarter metre) and 50 cm (half metre) from the start.

Each child stands at the start line and jumps as far as they can.

Where the child lands, measure the distance from the start line.

Group each child: jumped more than quarter metre / more than half metre / more than one metre.

Write names in the appropriate groups.

This is a class activity. Record each child's jump distance and write names under: 'more than quarter metre', 'more than half metre', 'more than one metre' based on where each child lands.

Q3 Take a ball or disc and try to throw it as far as you can. Now, measure how far the throw was.

SOLUTION

Stand at a fixed spot (start line).

Throw the ball or disc as far as possible.

After it lands, use a metre rope to measure the distance from the start line to where it landed.

If the distance is more than one metre, count how many times the metre rope fits and whether

there is a remainder.

Record the distance in metres (and half or quarter metres if needed).

This is a class activity. Throw the ball, then measure the distance from where you threw to where it landed using your metre rope. Record the distance.

Exercise 10.6 — Let us Do — Metre Rope Activities

Q1 Measure the height of your teacher or parent using a metre long rope, or a strip.

SOLUTION

Have the teacher or parent stand straight against a wall.
Mark their height on the wall.
Use the metre rope: hold it from the floor upward and mark where one metre reaches.
Check if the height mark is above or below the one-metre mark.
If above, the height is more than one metre.
Try placing the rope again from where the first metre ended to find how much more.
Record the height as 'more than 1 metre' or 'about 1 and a half metres' etc.
This is a hands-on activity. Use the metre rope against the wall to measure and record the teacher's or parent's height in metres.

Q2 Estimate and cut one-metre long wool or thread. Ask your friends to do the same. Now, verify with the help of the metre rope whose estimate is the closest.

SOLUTION

Without measuring, use your eye to judge how long one metre is and cut a piece of wool or thread that you think is one metre.
Ask 2–3 friends to do the same independently.
Now take the metre rope (known to be exactly 1 metre) and compare each person's cut thread with it.
The thread closest in length to the metre rope is the best estimate.
This activity trains your sense of length estimation.
This is an estimation activity. Cut threads by eye, then compare each with the metre rope. The thread closest to 1 metre is the best estimate.

Q3 Cut a one-metre long rope into 4 equal pieces. How many cuts did you make?

SOLUTION

Start with a 1-metre rope.
To divide it into 4 equal pieces, think: how many cuts separate 4 pieces?
Piece 1 | cut 1 | Piece 2 | cut 2 | Piece 3 | cut 3 | Piece 4
You need 3 cuts to make 4 pieces (one less than the number of pieces).
Verification: 4 pieces − 1 = 3 cuts.
3 cuts. To divide a rope into 4 equal pieces, you make 3 cuts (number of cuts = number of pieces − 1).

Q4 How many footsteps fit into a metre rope?

SOLUTION

Lay the metre rope on the floor in a straight line.
Starting at one end, walk heel-to-toe along the rope, counting each step.
Count until you reach the other end of the rope.
The total count is how many footsteps fit in one metre.
This will differ from child to child — a child with larger feet needs fewer steps; smaller feet need more steps.
Typical answer for a Class 3 child: about 3 to 5 footsteps fit in one metre.
This will vary by the size of your foot. Walk heel-to-toe along the metre rope and count the steps. Most Class 3 children will find about 3–5 footsteps fit in one metre.

Q5 Use a metre rope to find how long is a side of the class wall.

SOLUTION

Take the metre rope to the wall.
Place one end at one corner of the wall.
Stretch the rope along the wall and mark where the first metre ends.
Move the rope forward, placing its start at the previous mark.
Repeat until you reach the other corner.
Count how many full metre lengths fit, and whether there is any extra length at the end.
Record the length as: ___ metres (and approximately half or quarter metre if leftover).
This is a classroom measurement activity. Lay the metre rope along the wall repeatedly and count how many times it fits. Record the length of the wall side in metres.