

# Reasoning and Problem Solving

## Place Value to 50 Consolidation – Year 1

### About This Resource

This resource is aimed at Year 1 Expected and has been designed to give children the opportunity to consolidate the skills they have learned in Spring Block 2 – Place Value to 50.

The questions are based on a selection of the same ‘small steps’ that are addressed in the block, but are presented in a different way so children can work through the pack independently and demonstrate their understanding and skills.

### Small Steps

Numbers to 50

Tens and ones

Represent numbers to 50

One more one less

Compare objects within 50

Compare numbers within 50

Order numbers within 50

Count in 2s

Count in 5s

### National Curriculum Objectives

Mathematics Year 1: (1N1a) [Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number](#)

Mathematics Year 1: (1N2a) [Count, read and write numbers to 100 in numerals](#)

Mathematics Year 1: (1N2b) [Given a number, identify one more and one less](#)

Mathematics Year 1: (1N4) [Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than \(fewer\), most, least](#)

Mathematics Year 1: (1N1b) [Count in multiples of twos, fives and tens](#)

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Captain Cutlass needs a crew. He goes to ‘Ye Burning Bonnet’ tavern. That is where all the pirates go. When he gets there, all the other pirates are sat at tables.



Now, how big should my crew be?

1 2 3 4 5 6 7 8

1. Captain Cutlass picks all the pirates on tables 1, 3, 4 and 7.  
Which other table should he pick if he wants a crew of 43?  
Which other table should he pick if he wants a crew of 46?

“Follow me for an adventure!” Captain Cutlass says. “We’ll sail the seas!”

“Wait!” shouts one of the pirates. “How do we know you’re a lucky captain? We must play a game of Captain’s Counters!”

Captain's Counters is a pirate game. The Captain guesses how many counters are put on a table. The Captain cannot look. If he guesses correctly two times out of three, he is lucky. The crew will follow him.

The pirates put counters on three tables. Captain Cutlass makes his guesses.



I guess there will be 27 counters on the first table.  
Then there will be 34 counters on the second table.  
There will be 19 counters on the third table.

One of the pirates counts up the counters in tens and ones.

“He’s unlucky! There are 27, 43 and 18 counters,” says the pirate.

2. How many has Captain Cutlass got correct? What mistakes has the pirate made with his part-whole models?

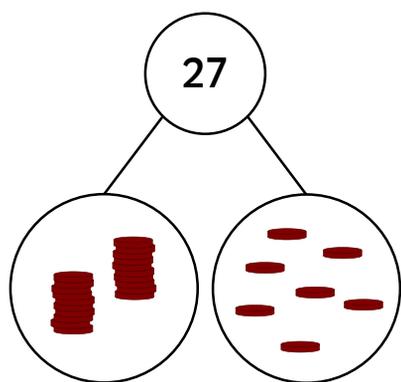


Table 1

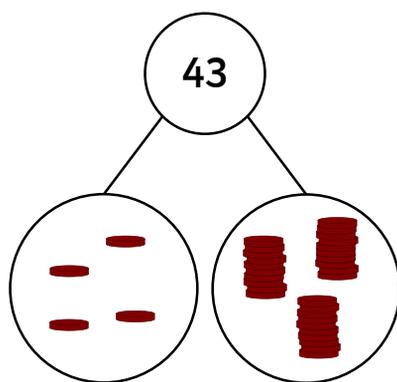


Table 2

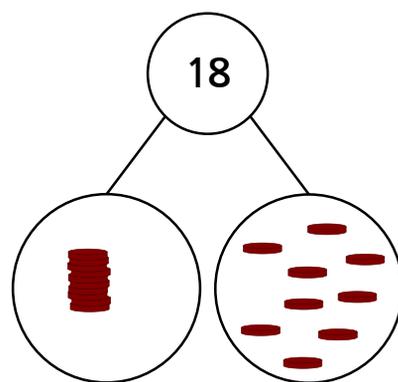


Table 3

Captain Cutlass is lucky! The pirates say they will be his crew.

“Now I will measure you up,” says Captain Cutlass. He uses blocks and beads to measure the pirates.

Now every pirate knows how tall they are.

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Reasoning and Problem Solving – Place Value to 50 Consolidation – Year 1



Rico:  
"I am  
50  
units  
tall."



Max:  
"I am  
28  
units  
tall."



Etta:  
"I am  
45  
units  
tall."



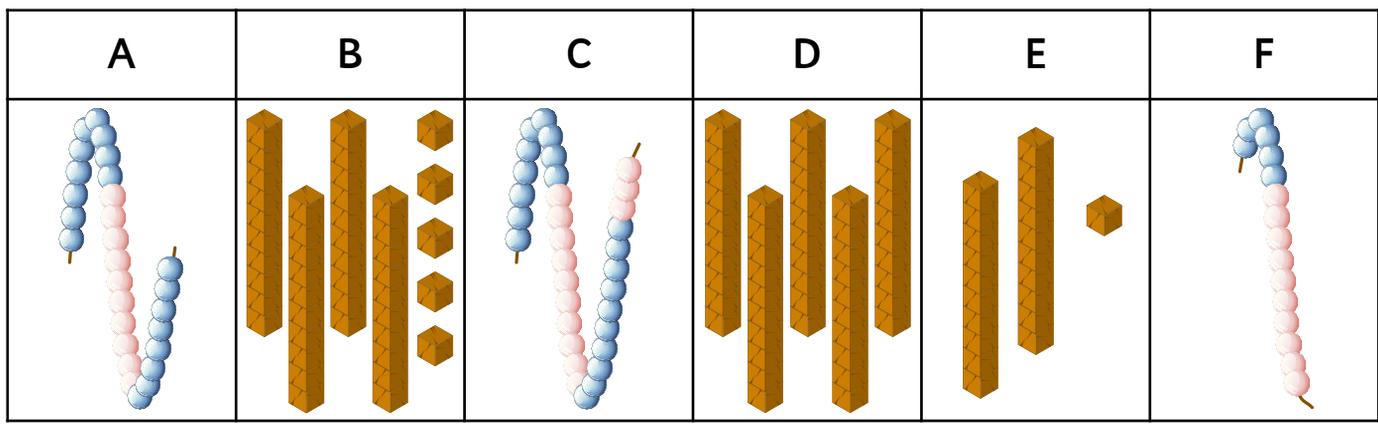
Will:  
"I am  
21  
units  
tall."



Anne:  
"I am  
33  
units  
tall."



Karl:  
"I am  
16  
units  
tall."



3. Match what each pirate says to the picture which shows the same amount.

Captain Cutlass wants to see how far away some other pirate ships are. He needs to know which other captains are close. He looks at his charts.



The Leaky Bucket

21	22	23	24	25	26	27	28	29	30
----	----	----	----	----	----	----	----	----	----



The Golden Sieve

36	37	38	39	40	41	42	43	44	45
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4. 'The Leaky Bucket' moves one place more along the line. How far away is it now?

'The Golden Sieve' moves one place less along the line. How far away is it now?

Captain Cutlass has lost his other charts.

"I think I remember how far away some other ships are," he says. "'The Wobbly Jellyfish' is at number 48 on the line. 'The Black Seagull' is at number 11 on the line. 'The Very Lost Swan' is at number 41 on the line."

5. Write down the numbers which are one more and one less than 48, 11 and 41.

Now Captain Cutlass knows where the other pirate ships are. He can plan what to do next. He goes to see his treasure. He wants to count his coins and gems.

He must unlock his treasure chest. He must put the correct number in the right places in the locks to open them.

6. Write the correct numbers to unlock the treasure chest!

Tens	smallest number	41
3		
Ones		
9		

	largest number	17
--	----------------	----

	largest number	
--	----------------	--

Tens	smallest number	
3		
Ones		
0		

Treasure! Gems and jewels! Captain Cutlass loves to count them! He knows how many he wants. He knows how many he has.

Want	40	32	15	28	36
Have	29	41	12	29	19

7. Circle the bigger number. Use Captain Cutlass's 1 to 50 grid to help you.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

	40	29		32	41		15	12
		28	29		36	19		

Captain Cutlass wants to get more jewels. He knows how much treasure is on some islands. He needs to know which island to go to. He wants as much treasure as possible!

Island	A	B	C	D	E
Treasure amount	15	44	33	24	45

8. Put the treasure amounts in order from most to least.

Now put them in order from least to most.

Now Captain Cutlass knows which islands he wants to go to. He gives his crew some maps. The maps show the islands. They have number grids on them. The number grids help the pirates to know where to go.

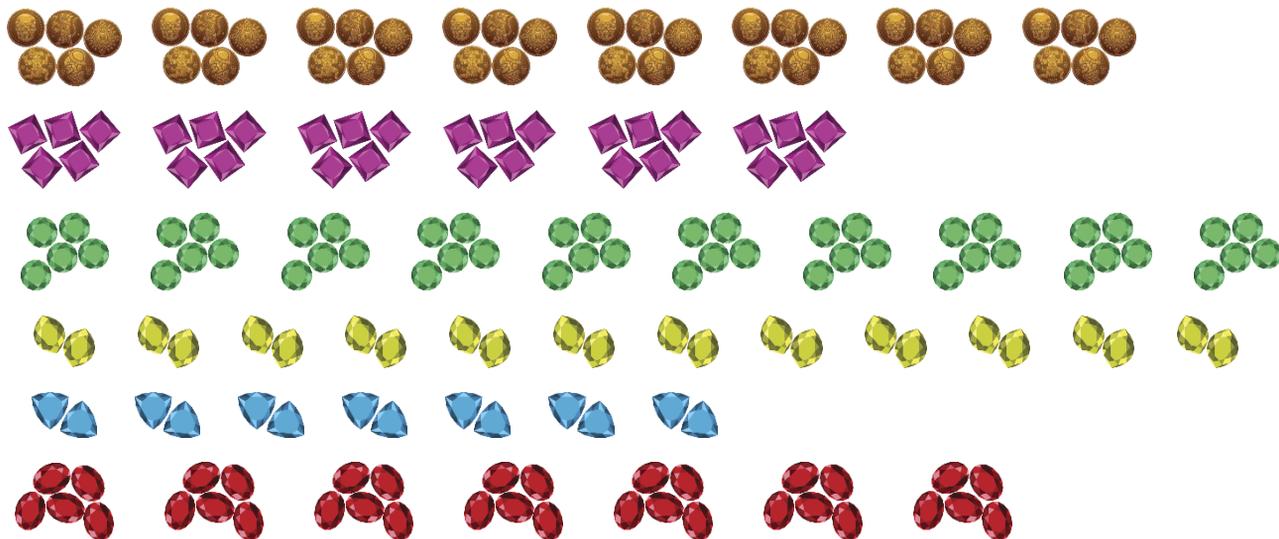
“Wait a minute!” say the pirates. “Some of the numbers are gone! They’ve been washed off by the sea and rain!”

9. The numbers on the grids go up in 2s. Fill in the gaps on the number grids so the pirates can use the maps.

2		6		10
12	14			20
	24	26		30
	34	36	38	
	44	46		50

1		5	7	
11		15		19
	23	25		29
		35	37	39
	43	45		49

Captain Cutlass and his crew sail to the islands. They find HUGE treasure chests! They are rich!



Captain Cutlass makes a table to count the treasure.

10. Look at the piles of treasure. Fill in the table for Captain Cutlass. He has already done one row.

<u>Treasure type</u>	<u>Number in each group</u>	<u>Number of groups</u>	<u>Total amount</u>
Coins			
Purple gems			
Green gems			
Yellow gems			
Blue gems	2	7	14
Red gems			

Captain Cutlass and his crew have so much treasure! They go to 'Ye Burning Bonnet' to celebrate!

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1. Crew of 43: **Table 5**

Crew of 46: **Table 6**

2. Captain Cutlass got **all 3 right**. Part-whole model 1: **no mistake**. Part-whole model 2: **the tens and ones are the wrong way around**. Part-whole model 3: **the ones have been miscounted**.

3. Rico = D; Max = A; Etta = B; Will = E; Anne = C; Karl = F.

4. The Leaky Bucket would be at number 27 if it was one place more along the line. The Golden Sieve would be at number 37 if it was one place less along the line.

5. 48: 49 and 47; 11: 12 and 10; 41: 42 and 40.

6. **39**    **27**  
**26**    **13**



8. **45, 44, 33, 24, 15**  
**15, 24, 33, 44, 45**

9.

2	<b>4</b>	6	<b>8</b>	10
12	14	<b>16</b>	<b>18</b>	20
<b>22</b>	24	26	<b>28</b>	30
<b>32</b>	34	36	38	<b>40</b>
<b>42</b>	44	46	<b>48</b>	50

1	<b>3</b>	5	7	<b>9</b>
11	<b>13</b>	15	<b>17</b>	19
<b>21</b>	23	25	<b>27</b>	29
<b>31</b>	<b>33</b>	35	37	39
<b>41</b>	43	45	<b>47</b>	49

10.

<u>Treasure type</u>	<u>Number in each group</u>	<u>Number of groups</u>	<u>Total amount</u>
Coins	5	8	40
Purple gems	5	6	30
Green gems	5	10	50
Yellow gems	2	12	24
Blue gems	2	7	14
Red gems	5	7	35