Lesson Printables

Be a rockstar and only print what you need!

Let's use doubles and near doubles to add

Why learn this?

Learning about doubles and near doubles can help students to develop their number flexibility. Knowing doubles up to 20 can be used when solving addition and subtraction challenges. By gaining fluency of double facts up to 20, students will be able to manipulate numbers and use different math strategies to approach math problems.

How do you use doubles and near doubles to add?

Doubling
- Doubling is adding the same number twice. Your student might be able to articulate that doubling is the same as multiplying a number by 2.
- Students could model doubling by drawing dots or using objects to show a specific 1-digit number and then repeating the amount. Students could identify the number shown by adding the numbers together or counting on.
  - ➔ For example, if your student is doubling 6, they could count out 6 objects and then count out 6 more objects.
  - ➔ In order to find the total, they could also count on from 6. It could look like this:
    - ◆ Put 6 in your head and then count in 1s, six times.
    - ◆ 7, 8, 9, 10, 11, 12.
    - ◆ By counting 6 more on from 6, you have doubled and landed on the total, 12.

How do near doubles work?
- Near doubles are numbers that are close to each other.
  - ➔ Let's focus on 6 and 7.
- If numbers are near each other, you can use number flexibility to break apart one of the numbers so that you have two of the same number.
  - ➔ 7 can be broken into 6 + 1.
  - ➔ The new number sentence would be 6 + 6 + 1.
  - ➔ You can apply your double skills to make the number sentence easier to solve.

*Note, this could be used as a mental strategy. We have modelled it as a written strategy so that students can visually show breaking apart numbers in order to make them easier to add. Your student does not need to explicitly use this strategy. It is simply an opportunity to practise this skill and to view numbers as flexible.

Let's warm up!

Starter Activity - Happy Holidays
Students are given clues as to how the animals would like to be organised into different hotel rooms. Students could use trial and error to try out different combinations until they find a matching answer to the clues.

To support, students could:
- Draw the hotel and use manipulatives to represent the animals.
- Have the clues read to them.

To challenge, students could:
- Find at least two different ways to solve this challenge.
- Write a hotel problem of their own for someone else to solve.

Let's do this!

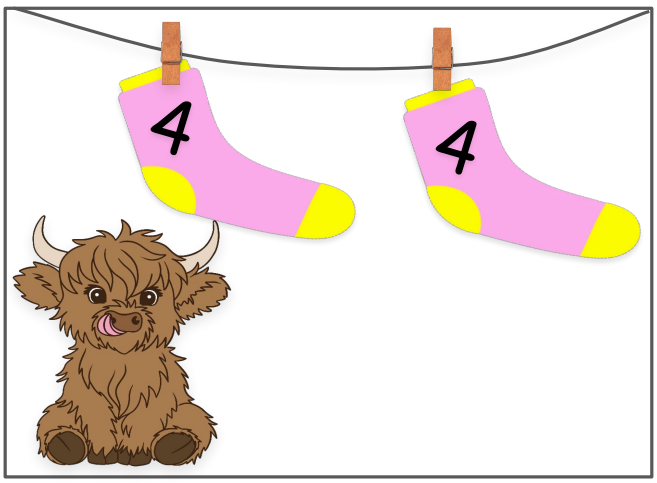
Main Activity - Students are shown animals who are trying to match odd socks. (This means the socks don't match, it does not refer to odd numbers.) Can they use doubles and near doubles to help them add the odd socks mentally? Note, this does not need to be a mental strategy and students might prefer write down their thinking steps. Other strategies might also be incorporated into this activity. For example, in the number sentence 8 + 9 , some students might prefer to think 8 + 10 = 18 and 18 -1 = 17 rather than doubling 8 and then adding 1. Regardless of how they get their answer, ask students if they can explain their thinking steps.

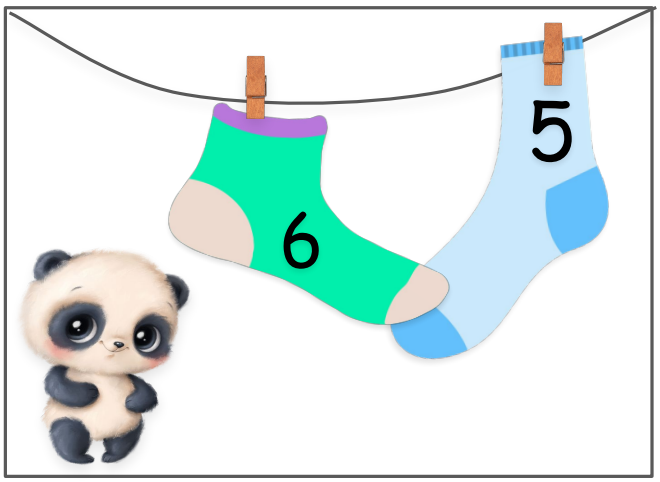
To support, students could:
- Use objects and physically construct their number sentences as modelled on slides 8 and 10 in the lesson.
- Use the thinking steps or 100s charts found in the printables below.
- Work with numbers less than 10. See Sunlight Zone.

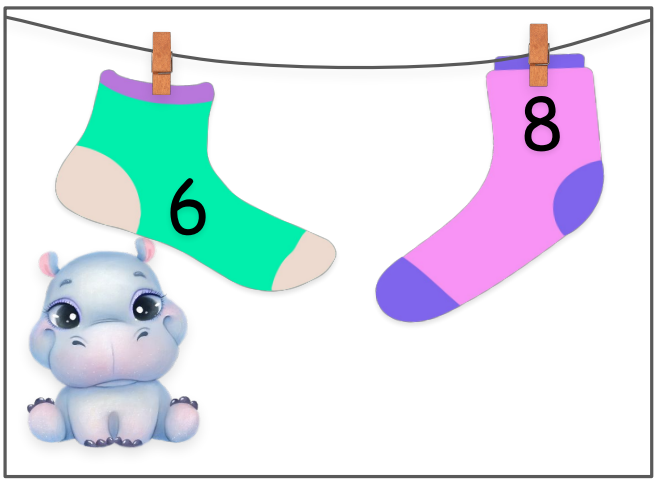
To challenge, students could:
- Answer the challenge questions.
- Create some odd sock pairings of their own.

Sunlight Socks

1. What is each animal's odd sock total?







Challenge: Calculate each animal's odd sock total.
Excellence: Try some of the challenging questions on the next page.
Legend: Draw some odd socks of your own.
What are the biggest near doubles you can add?

Sunlight Challenges

1. Using the socks below, how many different challenges can you complete?
   ➔ Use a different number sentence for each challenge.

Make an odd sock pair where the total is an even number.

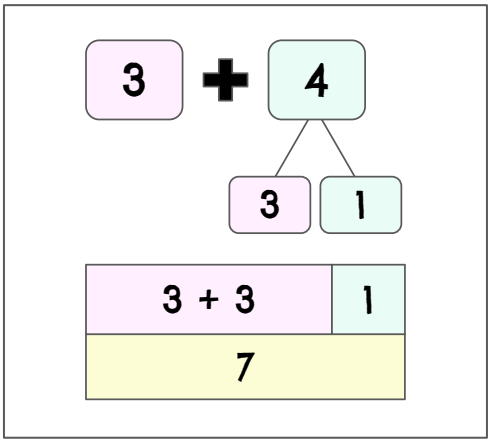
Make an odd sock pair where the total is an odd number.

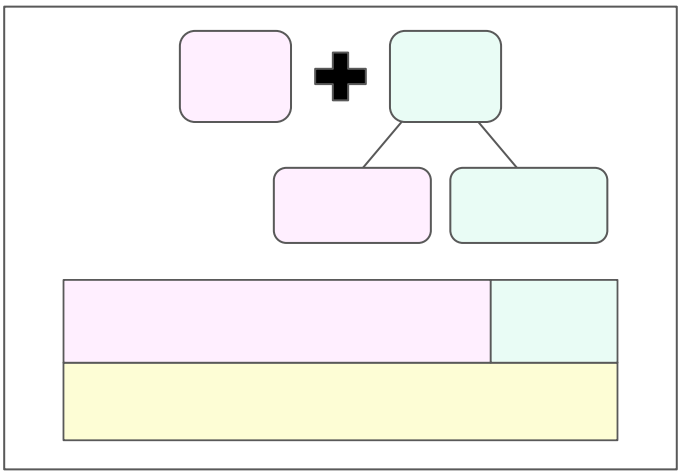
Make an odd sock pair where the total rounds down to the nearest 10.

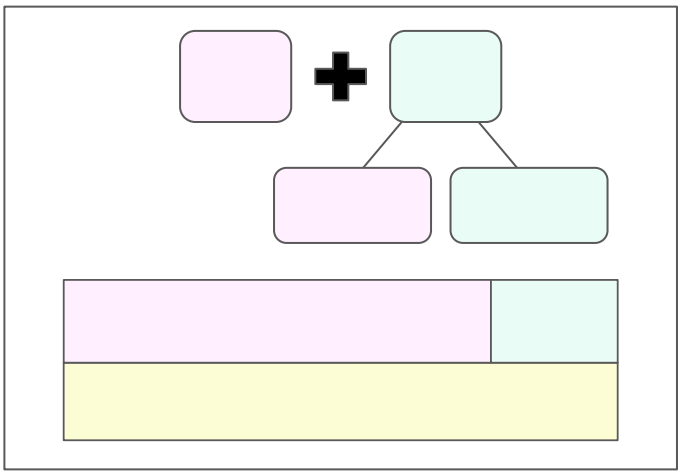
Make an odd sock pair where the total rounds up to the nearest 10.

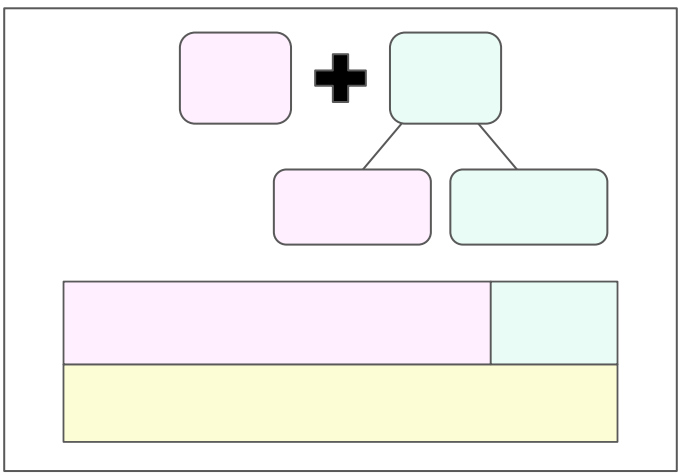
Near Doubles

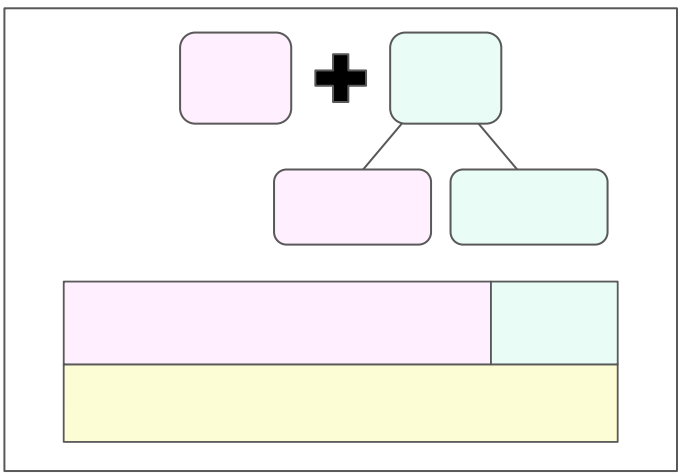
1. Look for numbers that are close to each other.
2. Can you break up one of the numbers in order to get doubles?
3. Show how you have broken up your number.
4. Add the doubles and then the remaining amounts.

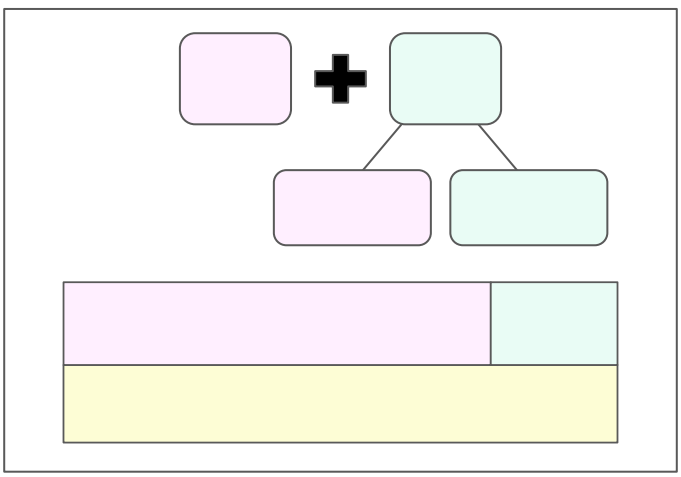


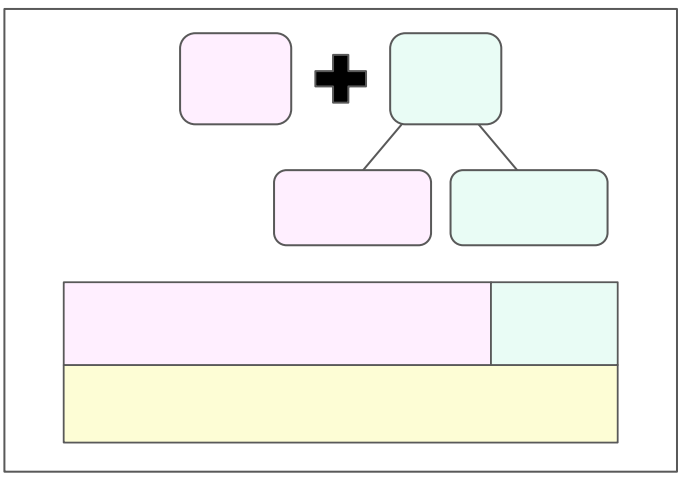












Sunlight Answers

Thinking steps could vary depending on how students wish to double numbers.
Below are some possible solutions. Answers for the challenges will also vary.
We have modelled one possible solution.

4 + 4 = 8

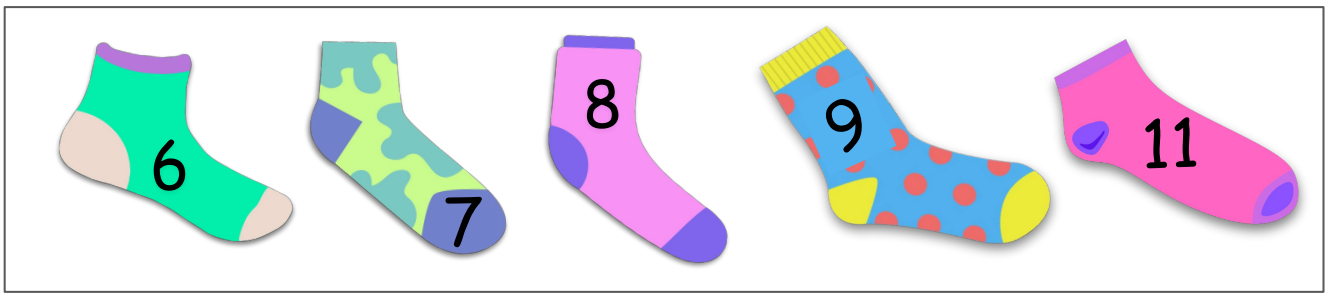
3 + 3 = 6
6 + 1 = 7

7 + 7 = 14

5 + 5 = 10
10 + 1 = 11

5 + 5 = 10
10 - 2 = 8

6 + 6 = 12
12 + 2 = 14



Make an odd sock pair where the total is an even number.
Socks 7 and 9
7 + 7 = 14
14 + 2 = 16

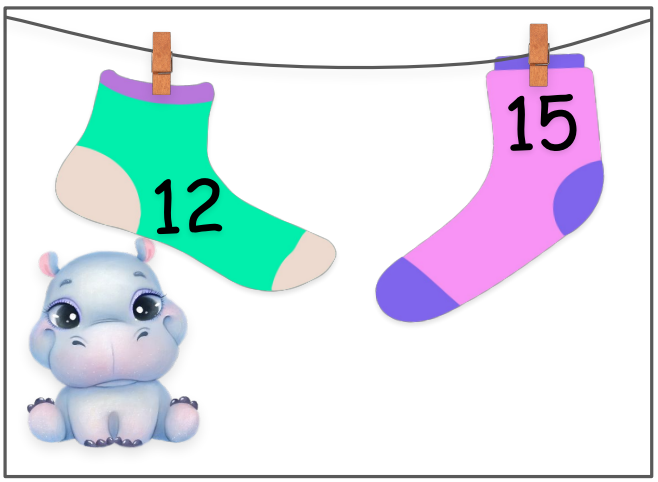
Make an odd sock pair where the total is an odd number.
Socks 8 and 9
8 + 8 = 16
16 + 1 = 17

Make an odd sock pair where the total rounds down to the nearest 10. Socks 6 and 7
6 + 6 = 12
12 + 1 = 13

Make an odd sock pair where the total rounds up to the nearest 10. Socks 7 and 8
7 + 7 = 14
14 + 1 = 15

Twilight Socks

1. What is each animal's odd sock total?



Challenge: Calculate each animal's odd sock total.
Excellence: Try some of the challenging questions on the next page.
Legend: Draw some odd socks of your own.
What are the biggest near doubles you can add?

Twilight Challenges

1. Using the socks below, how many different challenges can you complete?
   ➔ Use a different number sentence for each challenge.

Make an odd sock pair where the total is an even number.

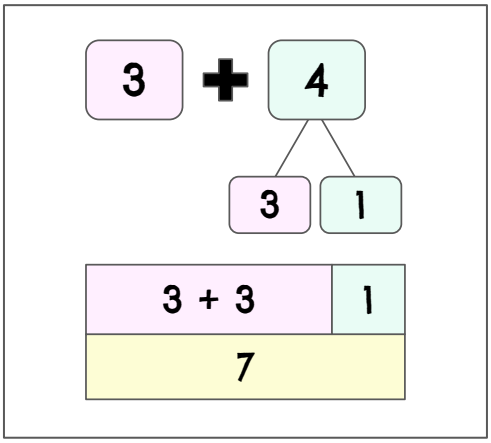
Make an odd sock pair where the total is an odd number.

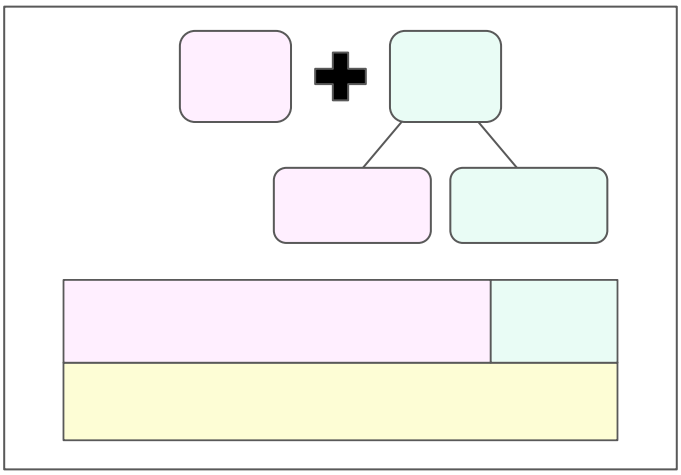
Make an odd sock pair where the total rounds down to the nearest 10.

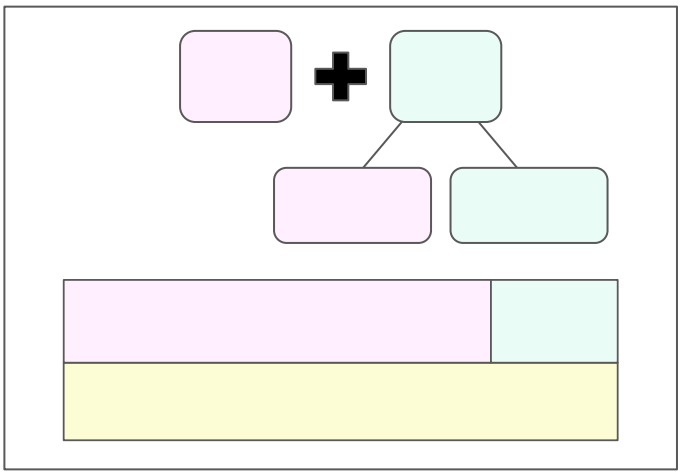
Make an odd sock pair where the total rounds up to the nearest 10.

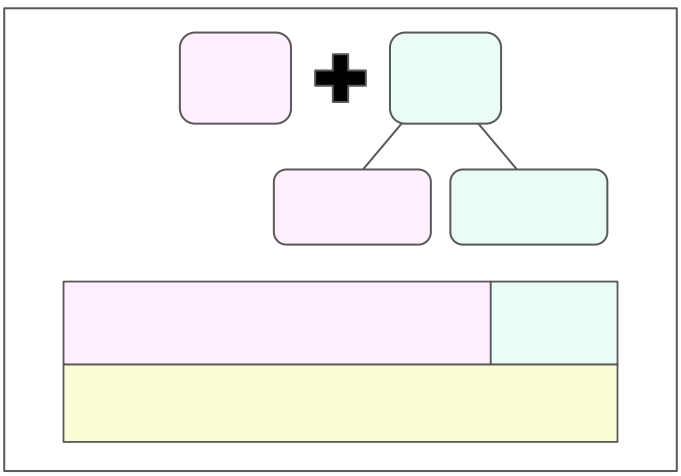
Near Doubles

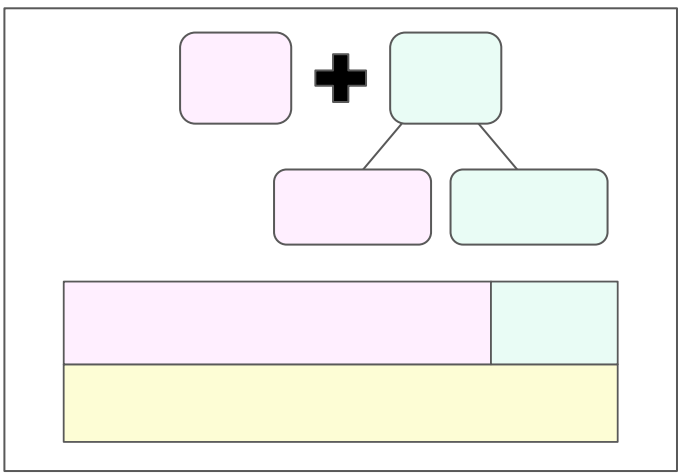
1. Look for numbers that are close to each other.
2. Can you break up one of the numbers in order to get doubles?
3. Show how you have broken up your number.
4. Add the doubles and then the remaining amounts.

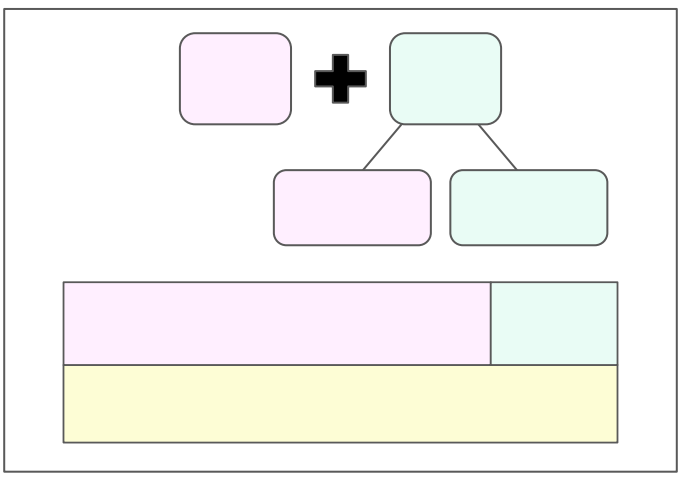


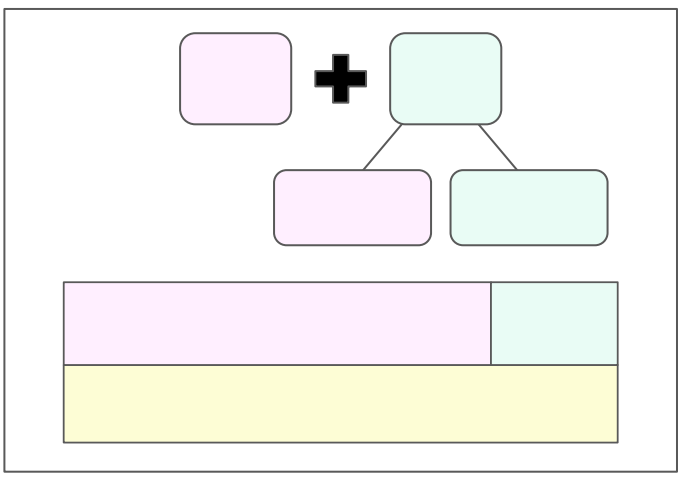












Twilight Answers

Thinking steps could vary depending on how students wish to double numbers.
Below are some possible solutions. Answers for the challenges will also vary.
We have modelled possible solutions.

9 + 9 = 18

7 + 7 = 14
14 + 2 = 16

8 + 8 = 16

12 + 12 = 24
24 + 1 = 25

5 + 5 = 10
10 - 2 = 8

12 + 12 = 24
24 + 3 = 27

Make an odd sock pair where the total is an even number.
Socks 13 and 15
15 + 15 = 30
30 - 2 = 28

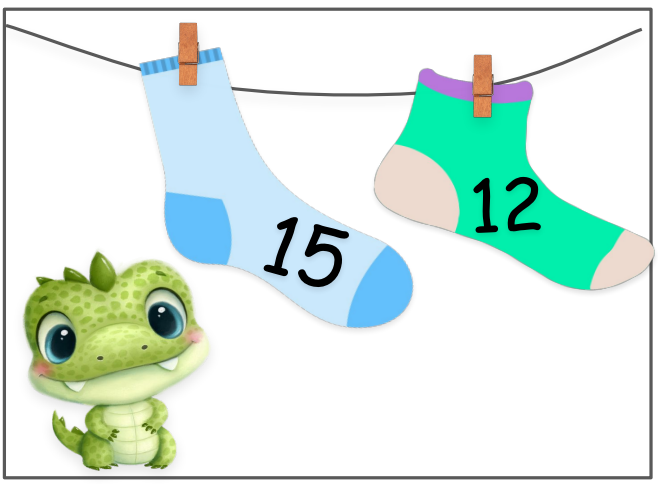
Make an odd sock pair where the total is an odd number.
Socks 12 and 13
12 + 12 = 24
24 + 1 = 25

Make an odd sock pair where the total rounds down to the nearest 10. Socks 15 and 16
15 + 15 = 30
30 + 1 = 31

Make an odd sock pair where the total rounds up to the nearest 10. Socks 12 and 15
12 + 12 = 24
24 + 3 = 27

Midnight Socks

1. What is each animal's odd sock total?



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Midnight Challenges

1. Using the socks below, how many different challenges can you complete?
   ➔ Use a different number sentence for each challenge.

Make an odd sock pair where the total is a multiple of 4.

Make an odd sock pair where the total is a prime number.

Make an odd sock pair where the total rounds down to the nearest 10, but rounds up to the nearest 100.

Make an odd sock pair where the total rounds up to the nearest 10, but rounds down to the nearest 100.

Near Doubles

1. Look for numbers that are close to each other.
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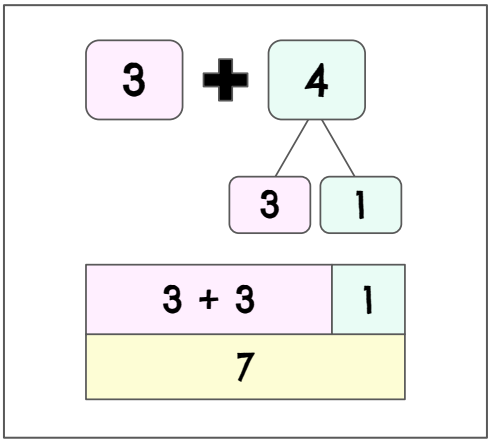
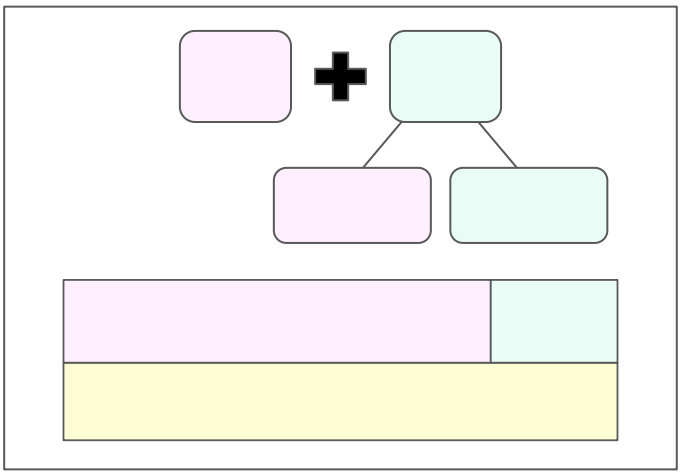
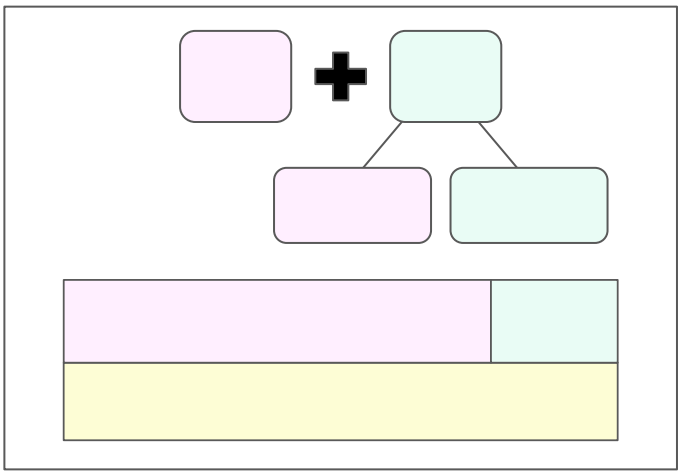
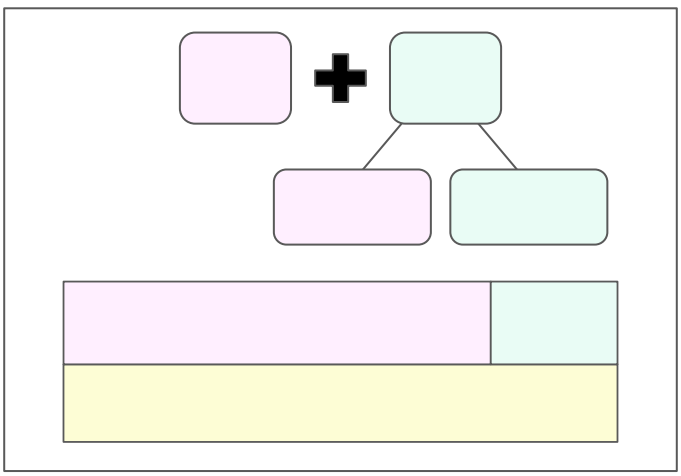
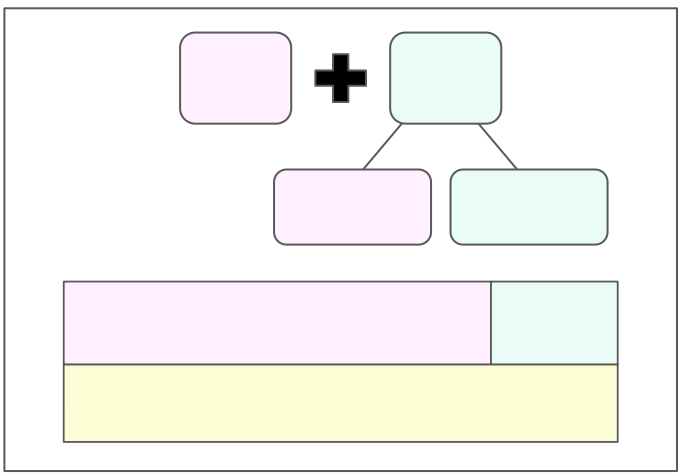
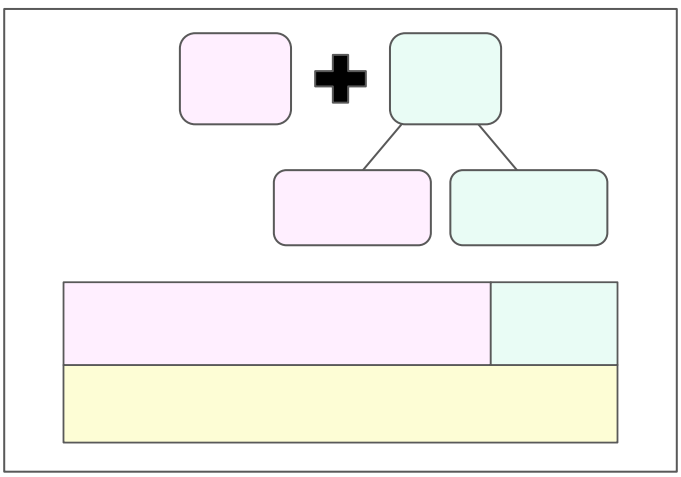


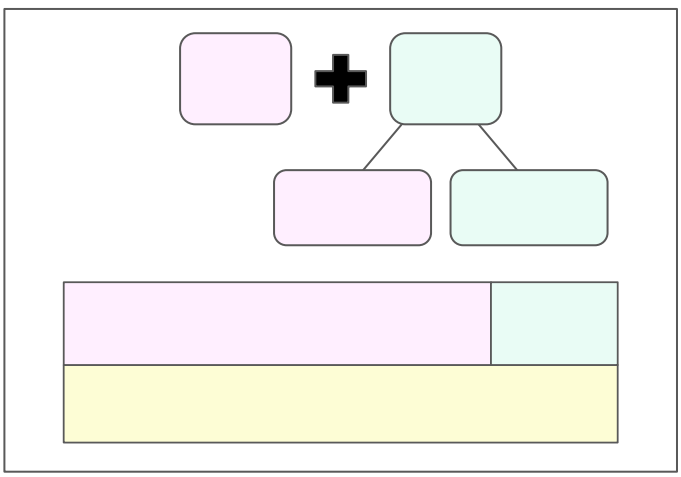












Midnight Answers

Thinking steps could vary depending on how students wish to double numbers.
Below are some possible solutions. Answers for the challenges will also vary.
We have modelled possible solutions.

8 + 8 = 16
16 + 1 = 17

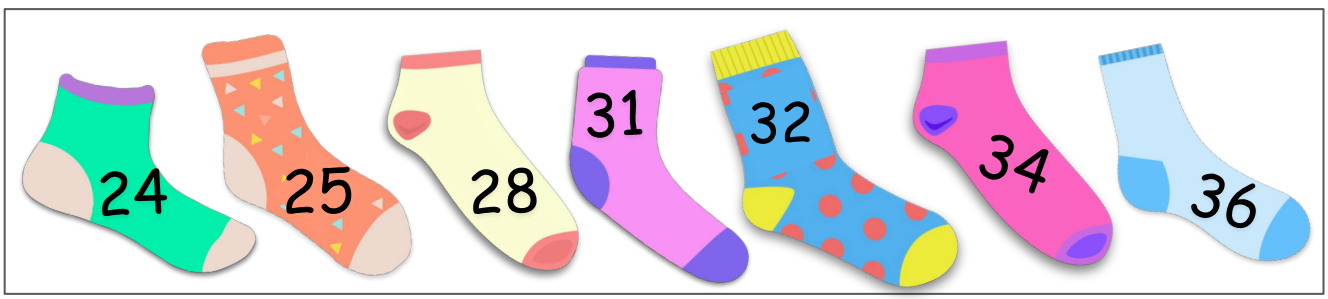
7 + 7 = 14
14 + 2 = 16

25 + 25 = 50
50 - 2 = 48

12 + 12 = 24
24 + 1 = 25

12 + 12 = 24
24 + 3 = 27

27 could lose 2
and 23 could gain 2.
25 + 25 = 25 = 75



Make an odd sock pair where the total is a multiple of 4.

Socks 24 and 28
24 + 24 = 48
48 + 4 = 52

Make an odd sock pair where the total is a prime number.

Socks 25 and 28
25 + 25 = 50
50 + 3 = 53

Make an odd sock pair where the total rounds down to the nearest 10 but rounds up to the nearest 100.

Socks 31 and 32
31 + 31 = 62
62 + 1 = 63

Make an odd sock pair where the total rounds up to the nearest 10 but rounds down to the nearest 100.

Socks 24 and 25
25 + 25 = 50
50 - 1 = 49

100s Chart

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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100