

GRADE 2

Problem Solving & Reasoning

Read • Think • Choose • Solve • Explain

■	■	■	■
Think	Calculate	Explain	Challenge

Name: _____ Date: _____

A classroom-ready pack that helps children understand problems, choose strategies, reason carefully and explain their thinking.

1. Read & Understand

Read each problem carefully. Underline the important information and solve.

1. Mia has 24 stickers. She gives 7 to her friend. How many stickers are left?

2. There are 6 boxes with 5 pencils in each box. How many pencils are there altogether?

3. A book has 48 pages. Sam reads 20 pages on Monday and 15 on Tuesday. How many pages are left? _____

4. A shop has 35 apples. It puts 10 more apples on the shelf. How many apples are there now? _____

Think first: What operation did you use in Question 3, and why?

2. Choose the Right Operation

Decide whether you need addition, subtraction, multiplication or division.

1. 18 children are in one group and 12 are in another. How many altogether? Operation: _____

2. 40 sweets are shared equally among 5 children. How many does each child get? Operation: _____

3. A farmer has 7 rows with 4 plants in each row. How many plants? Operation: _____

4. Liam has 50 points and loses 18 points. How many remain? Operation: _____

5. $26 + 14 = \underline{\hspace{2cm}}$ → What operation is being used? _____

Reasoning: Explain why choosing the correct operation is important.

3. Two-Step Problems

Some problems need more than one step. Solve carefully.

1. A class has 18 boys and 16 girls. 5 students are absent. How many students are present?

2. Sara buys 3 packs of stickers. Each pack has 8 stickers. She gives 5 away. How many does she have left?

3. A library has 60 storybooks. It receives 25 new books and then gives 12 books to another classroom. How many books remain?

4. Noah has \$20. He buys a toy for \$7 and a book for \$5. How much money is left?

Show your working for one problem:

4. Which Strategy Would You Use?

Different problems can need different strategies.

- | |
|---|
| 1. You need to find $9 + 8$ quickly. Would you make 10 first or count from 1 ? Why? |
| 2. You need to solve 5×6 . Would an array or repeated addition help? Explain. |
| 3. You need to compare 47 and 74. What could you look at first? _____ |
| 4. You need to share 24 counters equally between 4 children. What strategy could you use? _____ |
| 5. A problem has many numbers. What should you do before calculating?
_____ |

Challenge: Explain why your chosen strategy is useful.

5. True or False? Explain!

Decide whether each statement is true or false. Explain your thinking.

1. $35 + 10 = 45$. True / False. Explain: _____

2. $6 \times 4 = 20$. True / False. Explain: _____

3. If 48 is shared equally among 6 groups, each group has 8. True / False. Explain:

4. 72 is greater than 27. True / False. Explain: _____

5. $50 - 18 = 38$. True / False. Explain: _____

6. Find the Missing Information

Think about what is missing and what you can work out.

1. A box has some pencils. 8 more pencils are added, making 25. How many pencils were there at first?

2. A child has 30 marbles. After giving some away, 18 remain. How many were given away?

3. There are 5 equal groups with the same number in each. Altogether there are 35. How many are in each group?

4. A number plus 17 equals 42. What is the number?

Challenge: Write your own missing-number problem for a friend.

7. Logic & Reasoning

Use clues rather than guessing.

1. I am greater than 20 but less than 30. I am even. My ones digit is 6. What number am I? _____

2. I am an odd number between 30 and 40. My ones digit is 5. What number am I? _____

3. Three children have 12, 15 and 18 marbles. Asha has more than Ben but fewer than Cara. Who has 15 marbles? _____

4. A number is greater than 50. It is a multiple of 10 and less than 80. Name two possible answers: _____ and _____

Think: Can a reasoning problem have more than one correct answer?

8. Spot the Mistake

A student has made a mistake. Find it and correct it.

1. $27 + 15 = 32$. Correct answer: _____ What went wrong? _____

2. $40 - 17 = 33$. Correct answer: _____ What went wrong? _____

3. $6 \times 5 = 11$. Correct answer: _____ What went wrong? _____

4. $24 \div 4 = 8$. Correct answer: _____ Is the statement correct? _____

Maths Detective: Why is checking your answer useful?

9. Real-Life Problem Solving

Maths helps us solve everyday problems.

1. You have \$20 and want to buy a pencil case for \$8 and a notebook for \$6. Can you afford both? How much will you have left?

2. A party has 4 tables. Each table has 6 chairs. How many chairs are there?

3. A bus has 36 seats. 28 are occupied. How many seats are empty?

4. A recipe needs 2 cups of flour for one batch. How many cups are needed for 3 batches?

Your turn: Write one real-life maths problem and solve it.

Problem:

Answer: _____

10. Super Reasoning Challenge

These are designed to make you stop, think and explain.

1. I have 3 coins. Together they make \$15. What could the coins be? Give one possible answer: _____

2. There are 24 children. They form equal groups. What different group sizes are possible? _____

3. A number is between 40 and 60. It is divisible by 5 and is odd. Name all possible numbers: _____

4. Sam says, "If I add 10 to a number, the answer is always even." Is Sam correct? Explain.

5. Which is greater: half of 20 or one quarter of 40? Explain your thinking.

6. Create a two-step problem for a classmate. Include at least two operations.

11. Teacher Answer Key

Suggested answers are below. Accept correct reasoning and alternative methods where appropriate.

1. Read & Understand

17; 30; 13; 45.

2. Choose the Right Operation

Addition; Division; Multiplication; Subtraction; Addition.

3. Two-Step Problems

29; 19; 73; \$8.

4. Strategy

Answers may vary. Making 10 is efficient for $9+8$; arrays or repeated addition work for 5×6 ; compare tens first for 47 and 74; equal sharing can use division/grouping.

5. True or False

True; False (24); True; True; False (32).

6. Missing Information

17; 12; 7; 25.

7. Logic & Reasoning

26; 35; Ben; examples include 60 and 70.

8. Spot the Mistake

42; 23; 30; the statement is incorrect because $24\div 4=6$.

9. Real-Life Problem Solving

Yes, \$6 left; 24 chairs; 8 seats; 6 cups. Student-created problem varies.

10. Super Reasoning Challenge

One possible coin answer: $\$5+\$5+\$5$. Group sizes: 1,2,3,4,6,8,12,24. Odd multiples of 5 between 40 and 60: 45,55. Sam is incorrect; e.g. $11+10=21$. Half of 20 and quarter of 40 are both 10. Last task varies.