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PHOTOCOPY MASTERS

For Junior Primary

Maths Problem Solving for Juniors

Book 2

Problem solving strategies and practice activities for the classroom.

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ACTIVITIES Page

Teachers' Notes

This Problem Solving Maths set represent a response to current syllabus trends and the considerable emphasis which is placed on the development of problem solving skills in primary school students.
Essentially activities are designed to interest and stimulate children in the 6 - 9 years age range. They are presented as Blackline Masters which are able to be photocopied for use in the classroom.

IMPLEMENTING PROBLEM SOLVING MATHS ACTIVITIES

A variety of factors will be considered by a teacher when he/she plans a unit of work including, aspects such as the previous problem solving experience of the students, their level of ability and the resources available. The use of an appropriate teaching strategy is often an area of concern when undertaking to implement a different emphasis in a new syllabus.
The following considerations may assist:

* Time taken to solve the problem prior to presenting it to students often proves to be valuable. It provides the opportunity ...

- to be fully aware of the requirements of the problem;
- to attempt the solution using a variety of problem solving strategies;
- to reduce the problem into stages with appropriate hints for students to use, rather than giving an answer;
- to identify possible alternative solutions and their acceptability;
- to evaluate the suitability of the activity to the particular class, group or individual.

* Initially problem solving activities could be worked through step-by-step with the students. This provides a framework which individuals can use when required to work more independently. Further, it may reduce the frustration at times encountered by mathematically able students or creative thinkers who experience difficulty with reading. During these initial sessions a teacher is able to demonstrate a plan or procedure such as the one below which students can follow, e.g.

❒ Step 1 Read and discuss the problem.
❒ Step 2 Think about it.
❒ Step 3 Ask questions about it.
❒ Step 4 Try and use a strategy.
❒ Step 5 Check the answer.

* Working through a number of problems in a structured, step-by-step approach allows students to become familiar with a range of problem solving strategies:

- estimating
- organising information into lists, table, etc.
- identifying patterns
- thinking logically
- checking results
- simplifying the problem
- drawing pictures or diagrams
- predicting
- evaluating the strategy used, the solution
- working backwards

STRUCTURE OF PROBLEM SOLVING BOOK 2

For convenience the booklet has been divided into five sections. In each section a particular aspect of problem solving is in focus, although it is recognised that a great deal of overlap exists.
It is felt that more effective use would be gained by selection of activities from each section rather than working through the package in page number sequence.
Generally, within each section a number of similar activities have been provided in order that skills can be introduced and consolidated. Sections are headed by a brief summary of the skill being covered in the pages to follow.

Sporting Fun

❑ Match the children to the sport.
Each plays a different sport. Use the clues below.


John

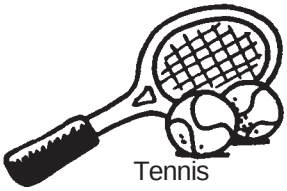

Karen

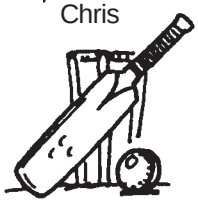

Chris


Tracey

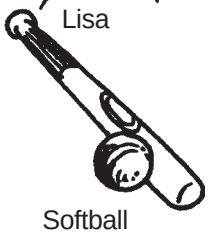

Lisa


Soccer


Tennis


Cricket


Basketball


Softball

1. Which sport does Chris play?
He has been a member of his team for two years.
He likes to practise throwing.
He often scores goals in a game.
Kicking the ball is not allowed in this sport.

Chris plays

2. Which sport does Lisa play?
She spends a lot of time practising throwing.
She needs to be able to run quickly.
Lisa took a great catch last week.
She sometimes doesn't get to bat in a game.

Lisa plays

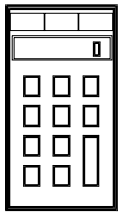
3. Which sport does John play?
John doesn't like ball kicking sports.
He likes to play on grass.
He practises his shots each day.
Catching is not a part of this game.

John plays

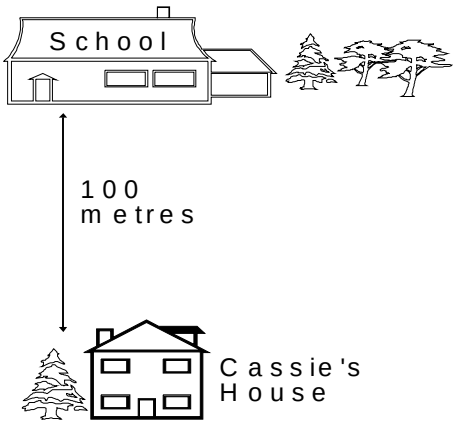
4. Which sport does Karen play?
Goal scoring is not part of this sport.
Karen is a good fielder.
She always uses her own glove.
She sometimes gets out more than once in a game.

Karen plays

School Days



Cassie lives near her school.
On Monday, Tuesday and Wednesday Cassie walked directly to school, which is a distance of 100 metres. On Thursday and Friday she called in and collected her friend, Jane on the way to school and dropped her off on the way home. Jane lives the same distance from school as Cassie. This doubled the distance Cassie walked to school.



1. Complete this plan showing the information given.
   Show the distance to Jane's house.
   Show the distance from Jane's house to school.

How far did Cassie walk to school and back —

2. On Monday? _____

3. On Monday and Tuesday? _____

4. On Thursday? _____

5. On Wednesday and Friday? _____

6. For the week? _____

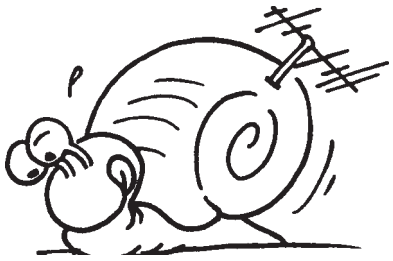
How far would Cassie travel if she rode —

7. To Jane's house? _____

8. Straight to school and back each day for a week? _____

Number Mazes 1

❑ Find a path from each animal to its lunch.
The path must total **8.**



Start here

3	7	1
2	2	8
1	1	1

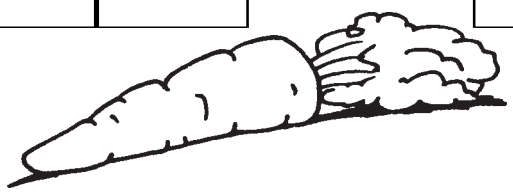
Start here

2	3	6
5	2	1
1	2	2

Start here

1	3	2
2	5	1
3	0	1

Now make up one of your own to total 8.



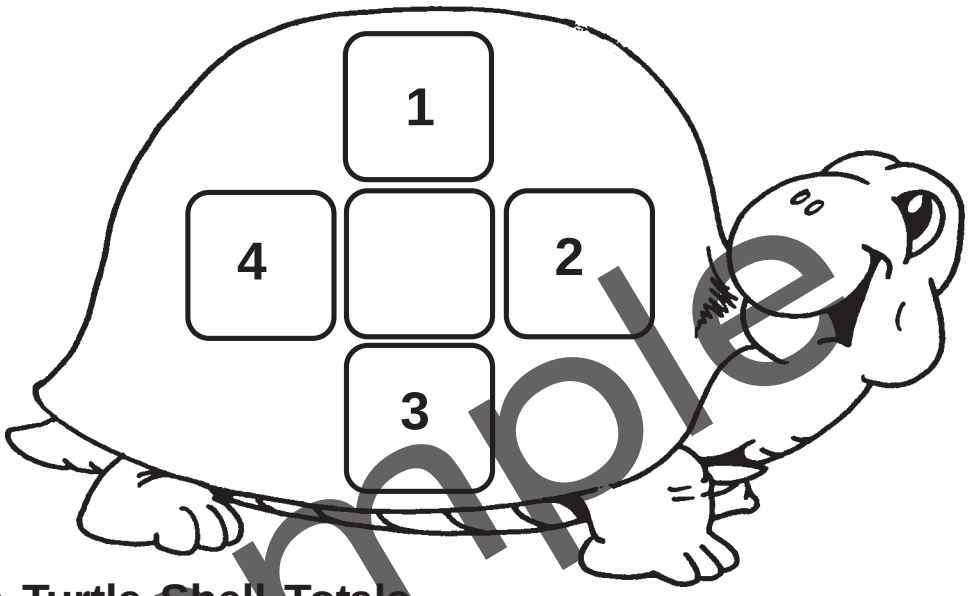
Turtle Shell Totals

❑ For these puzzles the three numbers in a line should add up to the same total.

This is **Sam Turtle.**
His shell shows you how to do the puzzle.

Sam's shell total is

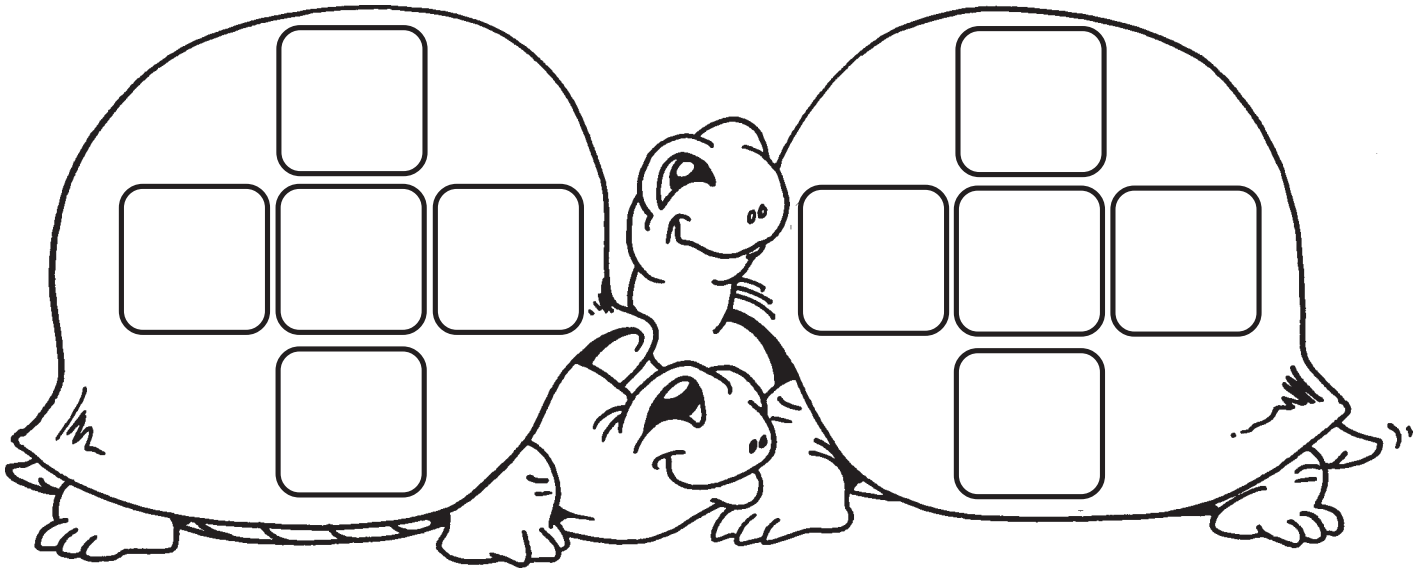
_____



❑ **Try these Turtle Shell Totals.**

This is **Tom Turtle**.
Use the first five odd counting numbers to solve the puzzle.

This is **Henry Turtle.**
Use the first five even numbers to solve the puzzle.



Tom's shell total is _____

Henry's shell total is_____