QUT   **YuMiDeadly**
Growing community through education

Professional Learning 3

Addition and Subtraction

Booklet 3.5: Solving Addition and Subtraction Word Problems

QUT
Queensland University of Technology   Australian Catholic University   Queensland Government Education Queensland

Sustainable mathematics education capacity building: Empowering Indigenous teacher aides to enhance rural and remote Indigenous students' numeracy outcomes

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DEADLY MATH TUTORS PROGRAM
Professional Learning 3: Addition and Subtraction
TRIAL PACKAGE 5
SOLVING ADDITION AND SUBTRACTION WORD PROBLEMS

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Mount Isa EQ Regional Office   Mornington Island State School
Boulia State School   Sunset State School
Burketown State School   Urandanji State School
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Doomadgee State School   Training Alliance (IETA)

YuMi Deadly Maths
Past Project Resource

Acknowledgement

We acknowledge the traditional owners and custodians of the lands in which the mathematics ideas for this resource were developed, refined and presented in professional development sessions.

YuMi Deadly Centre

The YuMi Deadly Centre is a Research Centre within the Faculty of Education at Queensland University of Technology which aims to improve the mathematics learning, employment and life chances of Aboriginal and Torres Strait Islander and low socio-economic status students at early childhood, primary and secondary levels, in vocational education and training courses, and through a focus on community within schools and neighbourhoods. It grew out of a group that, at the time of this booklet, was called "Deadly Maths".

"YuMi" is a Torres Strait Islander word meaning "you and me" but is used here with permission from the Torres Strait Island Regional Educational Council to mean working together as a community for the betterment of education for all. "Deadly" is an Aboriginal word used widely across Australia to mean smart in terms of being the best one can be in learning and life.

YuMi Deadly Centre's motif was developed by Blacklines to depict learning, empowerment, and growth within country/community. The three key elements are the individual (represented by the inner seed), the community (represented by the leaf), and the journey/pathway of learning (represented by the curved line which winds around and up through the leaf). As such, the motif illustrates the YuMi Deadly Centre's vision: *Growing community through education*.

More information about the YuMi Deadly Centre can be found at http://ydc.qut.edu.au and staff can be contacted at ydc@qut.edu.au.

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Deadly Maths Tutor Program

PROFESSIONAL LEARNING 3: ADDITION & SUBTRACTION

BOOKLET 3.5

SOLVING ADDITION AND SUBTRACTION WORD PROBLEMS

2008

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OVERVIEW

PURPOSE

These materials were designed to be used in conjunction with a Professional Learning program for teacher aides. The objective of this Professional Learning was to empower teacher aides to enhance rural and remote Indigenous students' numeracy outcomes. This document contains the materials of the fifth of five different booklets on addition and subtraction.

If your school would like to receive a YuMi Deadly Maths Professional Learning program please contact the YuMi Deadly Centre (YDC) on: 07 3138 0035 or ydc@qut.edu.au.

DIRECTIONS

The focus of the package is solving addition and subtraction word problems. To meet the aim, the package focuses on the meaning of the operation, as these provide the understanding of situations which the operation describes.

These meanings are not associated with key words as addition and subtraction can both exist in joining and take-away situations. For example:

(i) the problem, "The farmer took away 3 cows leaving 4 behind; how many cows were there to start with?" is solved by 3+4; and

(ii) the problem, "4 girls joined three playing hockey; this made 7 girls playing hockey; how many girls were playing to start with?" is solved by 7–4.

The package will instead focus on identifying the parts and the total in joining, separating, more than, and less than situations. Learning will be based on:

(i) addition is where the parts are known and the total is wanted; and

(ii) subtraction is when the total and one part is known and the other part is wanted.

There will be four sections/activities as follows.

(1) *Part-Part-Total:*

This section will focus on showing that "part & part→total" is addition and "total→part & part" is subtraction when the problems are forward, that is, the first or beginning numbers in the addition/subtraction change are known.

For example, "2 Holden's join 3 Falcon's; How many cars?" is a forward addition problem because:

Holdens Falcons   Cars
   2   &   3   ⟶   ?

(2)   *Forward and backward:*

This section will focus on the fact that "part & part→total" is subtraction and "total→part & part" is addition when the problems are backward, that is, the second or ending numbers in the change are known.

For example, "2 Holdens join some Falcons to make 5 cars; how many Falcons?" is a backward subtraction problem because:

H.oldens   Falcons   Cars

2   &   ?   ⟶   5

(3)   *Part-Part-Total Triples*

This section focuses on the fact that any addition/subtraction situation can have 3 different problems, 2 of which are subtraction and 1 of which is addition.

For Example:

SITUATION	PROBLEM 1 ADDTION	PROBLEM 2 SUBTRACTION	PROBLEM 3 SUBTRACTION
4 books and 3 more books gives 7 books	4 books and 3 more books gives ? books	4 books and ? more books gives 7 books	? books and 3 more books gives 7 books

(4)   *Extensions*

This section focuses on two things. First, it applies part-part-total to comparison problems. For example, problem, "Fred has $4, John has $3 more, how much does John have?", can be considered as part-part-total with the $4 as one part, the $3 as the other and the total, John's money, as the unknown. Second, it investigates strategies that can assist word-problem solving, particularly if the problems have more that the step. The strategies investigated are:

(i)   make a drawing – acting out and doing a problem (where, of course, the doing is useful);

(ii)   identifying given, needed and wanted information - identifying what the numbers in the problem are and what the number wanted is (particularly useful in part-part-total situations); and

(iii) restating the problem - rewriting the problem using simple words and straightforward structure.

INTERVIEW

INTERVIEW SCHEDULE

MATERIALS

Materials to act out stories (counters, straws, junk), pen, paper

Materials with this interview: interview cards

Student recording sheet

DIRECTIONS

1. Photocopy and laminate attached interview cards.

2. Gather other material.

3. Place material in front of students. Give students pen and paper to write with.

4. Tell the students you are trying to find out what they know. Say they are not expected to know it and you will teach what is not known.

5. Give the student directions slowly – read problems. Do not give hints. If student cannot do a question, pass on to the next question.

6. Allow students to use material and make drawings and doodling.

Building to 10

C1

Show Card 1.

- Read the card. Ask: *Is this problem solved by + or -?*
- When student has answered, ask: *How did you work it out?*

Ask the same question for Card 2.

C2

Show Card 3.

- Read the card. Ask: *Is this problem solved by + or -?*

Ask the same question for Card 4.

C3

Show Card 5.

- Read the card. Ask: *Can you make up a problem from this that is addition?*

Show Card 6.

- Read the card. Ask: *Can you make up a problem for this that is subtraction?*

C4

Show Card 7.

- Read the card. Ask: *Can you draw a picture that helps solve the problem?*

Show Card 8.

- Ask: *Can you circle the numbers that can be used in the problem? Can you underline the words that ask for the answer?*

Show Card 9.

- Ask: *Can you re-write this problem so it is easy to answer?*

INTERVIEW MATERIAL

Interview Cards

CARD 1

John caught 6 fish, and then he caught another eight. How many fish did he take home?

+ −

CARD 2

Sue caught 13 fish. She gave 8 to John. How many fish did she take home?

+ −

CARD 3

Fred caught some fish. He gave 6 to his Uncle and he took 9 fish home. How many did Fred take home?

+ −

CARD 4

June caught 5 fish. Her daughter also caught some fish. Together they took 13 fish home. How many did they catch?

$+$ $-$

CARD 5

Bill caught 9 fish. He gave Sam 3 fish. He took home 6 fish.

$+$ $-$

CARD 6

June caught 6 fish. Fred caught 8 fish. Together they caught 14 fish.

$+$ $-$

CARD 7

John bought a fish everyday for a week. The fish cost $3 each day. How much change did John get from $30?

+ **−**

CARD 8

Bob caught 8 fish. Frank caught 7 fish. How many fish did Bob and Jim catch together, if Jim caught 6 fish?

+ **−**

CARD 9

Fish catching is important to Rod and Mary. Rod always wanted to catch more fish than Mary. This day he caught 8 fish and was happy because Mary only caught 6. How many fish did they take home?

+ **−**

STUDENT RECORDING SHEET

Name: _____ Date:_____

School/Class: _____

Interview item	Result (✓, ✗)	Comments	Activities to be completed if incorrect
C1: Addition and Subtraction as part-part-total			WP1
C2: Forward and Backward problems			WP2
C3: Word problems of part-part-total-triples			WP3
C4: Strategies for word problems			WP4

ACTIVITIES

ACTIVITY WP1

[Addition and subtraction as part-part-total]

Materials: Pens, paper, computers, objects that are typical of local context

1.   Say: *Take 3 counters and 4 counters and join them.*
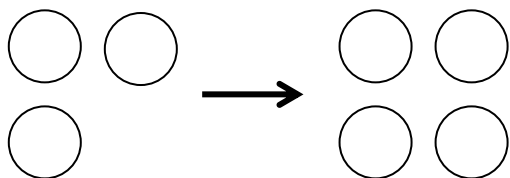
Say: *Look at this as a start and a finish.*
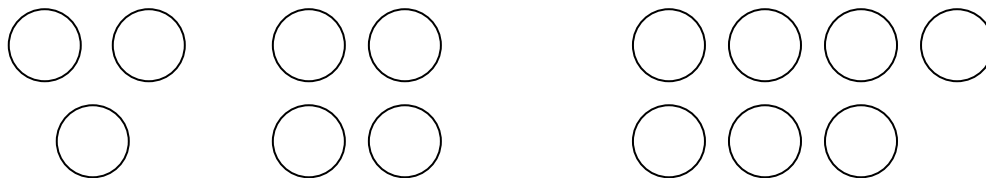
START	FINISH

Say: *The 3 and 4 are called parts and the 7 is called the total.*

2.   Say: *Take 7 counters and <u>separate</u> them.*
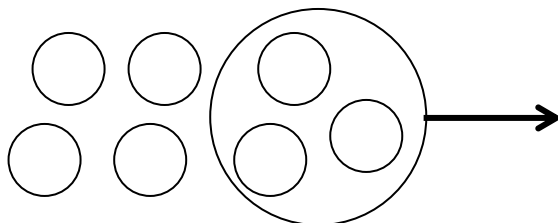
.   Say*: Look at this as a start and a finish.*
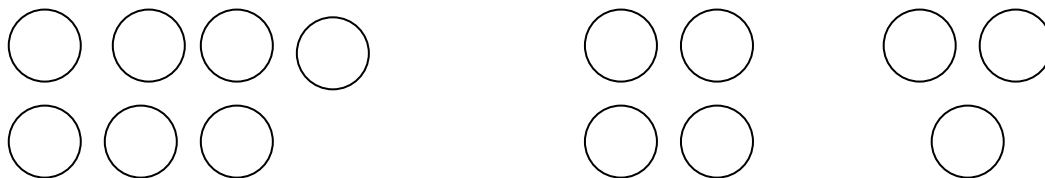
START	FINISH

3.   Say: *Look at the start and finish. For both joining and separating, where are the parts and where is the total?*

	START	FINISH
Joining	P & P	T
Separating	T	P & P

4. Say: Lets *look at these problems in terms of going forward from start to finish*.

   Joining   P & P ⟶ T   7 boys joined 6 girls, how many children?

   Separating   T ⟶ P & P   There were 17 children, 8 went on the bus.
   How many were left behind?

5. Complete Worksheet A.

6. Ask: *Think back on problems in Worksheet A. Use what you have seen to join, with a line, the operations to the actions that describe them.*
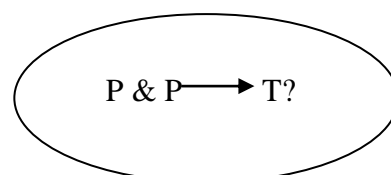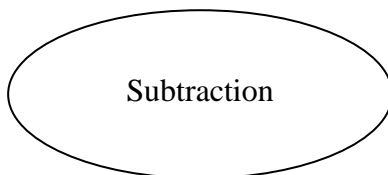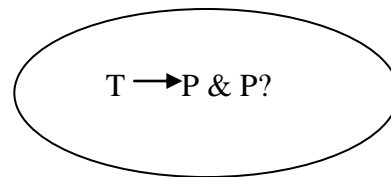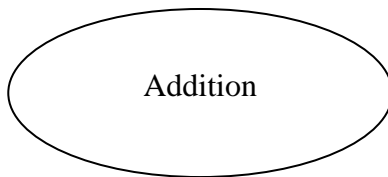
7. Say: *To work out the operation to use, determine what is known and not known in word problems.* Ask *How do you know it is addition of subtraction?* [Do not know the total – addition; do know the total – subtraction.]

   Examples:

   (a)   Mary had $7. She got $8 from her Dad. How much does she have now?

   P - $7   P - $8   T - ?

   Operation – Addition

   (b)   Jane has $8. She gives $3 to Sue. How much does she have left?

   P - $3   P - ?   T - $8

   Operation – Subtraction

8. Complete Worksheet B.

WP1 – Worksheet A

Name:	Year:	School:

1.   Take 2 pens and 3 pens and put them together. How many pens?

   (a)   What are the parts?   _____   _____

   (b)   What is the total?   _____

2.   Circle the parts.

   (a)   There are 7 cars in the park. 2 more drove in. How many cars were now in the park?

   (b)   There were 11 balls in the box. 3 more were thrown in. How many balls were there?

   (c)   The 12 boys were joined by 16 girls. How many children?

   (d)   How many teachers when the 4 in the officer were joined by 7 more?

3.   Take 6 pens and separate them into 4 pens and 2 pens.

   (a)   What are the parts?   _____   _____

   (b)   What is the total?   _____

4.   Circle the total.

   (a)   There were 8 boys and 2 ran off. How many boys left?

   (b)   There were 16 cars in the park and 7 drove away. How many left?

   (c)   Bill separated the $32 into $24 and $8.

   (d)   8 Kangaroos hopped away from the pack of 17. How many are left?

5.   Use what you have seen in the activities above to join, with a line, the operations to the actions that describe them. .

Addition

T ➔ P & P?

Subtraction

P & P ➔ T?

WP1 – Worksheet B

Name:	Year:	School:

Forward story problems:

Work out what the total, part and part (T, P & P) are for these problems. Circle the operation, + or –, that has to be performed.

|	
1. 3 boys joined 7 others in the game. How many boys were playing? T: P: P:	+ -
2. Frank put the 11 balls with the 13 balls. How many balls? T: P: P:	+ -
3. I had 13 pies, I gave away 6. How many left? T: P: P:	+ -
4. John had 21 sandwiches. Jill brought another 16 sandwiches. How many sandwiches in total? T: P: P:	+ -
5. John separated the 12 colours of beads. There were 31 beads. 14 were blue. How many were red? T: P: P:	+ -
6. The girls ran off and left 7 boys. The class had 21 children. How many girls? T: P: P:	+ -

ACTIVITY WP2

[Forward and backward word problems]

Materials: Pens, paper, computers, objects that are typical of local context, worksheets

Directions:

1. Say: *Take 5 counters and 2 counters and make 7 counters.* Say: *This is addition forward.* State: *Look at what happens across time. Run the story backwards.*
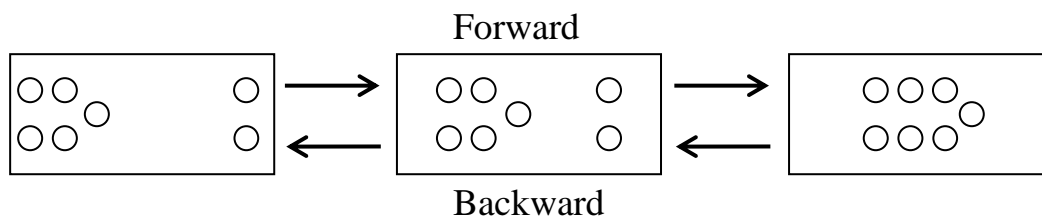
Forward

Backward

Ask: *Is the addition story addition or subtraction backwards?* Ask: *What is the addition story forward in terms of part-part-total*? [P&P→T]*? And what is the story backwards?* [T→P&P]

2. Say: *Take 8 counters and form 3 counters and 5 counters.* Say: *This is subtraction forward.* State: *Look at what happens across time? Run the story backwards.*
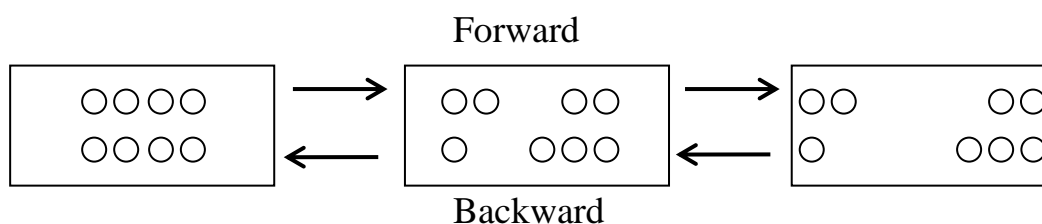
Forward

Backward

Ask: *Is the subtraction story addition or subtraction backwards?* Ask: *What is the subtraction story forward in terms of part-part- total?* [T→P&P] *And what is the story backwards?* [P&P→T]

3. Say: *Looking at what we have just done, what is addition in terms of part-part-total?* [Know the two parts and have to find the total] Say: *What is the subtraction in terms of part-part-total?* [Know the total and have to find a part)]

4. Complete worksheets A & B

5. Say: *There are many words associated with addition and subtraction.* Give examples:

    (i)   "more means add" - I had $6, I got $11 more, how much do I have now?

    (ii)   "take away means subtract" - I had $13, I gave $7 away, how much do I have left?

    Say: *Think up words that normally mean addition and subtraction.*

6. Complete worksheet C.

7. Say: *Let us choose one of the addition words – what about "more".* State: *"More" is often used with addition. For example, "I had $5, I was given $6 more, how much do I have?".* [$11] State: *It is possible for "more" to be subtraction if we <u>work backwards</u>. For example, "I had $5, I was given more money, I now have $11, how much was I given?".* [$6] Ask: *Try to write a subtraction problem for another addition word, say "join".*

Forward: $5 ⟶ $6 more ⟶ $??

Backward $5 ⇌ $?? more ⇌ $11

8. Say: *Let us choose now a subtraction word – what about "less".* State: *"Less" is often used with subtraction. For example, "I had 12 chocolates on Monday, I had 4 less on Tuesday, how many did I have on Tuesday?".* State: *It is possible for "less" to be addition if we* work backwards. *For example, "I had some chocolates on Monday, I had 4 less on Tuesday, I had 8 chocolates on Tuesday, how many did I have on Monday?".* Ask: *Try to write a subtraction problem for another addition word, say "take-away".*

Forward: 12 ch ⟶ 4 ch less ⟶ ?? ch

Backward ?? ch ⇌ 4 ch less ⇌ 8 ch

9. Complete worksheet D.

WP2 – Worksheet A

Name: Year: School:

Backward story problems:

Work out what the total, part and part (T, P & P) are for these problems. Circle the operation, + or −, that has to be performed.

(a) There were 10 boys playing. There had only been 3 before they had been joined by others. How many others? T: P: P:	+ -
(b) Frank put the 14 balls with the other balls. There 25 balls. How many were there to start with? T: P: P:	+ -
(c) The 16 girls ran off and left the 7 boys. How many in the class to start with? T: P: P:	+ -
(d) John separated the beads into 11 blue and 26 red. How many beads before the separation? T: P: P:	+ -
(e) I had some pies, I gave away 6. This left 8. How many pies did I have at the start? T: P: P:	+ -
(f) John had 21 sandwiches; Jill brought some more so they had 38 sandwiches. How many did Jill bring? T: P: P:	+ -

WP2 – Worksheet B

Name: Year: School:

Mixed story problems:

Work out what the total, part and part (T, P & P) are for these problems. Circle the operation, + or −, that has to be performed.

Problem	Operation
1. 4boys joined the others. This made 15 boys. How many others? P: P: T:	+ -
2. Jenny cooked 32 cakes. She cooked some more until she had 48 cakes. How many more did she cook? P: P: T:	+ -
3. Fred gave away $21. He had $42. How much left? P: P: T:	+ -
4. 24 left then 36 left. How many left? P: P: T:	+ -
5. The kangaroos hopped by. There were 48 large and the rest small. 64 hopped by. How many small were there? P: P: T:	+ -
6. Frank had $21 more. He had $11 at the start. How much now? P: P: T:	+ -

WP2 – Worksheet C

Name: Year: School:

Words Mean Words

Write words similar to or which mean addition and subtraction.

<u>ADDITION</u>	<u>SUBTRACTION</u>

WP2 – Worksheet D

Name: Year: School:

Reverse the problem

Choose three subtraction words and write them in the left column. Then create addition problems using these words.

Subtraction Word	Addition Problems

Choose three addition words and write them in the left column. Then create subtraction problems using these words.

Addition Word	Subtraction Problem

Activity WP3

[Word problems and part-part-total triples]

Materials: Pens, paper, computers, objects that are typical of local context, worksheets

Directions:

1.   Say: *Consider the following joining problem which has all numbers in it (no unknowns), "12 boys join 14 girls gives 26 children.".* Say: *From this story, write 3 stories with one number unknown.* State: *To do this, simply write stories with the unknown for each of the three numbers.* Give examples:

    (a)   The 12 is the unknown – "Some boys joined the 14 girl, this made 26 children, how many boys?"

    (b)   The 14 is the unknown – "12 boys joined the girls, this made 26 children, how many girls?"

    (c)   The 26 is the unknown – "12 boys joined 14 girls, how many children?"

    Ask: *Which of these stories are subtraction? Which are addition?*

2.   Repeat the above for another joining story. For example, "Frank had $6, he got another $9 from his Uncle, how did he have?"

3.   Repeat 1 & 2 for two separating stories:

    (a)   Problem 1: "Bill had 14 cans of coke, he gave 6 away, he had 8 cans left."

    (b)   Problem 2: "Denise had $50, she spent $35 on a shirt, she received $15 change."

    [For problem 1, possible problems are:

- 14 unknown – "Bill had cans of coke, he gave 6 away, he had 8 cans left, how many cans did he have to start with?"

- 6 unknown – "Bill had 14 cans of coke, he gave some away, he had 8 cans left, how many did he give away?"

- 8 unknown – "Bill had 14 cans of coke, he gave 6 away, how many did he have left?"]

4.   Complete worksheets A & B.

5.   Play game: 'Problem Race Track'. To do this, collect problems from the students work in worksheets A & B and use these problems as the game cards.

6.   Play Mix and Match problem cards

7.   Play game: 'Build a story'

WP3 – Worksheet A (Joining problems)

Name: Year: School:

Create 3 different unknown number stories from the information in the first column.

JOINING STORIES	ONE NUMBER UNKNOWN STORIES
A. Frank drove 33km. Then he drove another 58km. In all, he drove 91km.	A1.
	A2.
	A3.
B. Sue had $56 and June had $28. Together they had $84.	B1.
	B2.
	B3.

WP3 – Worksheet B (Separating Problems)

Name: Year: School:

Create 3 different unknown number stories from the information in the first column.

SEPARATING STORIES	ONE NUMBER UNKNOWN STORIES
C. Bruno made 62 pies. He sold 38. He had 24 left.	C1.
	C2.
	C3.
D. There were 64 children at the carnival. 25 children left. This meant 39 children remained.	D1.
	D2.
	D3.

# WP3 – Game: Problem Race Track

Materials: dice, Problem Race Track Board

Number of players: 2-4

Directions:

1. Mix the unknown number stories in a random manner and place in "Problems" position.

2. Play the game:

    o   Each player, in turn, throws die and moves along the race track the number shown.

    o   If a player lands on ⚡ he/she picks up a problem.

    o   If give correct operation, move two steps forward.

    o   If give incorrect operation, move two steps back.

    o   First player to reach Finish wins.

WP3 – Game board for Race Track Problem
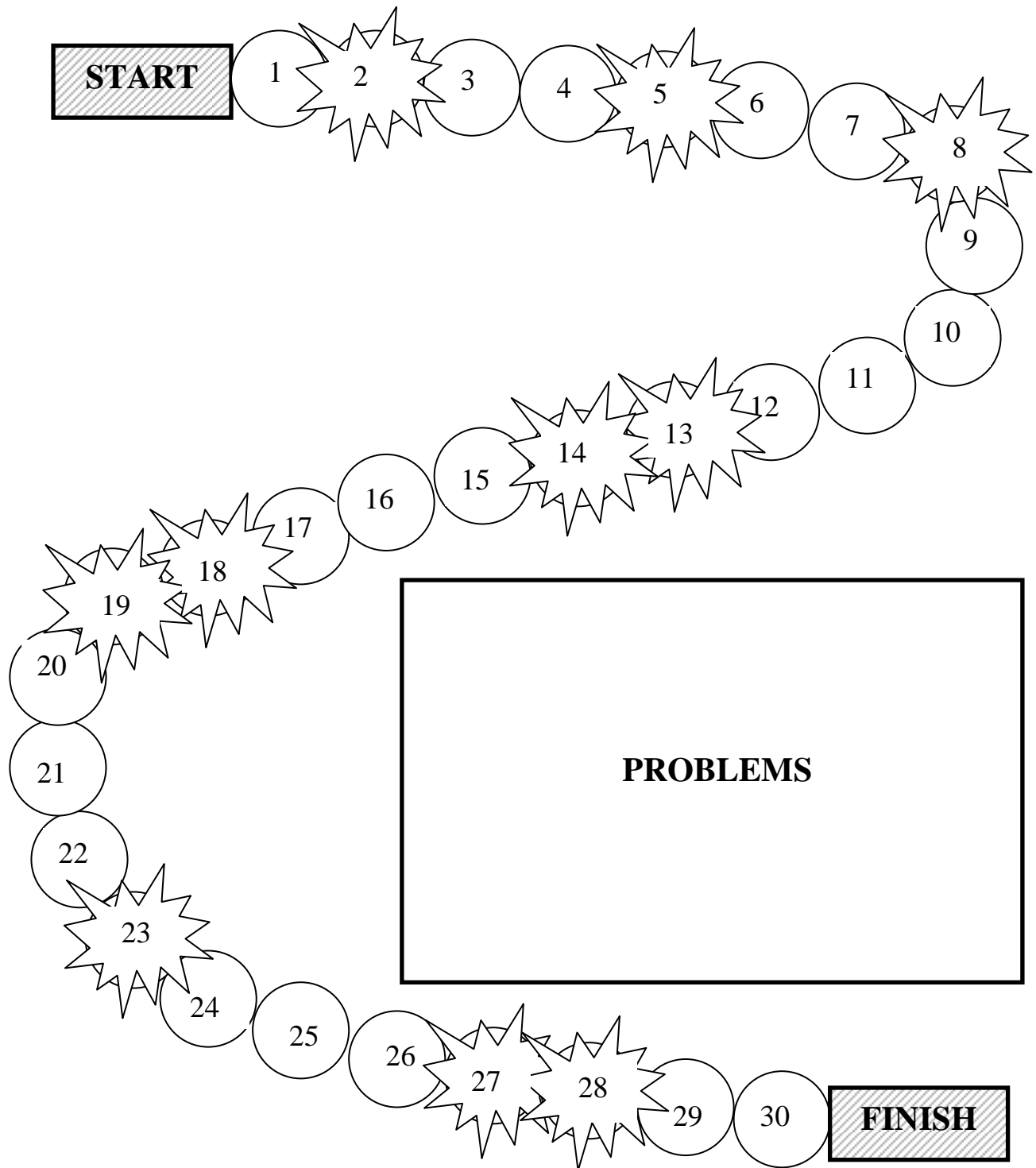
WP3 - Mix and Match Problem Cards

Materials: Mix and match cards on the following 5 pages.

Directions:

1. Photocopy onto one colour cardboard.

2. Cut out the mix and match cards on pages 26-30.

3. Put together and shuffle.

4. Get student to re-form into sets.

John bought a cake and spent
$14 on flowers. He spent $26.
How much did the cake cost?

P   ?

P $14

T $26

Frank had $26. He gave
Rob $14. How much was
he left with?

John took his money to the shop. He spent $12 on a cake. He got $26 change. How much money did he have at the start?

+

P $12

P $26

T   ?

Sue had $12. Her Mum gave her $26. How much money does she have?

Sarah bought some paints for $11. She also went to the movies. All up she spent $17. How much was the movie?

P $11

P   ?

T $17

Peter had $17. He gave $11 to his brother. How much did he have left?

A mob of Kangaroos were at the creek. 39 kangaroos left. This made 46 Kangaroos still drinking at the river. How many were at the creek to start with?

+

P 46

P 39

T   ?

Mary invited 46 people to her party. 39 others turned up. How many were at the party?

A Turtle laid 31 eggs. Some eggs were eaten by birds. 23 of the hatchlings made it to the water. How many were eaten?
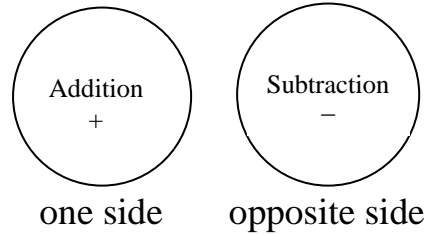
P   ?

P $23

T $31

I went shopping with $31. I spent $23 on food. How much change do I get?

WP3 – Game: Build a Story

Materials: Pen and paper, disc of wood (or a coin) with addition on one side and subtraction on the other side.

Addition +

one side

Subtraction −

opposite side

Directions:

Play one of the versions of the game: 'Build a Story'

VERSION 1:

1) Two (2) player game.

2) Each player in turn throws disc – disc selects problem type.

3) Opponent starts a problem giving context (e.g., some boys were playing football).

4) Player continues story giving the first number.

5) Opponent continues story giving what this number does.

6) Player completes story, giving the second number and the question.

7) Score 1 point if correct problem.

8) First player to 3 points, wins.

VERSION 2:

1) Four (4) players – opposites work together.

2) Each pair throws disc to determine problem type.

3) Each pair works together to tell a story:

1st person states context

2nd person states 1st number and what doing

1st person states 2nd number and what its relation is to 1st number

2nd person gives question

4) If correct, pair scores 1 point.

5) First pair to 4 points wins.

Activity WP4

[Extensions to comparisons and strategies]

Materials: Pens, paper, counters or objects that are typical of local context, worksheets

Directions:

1.   Assist students to use part-part-total to determine operations for comparison problems.

   (a)   Direct: *Put out 3 counters and 7 counters. Look at them and compare.* Ask:

   - *What is the difference?*

   - *How many more than 4 will give 7?*

   - *Is this addition or subtraction?*

   (b)   Say: *Jack has 5 counters, Fred has 3 more.* Ask:

   - *How many does Fred have?*

   - *Is this addition or subtraction?*

   (c)   Say: *The problems in directions 1 and 2 are comparison problems.* Ask: *What are the parts and the totals for these comparison problems?* Discuss what these could be.

   State: *The three numbers (known and unknown) for problem "What is the difference between 3 and 7?" are 3, 7, and the difference (unknown).* Ask: *Which of these three is the total?* [7] *Which are parts?* [3 and difference] *So what is the operation?* [Since a part is unknown and the total is known, the operation is subtraction.]

   Repeat this for the problem, "Jack has 5 counters, Fred has 3 more, how many counters does Fred have?"

   (d)   Complete Worksheet A

2.   Assist students to use strategies for multi-step problems.

   (a)   Say: *When there is more than one step to a problem, three strategies will help – making a drawing, determining given, needed and wanted, and restating the problem simply.* State: *We will look at each of these.*

   (b)   State: *Consider problem, "Sue bought a sandwich each day at school for $2:50, how much change from $20?".* Ask: *Make a drawing that will help you solve this problem?* Discuss different drawings.

   Note that a drawing of Sue handing the Tuckshop lady $20 while the Tuckshop lady gives her a sandwich is not useful. However a diagrammatic drawing like that below is very useful.

$20

$2:50 $2:50 $2:50 $2:50 $2:50
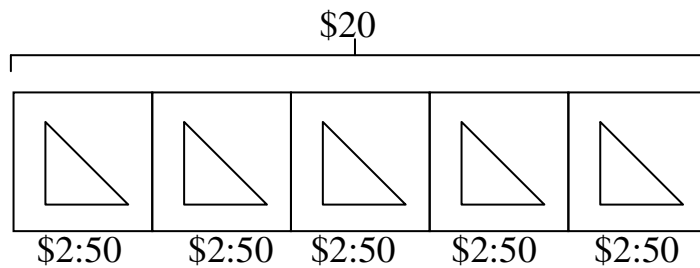
Discuss what has been given. State: *List the numbers and statements. Here we have $2:50 per day, $20 overall, week or 5 days, and change (unknown).*

Discuss what we need. Say: *Here we have to find out how much 5 sandwiches cost.* Discuss what we want. Say: *Here we want the change.*

Discuss restating. Say: *We have to find a good way to say the problem so it is easy. One way would be: "Find the cost of 5 sandwiches at $2:50 each and subtract result from $20".*

[The solution is 5x$2:50=$12.50; $20-$12:50=$7:50 change.]

(c) Use the Problem Strategy Template to develop strategies and solution for:

- Problem 1 – "John walked 12km on Monday, 24 km on Tuesday, 23km on Wednesday and by the end of Thursday he had walked a total of 84km; how far did he walk on Thursday?"

- Problem 2 – "Sue bought 6 bottles of Coke at $3:40 each, 5 pies at $2:80 each, and a hamburger at $4:70; how much did she spend?"

WP4 – Worksheet A (Comparison part-part-total)

Work out part, part, total (P, P, T). Circle + or −.

1. John has 13 more than Jack. Jack has 12. How many does John have? P: P: T	+ −
2. There are 8 more children in A than in B. A has 18 children. How many children are in B? P: P: T	+ −
3. The lions scored 34. The jaguars scored 28. How many more points did the lions score? P: P: T	+ −
4. Sue has $10 more than Jane. Jane has $56. How much does Sue have? P: P: T	+ −
5. Sue has $10 more than Jane. Sue has $56. How much does Jane have? P: P: T	+ −

WP4 – Problem Strategy Template

PROBLEM

DRAWING

GIVEN

NEEDED:

WANTED

REWRITE

WORKING

ANSWER