

Hari rofesional 2008



Seminar "PEARLS"
Daerah Perak Tengah
Sabtu, 10 Mei 2008



PEJABAT PELAJARAN DAERAH PERAK TENGAH

SENARAI NAMA FASILITATOR / MODERATOR / PENERUSI MATA PELAJARAN
PROGRAM PEARLS PPSMI DAERAH PERAK TENGAH TAHUN 2008

BIL	NAMA MODERATOR	NAMA SEKOLAH	MATA PELAJARAN
1	Pn. Naziha bt. Mohd Nor	SMK SERI ISKANDAR	PHYSICS
2	Pn. Rozaidah bt. Mohd Nor	SMK CHANGKAT LADA	CHEMISTRY
3	Pn. Zuradatolakma bt. Din	SMK. SULTAN MUHAMMAD SHAH	BIOLOGY
4	Pn. Yasmin bt. Hamid	SMK DATO' SERI MAHARAJA LELA	SCIENCE PMR
5	Cik Noor Haya bt. Ayub	SMK. DATO' SERI MAHARAJA LELA	SCIENCE SPM
6	En. Abdul Ghani b. Mohd Haris	SMK SULTAN MUZAFAR SHAH 1	MATHEMATICS SPM
7	Tn. Hj. Roslie b. Amri	SMK SULTAN ABDUL JALIL SHAH	MATHEMATICS PMR
8	En. Mohd Sabri b. Zaini	SM TEKNIK SERI ISKANDAR	ADD. MATHEMATICS
9	Pn. Nor Haslinda bt. Hod	SMK LAYANG-LAYANG KIRI	SCIENCE PMR
10	Pn. Anita bt. Haris	SK. TOH PADUKA RAJA	SCIENCE SR
11	En. Fairuz b. Ibrahim	SK. DATO' SAGOR, KG. GAJAH	MATHEMATICS SR

BIL	NAMA FASILITATOR	SEKOLAH	SUBJEK
12	EN ROSLI BIN MAUN	SK SERI ISKANDAR	MATEMATIK SR.
13	PN ZUREIDAH BT HJ HURI	SK BOTA KANAN	MATEMATIK SR.
14	EN MOHAMAD RAZHUAN B NAPI	SK TEPUS	MATEMATIK SR.
15	EN HASHIM B TALIB	SK BOTA KIRI	SAINS SR.
16	EN MOHAMAD SUHAIMI B ALIAS	SK. SERI KAYA	SAINS SR.
17	PN. NUR HIDAYAH PEONG BT ABDULLAH	SK PARIT	SAINS SR.
18	PN. ROSNIAH BT. ZAINOL ABIDIN	SK. CHANGKAT LADA 2	SAINS SR.
19	EN. AZAHAN B. ABU HASSAN	SK. TELUK KEPAYANG	SAINS SR.

BIL	PENERUSI PANITIA DAERAH	SEKOLAH
20	Matematik Sekolah Rendah	SK. SERI ISKANDAR
21	Sains Sekolah Rendah	SK. BOTA KIRI
22	Matematik Sekolah Menengah	SMKA SULTAN AZLAN SHAH
23	Sains Teras Sekolah Menengah	SMK. SULTAN ABDUL JALIL SHAH
24	Fizik	SM. TEKNIK SERI ISKANDAR
25	Kimia	SMK. SUNGAI RANGGAM
26	Biologi	SMK. DATO' ABDUL RAHMAN YAAKUB

KUMPULAN SATU

KETUA : JAMALIAH BINTI ARIFFIN (S.K BOTA KANAN)

PENCATAT : RASIDAH BINTI KAMARUDDIN (S.K BAKONG)

SETIAUSAHA : NOR RASIDAH BINTI AHMAD (S.K PASIR GAJAH)

AJK

1. JAMALIATULSHUHAI DAH BT KAMARUDIN (SK LAYANG-LAYANG KIRI)
2. NOOR HAYATI BINTI SULAIMAN (S.K BOTA KIRI)
3. SARINA BINTI ABDUL MAJID (S.K FELCRA NASARUDDIN)
4. NOORLIZA BINTI MOHAMAD (S.K BUKIT CHUPAK)

TOPIC : SHAPE AND SPACE

LEARNING AREA : TWO DIMENSIONAL SHAPES

LEARNING OBJECTIVE : FIND THE AREA AND PERIMETER TWO
DIMENSIONAL SHAPES

LEARNING OUTCOME : 1) CALCULATE THE PERIMETER OF SQUARE AND
RECTANGLES

CASE :

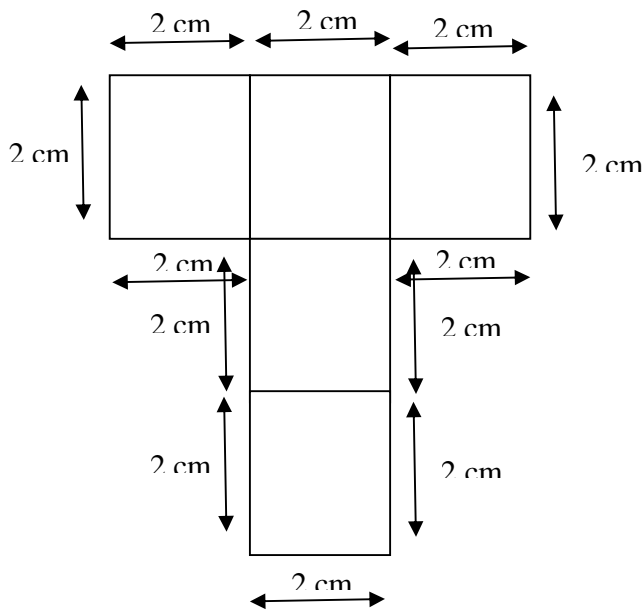
- Pupils do not calculate all the sides given
- Pupils repeating calculation the sides
- Pupils answers the question directly without showing the calculation step
- Pupils did not give the complete answer

FIRST SOLUTION

Pupils must know what is the concept of perimeter. TER is “TAMBAH” all the sides at the outside length of the shapes.

example :

The diagram below consists of squares of equal size. Find the perimeter of the whole diagram.

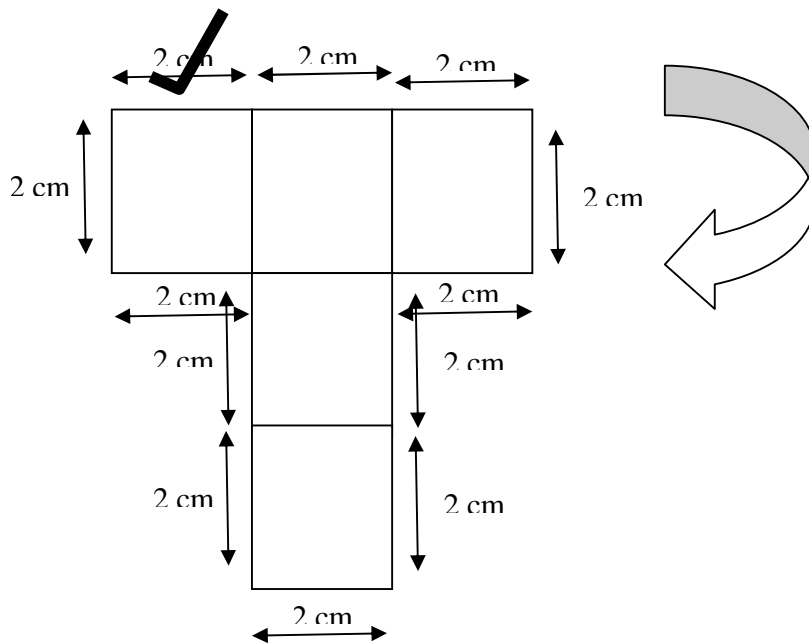


Pupils must know the operation needed to find a perimeter is addition. That is by adding all the sides given.

$$2\text{cm} + 2\text{cm} + 2\text{cm} + 2\text{cm} + 2\text{cm} + 2\text{cm} + 2\text{cm} + 2\text{cm} + 2\text{cm} + 2\text{cm} + 2\text{cm} + 2\text{cm} = 24\text{ cm}$$

SECOND SOLUTION

Pupils must tick the side that have been counted according to clock wise or right to left.



THIRD SOLUTION

A) Guide pupils to add up the length of each side:

e.g . 1)

$$2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} = 24\text{ cm}$$

Or

$$2) \quad 2\text{ cm} \times 12 = 24\text{ cm}$$

B) Explain that the total length of the sides is the perimeter of the shapes.

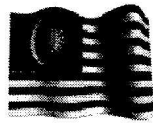
FOURTH SOLUTION

Pupils must make sure to give the answer in the unit needed.

EXAMPLE

Give the answer in the unit given

24 cm



MATHEMATICS YEAR 4

TOPIC : MASS



GROUP 2

EN.ABD RANI B ABD RAHMAN(SK LAMBOR KIRI)
EN.AHMAD AZUWAN B ISMAIL(SK ISKANDAR SHAH)
EN.AHMAD IHSAN B HASHIM(SK SG PERAH)
EN.MEGAT AZMUNI B MGT JAMALUDDIN(SK SUAK PADI)
MOHD SHAHNON B YUSOF(SK SRI CHANGKAT)

GROUP MATHEMATICS (PRIMARY SCHOOL)

CASE : No 2
CLASS : Year 4
TOPIC : Mass

LEARNING AREA : Relationship between units of mass
LEARNING OBJECTIVE : Understand the relationship between units of mass.
LEARNING OUTCOME : Convert units of mass from
a) kilograms to grams,

CASE 1: ~ Pupils unable to convert kilogram to grams and vice versa
~ Pupils not clearly the concept of Mass
~ Pupils confuse the value of Kg and gram

First Solution

Sing the value of unit Kilogram and grams.

1 kilogram , 1000 gram } 2 x

Pupils sing the place values of unit kilogram and gram in melody of 'Are You Sleeping'. Teacher using this melody by singing in lyrics as below:

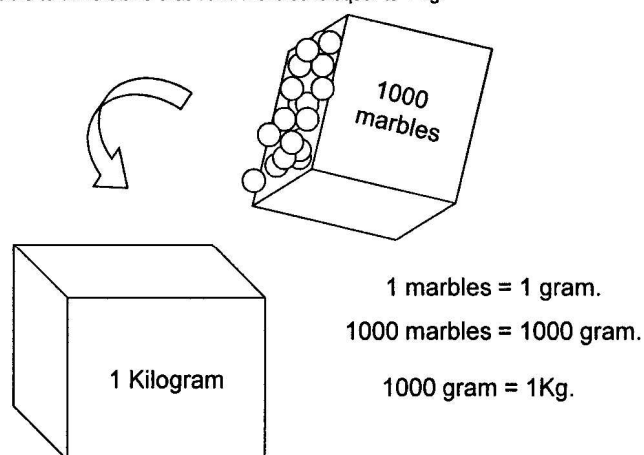
*One kilogram, one kilogram
One thousand grams, one thousand grams
One kilogram... One thousands grams....
One kilogram...., One thousand sgrams.....*

*One thousand grams, one thousand grams,
One kilogram, one kilogram,
One thousands grams..., One kilogram...,
One thousands grams...., One kilogram....*

The technique will improve pupils ability to remember relationship between kilogram to grams and vice versa easily.

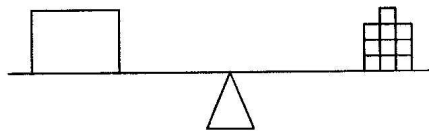
Second Solution

A container consists 1000 marbles. Each of the marble weighing 1 gram. All of them are being put in the container which has been labeled of 1 kg. Through observation pupils will be able to understand that 1000 marbles is equal to 1 kg.



Third Solution

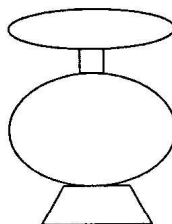
Compare ten cubes of equal size which is weighing 100 grams of each cubes with one object of 1 kg by using balance equipment.



Through observation, pupils be able to understand the concepts of comparison between one object and ten cubes of equal size that represent the similar weight which is 1 kg

Fourth Solution

Reading the weighing scale.



Through observation pupils will be able to read the weighing scales.

Case : 3
 Class : Year 4
 Topic : Length
 Learning Area : Relationship between units of length
 Learning Objective : Understand the relationship between units of length
 Learning Outcomes : Convert units of length from:
 a. millimetres to centimetres and vice-versa
 b. centimetres to metres and vice-versa

Case : Pupils unable to identify when they must use multiplication or division when solving conversion of units of length questions.

: Pupils had set in their mind that they must divide or multiply the number by 1000 when they do the conversion of units of length, especially when they convert units of length from centimetres to metres and vice-versa that must multiply or divide number by 100.

First Solution

Measuring objects in millimetres, centimetres and metres.

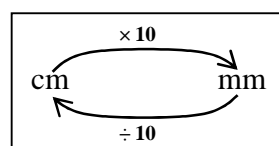
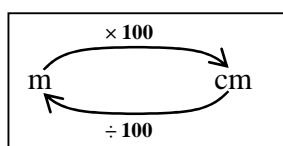
- (i) Reinforcement the concept of length by measuring the objects by using millimetres, centimetres and metres units.
- (ii) Provide a rope that has been cut into 1 metre.
- (iii) Ask pupils to work in group to measure the rope.
- (iv) Ask pupils to measure in metre and centimetre units.
- (v) Pupils will find out that 1 metre is equal to 100 centimetres.
- (vi) Proceed with other measurement with different length by using other objects in the classroom using both units of length, metre and centimetre.
- (vii) Ask pupils to measure a 1cm paper strip in millimetres and centimetres units.
- (viii) Pupils will find out that 1cm equal to 10mm.
- (ix) Proceed with other objects and ask pupils to measure the objects in cm and mm.

Second Solution

Conversion Cards

- (i) State the relationship between units of length.
- (ii) Show the cards of conversion units of centimetre to metre and vice-versa, and units of millimetres to centimetres.

1 m = 100 cm
1 cm = 10 mm



- (iii) Guide pupils to use the conversion cards.
 (iv) Pose the following question and ask pupils to complete the table.

Questions	Workings	Answers
e.g : 1 m	1×100	100 cm
2 m		_____ cm
3.2 m		_____ cm
4.3 m		_____ cm
5.8 m		_____ cm
7.6 m		_____ cm
9.91 m		_____ cm

Questions	Workings	Answers
e.g : 100 cm	$100 \div 100$	1 m
200 cm		_____ m
3200 cm		_____ m
4300 cm		_____ m
5800 cm		_____ m
7600 cm		_____ m
9910 cm		_____ m

Questions	Workings	Answers
e.g : 1 cm	1×10	10 mm
2 cm		_____ mm
3.2 cm		_____ mm
4.3 cm		_____ mm
5.8 cm		_____ mm
7.6 cm		_____ mm
9.9 cm		_____ mm

Questions	Workings	Answers
e.g : 10 mm	$10 \div 10$	1 cm
20 mm		_____ cm
32 mm		_____ cm
430 mm		_____ cm
5800 mm		_____ cm
7600 mm		_____ cm
9910 mm		_____ cm

Third Solution
Conversion Table

mm	cm
10	1
9	0.9
8	0.8
7	0.7
6	0.6
5	0.5
4	0.4
3	0.3
2	0.2
1	0.1

cm	m
100	1
90	0.9
80	0.8
70	0.7
60	0.6
50	0.5
40	0.4
30	0.3
20	0.2
10	0.1

- (i) Oral drills on conversion of units using conversion table.
- (ii) Pupils are divided into 2 groups, A and B.
- (iii) A pupil from group A says a measurement and a pupil from group B convert the units using conversion table.
- (iv) Activity is repeated until all pupils have participated.

Fourth Solution
Incomplete Conversion Table

mm	Cm
	1
9	0.8
	0.7
6	
5	
4	
3	
	0.2
	0.1

cm	m
100	
90	
	0.8
	0.7
60	
50	
	0.4
	0.3
20	
	0.1

- (i) Provide the number cards to complete the conversion table.
- (ii) The number cards are jumbled up and spread out on the table.
- (iii) Pupils work in group and paste the cards onto the conversion table one by one.
- (iv) The first group complete the table correctly is the winner.

Fifth Solution

Match Cards

- (i) Provide 2 sets of measurement cards to each group for pupils to match.

e.g




8 m	18.9 cm	800 cm	189 mm
-----	---------	--------	--------

- (ii) The cards are jumbled up and spread out on the table.
(iii) Pupils work in pairs and match the cards correctly.
(iv) The first couple to complete the game correctly is the winner.

Sixth Solution

Units of Length Family Game Cards


- (i) Provide three sets of number cards in three units of length which are metres, centimetres and millimetres.
(ii) There are 4 players in the game.
(iii) Pupils try to get the same value of cards in different units of metres, centimetres and millimetres.
(iv) The first player that can match the cards to its units of length family will win the game.



**PROGRAM PEARLS GURU-GURU MATEMATIK
DAERAH PERAK TENGAH 2008**

NO NAME GROUP

▪ En. Mohd Zuhairi b. Abd Hamid	SKTPR
▪ En. Mohd Firdaus b. Mohd Yasin	SKB
▪ En. Ahmad Nazamudin b. Abi Madian	SKBB
▪ En. Mohd Jorazley b. Mat Isa	SKRC
▪ En. Ramli b. Ishak	SKTK
▪ En. Norhisham b. Abd Ghani	SKPJ
▪ Pn.	SKPPU



GROUP MATHEMATICS (PRIMARY SCHOOL)

CASE: No. 8

CLASS: Year 4

TOPIC: Volume Of Liquid

LEARNING AREA: Relationship between units of volume of liquid

LEARNING OBJEKTIVE: Understand the relationship between units of volume of liquid.

LEARNING OUT COMES:

i. Convert units of volume, from

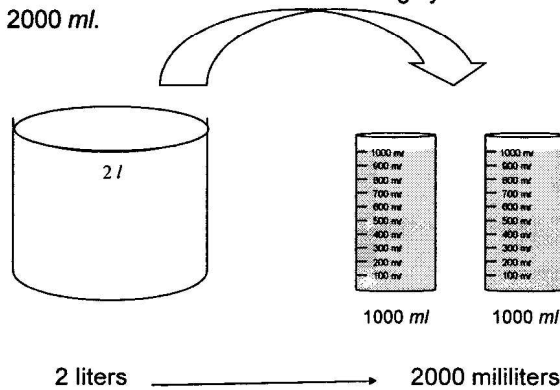
- a) ~~litres to millilitres,~~
- b) millilitres to litres,
- c) litres and millilitres to litres,
- d) litres and millilitres to millilitres

CASE: Pupils unable to convert between unit of volume of liquid

First Solution

Show to the pupils how to convert and measuring using the beaker, cylinder and water.

e.g : Pour out 2 l water into the measuring cylinder to make 2000 ml.



Second Solution

Guide pupils to convert litres to millilitres using partitioning

e.g : $1.8 \text{ l} = 1 \text{ l} + 0.8 \text{ l}$
 $= 1000 \text{ ml} + 800 \text{ ml}$
 $= 1800 \text{ ml}$

Third Solution

e.g : 1.8 l

liter	milliliter
1	1000
0.8	800

$= 1000 \text{ ml} + 800 \text{ ml}$
 $= 1800 \text{ ml}$

Fourth Solution

Explain the conversion using concept of fraction with the help of diagram.

e.g : 1800 ml = ____ l

100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml
100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml

1800 ml out of 1000 ml is $\frac{1800}{1000}$

$$\frac{1800}{1000} = 1.8$$

$$1800 \text{ ml} = 1.8 \text{ l}$$

Fifth Solution

Guide pupils to convert liter to milliliters using conversion table.

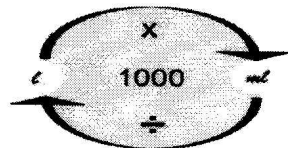
Conversion table	
1.0 l	1000 ml
0.9 l	900 ml
0.8 l	800 ml
0.7 l	700 ml
0.6 l	600 ml
0.5 l	500 ml

Conversion table	
$\frac{1}{2}$ l	500 ml
$\frac{1}{4}$ l	250 ml
$\frac{3}{4}$ l	750 ml

Sixth Solution

**THE RELATION BETWEEN
LITER AND MILILITER**

* JINNEE WITH 3 EYES *



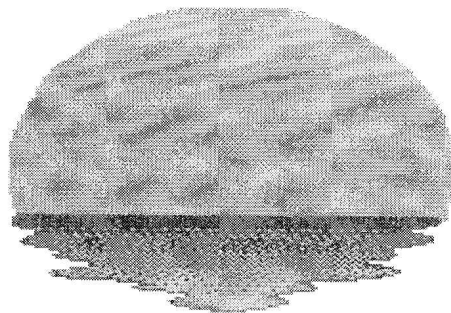
Not Limited Production App!

Jinnee with 3 eyes.

1. Make sure pupils know how many millilitres in one litre.
2. Ask pupils to write down the relationship between litres and millilitres.
3. Shows the relationship between litres and milliliters.
4. Shows pupils how to convert from litres to milliliters and vice versa.



**Animation Factory
MEMBERS ONLY**



**Animation Factory
MEMBERS ONLY**

Thank You



GROUP MATHEMATICS

GROUP 5

SK PARIT

SK CHOPIN

SK CHANGKAT BANJAR

SJKT BULOH AKAR

SK TANJONG BIDARA

SK CHANGKAT LADA 3

CASE: No 5

CLASS: Year 4

TOPIC: Fractions

LEARNING AREA: Equivalent Fractions

LEARNING OBJECTIVE: Express equivalent fractions for proper fractions.

LEARNING OUTCOME: Express equivalent fractions to its simplest form.

CASE 1: Pupils unable to express and write equivalent fractions to its simplest form.

Pupils difficult to divide the numerator and denominator of the fractions by the same number

Pupils not clear the concept of the simplest form.

FIRST SOLUTION

- 1) Use Cuisenare rods or fractions strips
 - Teacher gives example $\frac{2}{4}$
 - Teacher express $\frac{2}{4}$ in its simplest form
- a) prepare a fraction strip of 4 equal parts
- b) colour 2 parts blue
- c) Fold the strip again into 2 part



Ask pupils what has happened to the fourths (four equal part)
 The fourths have become two equal parts.

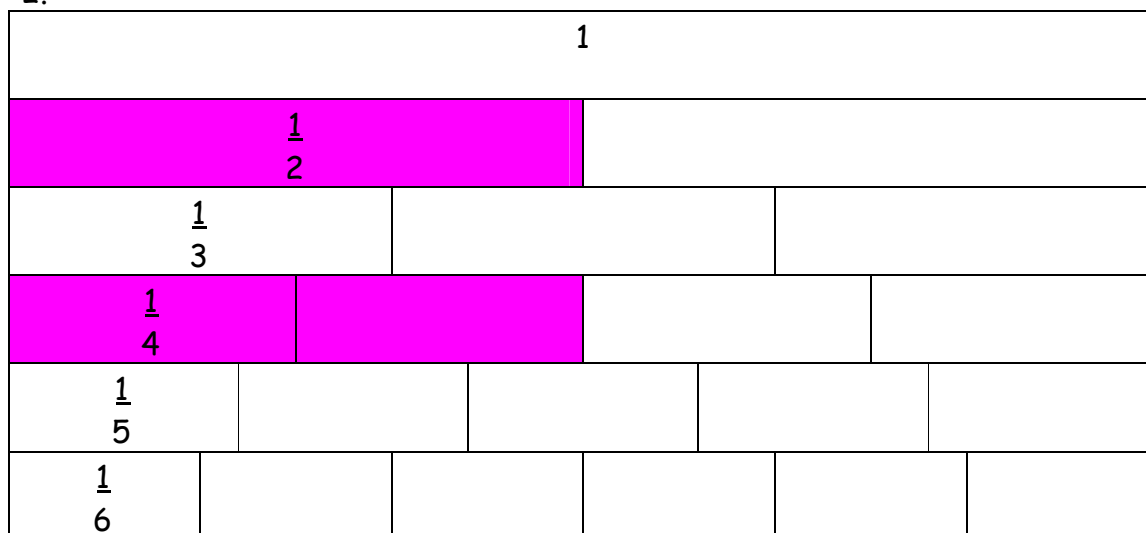
* Notice that $\frac{2}{4} = \frac{1}{2}$

So $\frac{1}{2}$ is the simplest form for $\frac{2}{4}$

Second Solution

1. Teacher using a Fraction Chart to find the simplest form for $\frac{2}{4}$

2.



2. Colour $\frac{1}{2}$ of every strip.

Third Solution

1. Teacher uses Multiplication Table (MPT).
2. Pupils do multiplication with reference to the time-tables.
3. Put the different colour to the first row and the first column.

X	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

4. Teacher gives example. $\frac{2}{4}$

5. Pupils identify 2 and 4 in which time-table.
6. Look at the first column (coloured column) which is the same row with 2 and 4.

X	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

7. They will get the answer $\frac{1}{2}$.

Forth Solution (Enrichment)

1. Teacher gives example $\frac{2}{4}$

2. List down the number that can divide 2 and 4.

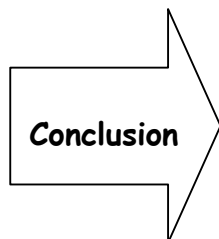
$\frac{2}{4}$	1	2	
	1	2	4

3. Choose the same number.

4. Then, identify the biggest number.

5. Divide the numerator and denominator by the identified number.

$$\frac{2 \div 2}{4 \div 2} = \frac{1}{2}$$



A fraction in the simplest form has a numerator and denominator which cannot be simplified any further.

Group 6: SK Seberang Perak
SK Telok Bakong
SK Telok Perang
SK Changkat Lada 2
SK Lengkuas
SJK (C) Chung Hwa Parit
SJK (T) Ladang Serapuh

Class: Year 5

Topic: Percentage

Learning Area: Percentage

Learning Objective: Relate fractions and decimals to percentage

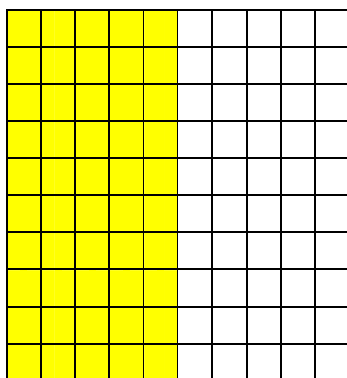
Learning Outcome: Convert percentage to fraction in its simplest form

CASE 1 : Pupils unable to convert percentage to fractions in its simplest form
: Pupils forget to convert fractions in its simplest form

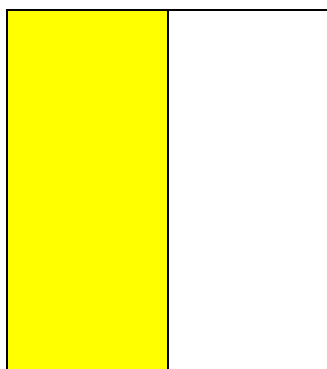
CASE EXAMPLES: $50\% = 50/100$
 $= 5/10$ (pupils tend to leave the answer as it is)

First solutions:

1. A hundred square paper and shade 50 squares



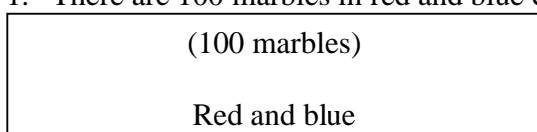
2. Pupils write the coloured fractions: $50/100$
3. Pupils draw diagram of the equivalent fraction of its simplest form



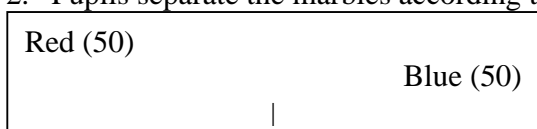
4. Pupils write the equivalent fraction of its simplest form: $\frac{1}{2}$

Second solutions: Concrete

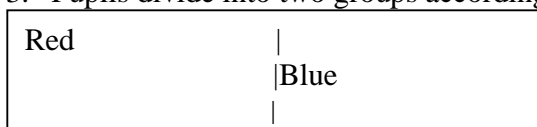
1. There are 100 marbles in red and blue colours in a box.



2. Pupils separate the marbles according to the colours.

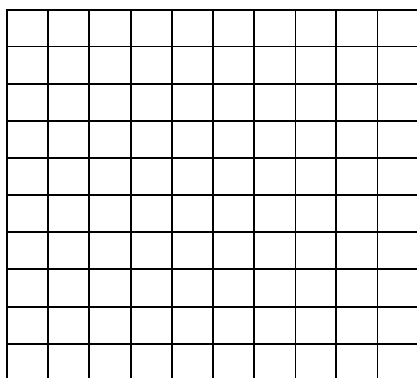


3. Pupils divide into two groups according to the colours.



4. The fraction of red marbles are $\frac{50}{100}$ from the total.

Third Solutions:



1. Teacher prepares an egg tray with 100 holes and sweets in 3 different shapes.
2. Teacher puts the sweets randomly in the egg tray.
3. Pupils are asked to rearrange the sweets according to the shape.
4. Pupils will get the answers

Example



26/100 or 14/100 or 60/100

5. Pupils are asked to write the fraction of each shapes from the total.

Fourth solutions:

1. Pupils refer to the timetables of 10 to find the equivalent fractions of 50/100

1	X	10	=	10
2	X	10	=	20
3	X	10	=	30
4	X	10	=	40
5	X	10	=	50
6	X	10	=	60
7	X	10	=	70
8	X	10	=	80
9	X	10	=	90
10	X	10	=	100

2. Pupils refer to timetables of 5 to find the equivalent 5/10

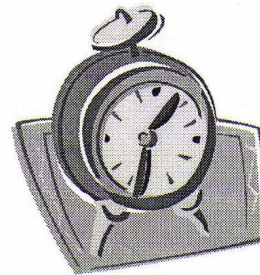
1	X	5	=	5
2	X	5	=	10
3	X	5	=	15
4	X	5	=	20
5	X	5	=	25
6	X	5	=	30
7	X	5	=	35
8	X	5	=	40
9	X	5	=	45
10	X	5	=	50

3. Pupils get ½.

TOPIC : TIME

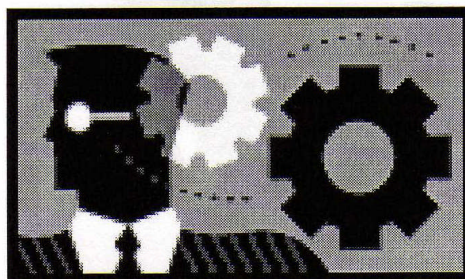
SUBTOPIC : ADDING TIME IN HOURS AND MINUTES

**PREPARED BY:
GROUP 7**



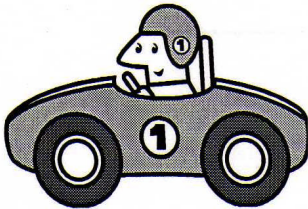
CASE 1 :

- **PUPILS UNABLE TO RECALL THE
RELATIONSHIP BETWEEN UNITS OF
TIME**



EXAMPLE :

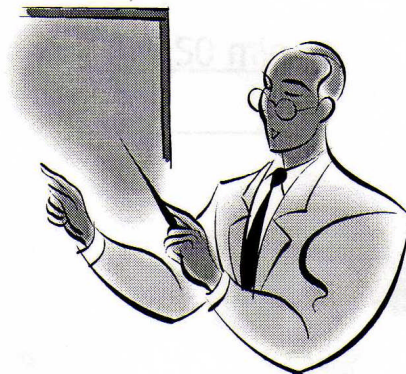
$$2 \text{ hr } 30 \text{ min} + 2 \text{ hr } 50 \text{ min} =$$



SOLUTION 1:

- Pupils rewrite the question in vertical form.

$$\begin{array}{r} 2 \text{ hr } 30 \text{ min} \\ + 2 \text{ hr } 50 \text{ min} \\ \hline \end{array}$$



- Draw a line to separate the column of hours and minutes.

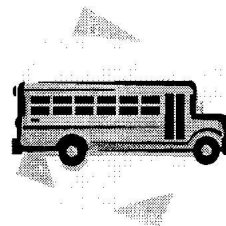
2 hr	30 min
+ 2 hr	50 min
<hr/>	
<hr/>	



NEXT.....

- First, add the numbers in the minute column then continue with the numbers in the hour column.

2 hr	30 min
+ 2 hr	50 min
<hr/>	
<hr/>	



NEXT...

- Pupils determine whether the total of minutes is more than 60. If, yes minus 60 and add 1 hour to the hour column.

$$\begin{array}{r|l}
 2 \text{ hr} & 30 \text{ min} \\
 + & 2 \text{ hr} & 50 \text{ min} \\
 \hline
 4 \text{ hr} & 80 \text{ min} \\
 + & 1 \text{ hr} & - 60 \text{ min} \\
 \hline
 5 \text{ hr} & 20 \text{ min}
 \end{array}$$

Solution....

60 min = 1 hour

Recall the relationship between units of time

Developing plan and work out:

$$\begin{array}{r|l}
 2 \text{ hr} & 30 \text{ min} \\
 + & 2 \text{ hr} & 50 \text{ min} \\
 \hline
 4 \text{ hr} & 80 \text{ min} \\
 + & 1 \text{ hr} & - 60 \text{ min} \\
 \hline
 & 20 \text{ min}
 \end{array}$$

Answer:

$$\begin{array}{r|l}
 2 \text{ hr} & 30 \text{ min} \\
 + & 2 \text{ hr} & 50 \text{ min} \\
 \hline
 4 \text{ hr} & 80 \text{ min} \\
 + & 1 \text{ hr} & - 60 \text{ min} \\
 \hline
 5 \text{ hr} & 20 \text{ min}
 \end{array}$$

SOLUTION 2:

- Pupils use the prepared cards to calculate the required minutes in vertical form.

<u>hr</u>		<u>min</u>
60 min = 1 hr	60 min = 1 hr	30 min
60 min = 1 hr	60 min = 1 hr	50 min
4 hr		80 min

NEXT...

60 min = 1 hour

- Pupils determine whether the total of minutes is more than 60. If, yes minus 60 and add 1 hour to the hour column.

<u>hr</u>		<u>min</u>
60 min = 1 hr	60 min = 1 hr	30 min
60 min = 1 hr	60 min = 1 hr	50 min
4 hr		80 min
+ 1 hr		- 60 min

Answer: 5 hr 20 min

Mathematics Primary School

Case Discussions

Case 1

Topic : Fractions (Subtract Mixed Numbers)

Year : 5

Case : Subtract a Whole Number from a Mixed Numbers

$$\text{E.G.} \quad 3 \frac{1}{2} - 1$$

Case : Subtract a Mixed number From a Whole Number

$$\text{E.G.} \quad 5 - 3 \frac{2}{5}$$

Case 2

Topic : Fractions (Divide Fractions with a whole number and fraction)

Year : 6

Case : $4 \div \frac{3}{4}$

Case 3

Topic : Length (Conversation units of Length)

Year : 4

Case : 217 m = _____ km

5 cm = _____ mm

0.7 m = _____ cm

Case 4

Topic : Decimal (Subtraction and addition a decimal number from a mixed number)

Year : 4

Case : $4 - 3.24 =$

$4 + 3.24 =$

Mathematics Primary School

Case Discussions

Case 1

Topic : Fractions (Subtract Mixed Numbers)

Year : 5

Case : Subtract a Whole Number from a Mixed Numbers

$$\text{E.G.} \quad 3 \frac{1}{2} - 1$$

Case : Subtract a Mixed number From a Whole Number

$$\text{E.G.} \quad 5 - 3 \frac{1}{2}$$

Case 1 :

Last week during my T&L process for year 5 pupils on the topic of fractions , I gave 2 type of questions, that is :

$$\text{a) } 3 \frac{1}{2} - 1 \quad \text{and} \quad \text{b) } 3 - 1 \frac{1}{2}$$

In case (a) almost all the pupils can get the correct answers, but in case (b) 70 % of the pupils gave the wrong answers , as shown

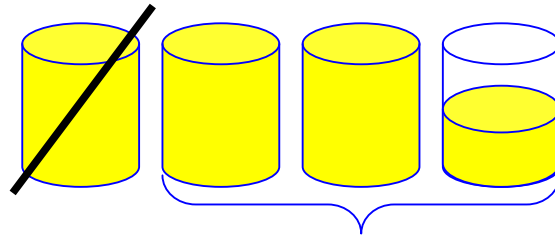
$$3 - 1 \frac{1}{2} = 2 \frac{1}{2}$$

This shown that the pupils were confused about the subtraction of whole with mixed number.

Solution 1

- a) Show the pupils 3 and $\frac{1}{2}$ glasses of orange juice . Take away 1 glass of orange juice. Ask them what is the remainder ?

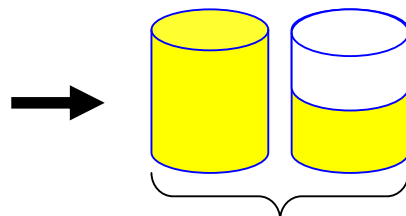
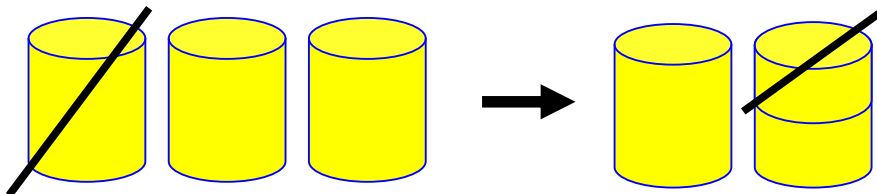
$$* \quad 3 \frac{1}{2} - 1 = 2 \frac{1}{2}$$



$$2 \frac{1}{2}$$

- b) Show the pupils 3 glasses of orange juice . Take away 1 glass of orange juice than poured out another $\frac{1}{2}$ of a glass of orange juice . Ask them what is the remainder ?

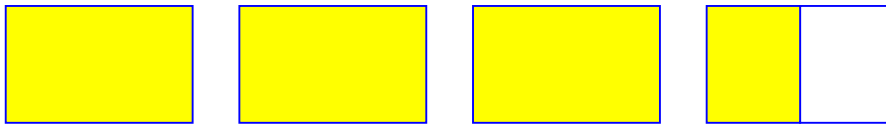
$$* \quad 3 - 1 \frac{1}{2} = 1 \frac{1}{2}$$



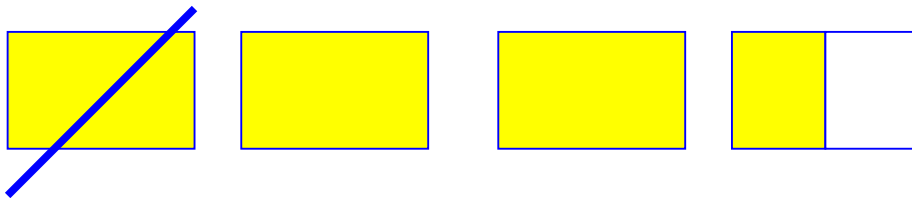
$$1 \frac{1}{2}$$

Solution 2

a) Draw diagram as shown below



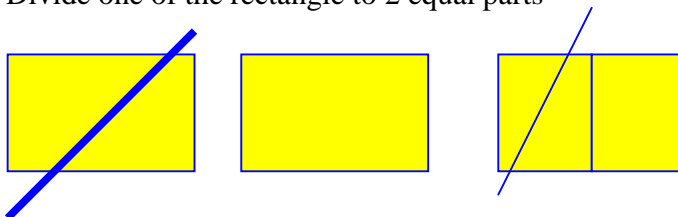
Ask them to slash 1 shape, then ask them what is the remainder ?



b) Draw diagram as shown below



Divide one of the rectangle to 2 equal parts



Ask Them to slash of $\frac{1}{2}$ of the rectangle
Then ask them what is the remainder ?

Solution 3 :

By calculation (in vertical Form)

Step 1

Revise the basic operations of subtraction

a)

tens	Ones
3	4
- 1	0
2	4

b)

tens	Ones
3	0
- 1	4
1	6

Solution 3

Step 2

a) $3\frac{1}{4} - 1 = 2\frac{1}{4}$

Whole number	Fraction
3	$\frac{1}{4}$
- 1	0
2	$\frac{1}{4}$

b) $3 - 1\frac{1}{4} = 1\frac{3}{4}$

Whole number	Fraction
3	0
- 1	$\frac{1}{4}$
1	$\frac{3}{4}$

3-1

$\frac{4}{4}$