



# Pioneer Primary School

**P3 Maths Sharing:  
Strengthening the core  
foundation of Mathematics**

13 April 2018

# Outline

- **School Maths Assessment**
  - Exam Format
  - Topics (P2 - P3)
- **What can I do to help my child to**
  - develop his/her factual fluency,
  - better solve word problems &
  - be self-directed in their learning.

# School Maths Assessment

<b>Term</b>	<b>Maths Assessment</b>
1	2 Class Tests 1 Factual Fluency Test
2	SA1
3	1 Class Test 1 Factual Fluency Test
4	SA2

# School Maths Assessment: CA1/CA2



Section	Item Type	No. of questions	No. of marks per question	Weighting %	Duration
A	SAQ	12	1	20	45 min
		4	2		
B	LAQ	2	3	10	
		1	4		
	<b>Total</b>	<b>19</b>	-	<b>30</b>	<b>45 min</b>

SAQ = Short Answer Question; LAQ = Long Answer Question

# School Maths Assessment: SA1/SA2



Section	Item Type	No. of questions	No. of marks per question	Weighting	Duration
A	MCQ	8	1	30	1h 45 min
		11	2		
B	SAQ	15	1-2	29	
C	LAQ	3	3	21	
		3	4		
	<b>Total</b>	<b>40</b>	-	<b>80</b>	

MCQ = Multiple Choice Question; SAQ = Short Answer Question; LAQ = Long Answer Question

# New Topics Covered

Topics	P2 sub-topics	P3 sub-topics
<b>Whole Numbers</b>	<ul style="list-style-type: none"> <li>- Numbers up to 1000</li> <li>- Addition and subtraction</li> <li>- Multiplication and division</li> <li>- Mental calculation</li> </ul>	<ul style="list-style-type: none"> <li>- Numbers up to 10 000</li> <li>- Addition and subtraction</li> <li>- <b>Multiplication and division</b></li> <li>- Mental calculation</li> </ul>
<b>Fractions</b>	<ul style="list-style-type: none"> <li>- Fraction of a whole</li> <li>- Addition and subtraction</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Equivalent fractions</b></li> <li>- Addition and subtraction</li> </ul>

# New Topics Covered

Topics	P2 sub-topics	P3 sub-topics
<b>Measurement</b>	<ul style="list-style-type: none"> <li>- Length, mass and volume</li> <li>- Time</li> <li>- Money</li> </ul>	<ul style="list-style-type: none"> <li>- Length, mass and volume</li> <li>- Time</li> <li>- Money</li> <li>- <b>Area and perimeter</b></li> </ul>
<b>Geometry</b>	<ul style="list-style-type: none"> <li>- 2-D and 3-D figures</li> <li>- Patterns</li> <li>- Line, curve and surface</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Perpendicular and parallel lines</b></li> <li>- <b>Angles</b></li> </ul>
<b>Data Analysis</b>	<ul style="list-style-type: none"> <li>- Picture graphs</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Bar graphs</b></li> </ul>

# Outline

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  - Exam Format
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  - develop his/her factual fluency,
  - better solve word problems &
  - be self-directed in their learning.



**Why is factual fluency  
important?**

# Try out these P3 questions!

$$137 \times 9 =$$

Th	H	T	O
	1	3	7
×			9

$4 \times \square =$   
 less than  
 25

$$653 \div 4 =$$

H T O

$$4 \overline{) 653}$$

60 sec

# P4 questions

Th	H	T	O
	1	3	7
×		5	9
<hr/>			
<hr/>			

	Th	H	T	O	
	0	9	0	0	R3
7	<hr/>				
	6	3	0	3	
-	0				
	<hr/>				
	6	3			
-	6	3			
	<hr/>				
		0	0		
		-	0		
		<hr/>			
		0	3		
		-	0		
		<hr/>			
			3		

# Why is Factual Fluency important?

- Total: 40 questions (SA1/SA2)
- Duration: 1h 45 min = 105 min
- 105 min – 10 min check = 95 min
- 2 min 22.5 s per question

Read the question

Understand the  
question

Solve the question

# What can I do to help my child develop his/her factual fluency?

- Build their factual fluency by:
  - Asking them to memorise their maths facts
  - Start the facts in order
  - Randomize the facts
  - Practice these +, - , ×, ÷ questions every day to build on their factual fluency.

# Listing in order

<b>1.</b>	$1 \times 6 =$
<b>2.</b>	$2 \times 6 =$
<b>3.</b>	$3 \times 6 =$
<b>4.</b>	$4 \times 6 =$
<b>5.</b>	$5 \times 6 =$
<b>6.</b>	$6 \times 6 =$
<b>7.</b>	$7 \times 6 =$
<b>8.</b>	$8 \times 6 =$
<b>9.</b>	$9 \times 6 =$
<b>10.</b>	$10 \times 6 =$

# Randomize the questions

1.	$10 \times 6 =$
2.	$8 \times 6 =$
3.	$4 \times 6 =$
4.	$5 \times 6 =$
5.	$1 \times 6 =$
6.	$7 \times 6 =$
7.	$2 \times 6 =$
8.	$6 \times 6 =$
9.	$3 \times 6 =$
10.	$9 \times 6 =$

# Listing in order

<b>1.</b>	$1 \times 7 =$
<b>2.</b>	$2 \times 7 =$
<b>3.</b>	$3 \times 7 =$
<b>4.</b>	$4 \times 7 =$
<b>5.</b>	$5 \times 7 =$
<b>6.</b>	$6 \times 7 =$
<b>7.</b>	$7 \times 7 =$
<b>8.</b>	$8 \times 7 =$
<b>9.</b>	$9 \times 7 =$
<b>10.</b>	$10 \times 7 =$



# Randomize the questions

<b>1.</b>	$10 \times 7 =$
<b>2.</b>	$8 \times 7 =$
<b>3.</b>	$4 \times 7 =$
<b>4.</b>	$5 \times 7 =$
<b>5.</b>	$1 \times 7 =$
<b>6.</b>	$7 \times 7 =$
<b>7.</b>	$2 \times 7 =$
<b>8.</b>	$6 \times 7 =$
<b>9.</b>	$3 \times 7 =$
<b>10.</b>	$9 \times 7 =$

# Mixture of 6 and 7 multiplication facts

1.	$10 \times 7 =$
2.	$8 \times 6 =$
3.	$4 \times 7 =$
4.	$5 \times 6 =$
5.	$1 \times 7 =$
6.	$7 \times 7 =$
7.	$2 \times 6 =$
8.	$6 \times 6 =$
9.	$3 \times 7 =$
10.	$9 \times 6 =$

# Where can I find help?

- **[Listing the multiplication](#)**

<http://www.arcademics.com/games/grand-prix/grand-prix.html>

- **[Association of multiplication to division](#)**

<http://www.arcademics.com/games/swimming-otters/swimming-otters.html>

- **[Simple division](#)**

<http://www.arcademics.com/games/division-derby/division-derby.html>

- **[Long Division](#)**

<http://www.kidsnumbers.com/long-division.php>

# Factual Fluency games

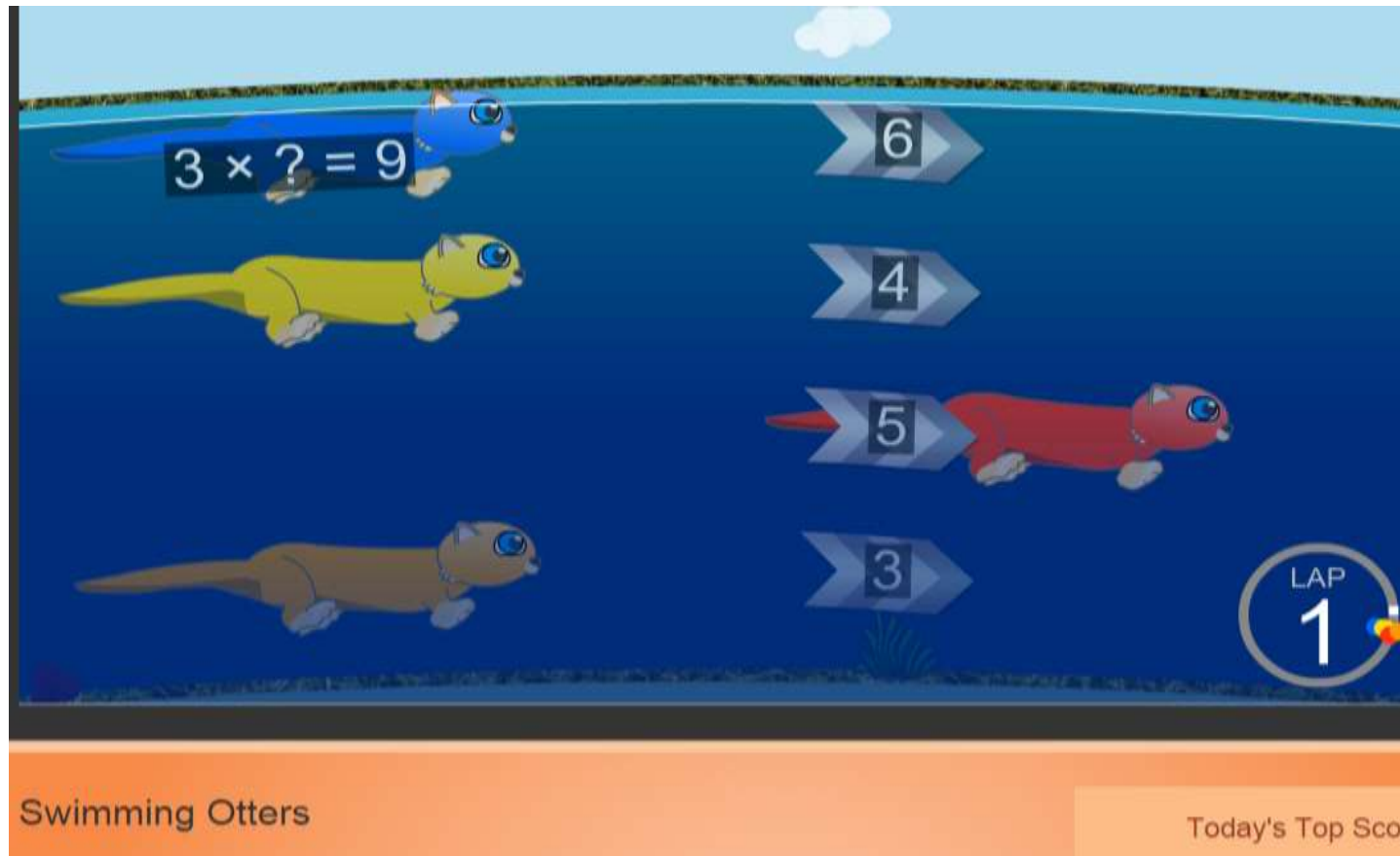
- Listing multiplication facts



The screenshot shows a game interface for 'Grand Prix Multiplication'. At the top, a grey racetrack with white dashed lines is set against a green background with stylized bushes. Four toy cars are on the track: a blue one at the top left, a yellow one at the top right, a red one in the center, and an orange one at the bottom center. Below the track is a control panel. On the left of the panel is a blue car icon with the name 'Child' underneath. To its right is a black box labeled 'QUESTION' containing the number '2' and the equation  $2 \times 2$ . Further right is a grey semi-circular button labeled 'RATE'. Below these elements are four blue buttons with the numbers '6', '1', '4', and '2' in white. At the bottom of the screen, there is an orange bar with the text 'Grand Prix Multiplication' on the left and 'Today's Top Scores' on the right.

# Factual Fluency games

- Association of multiplication to division



# Factual Fluency games

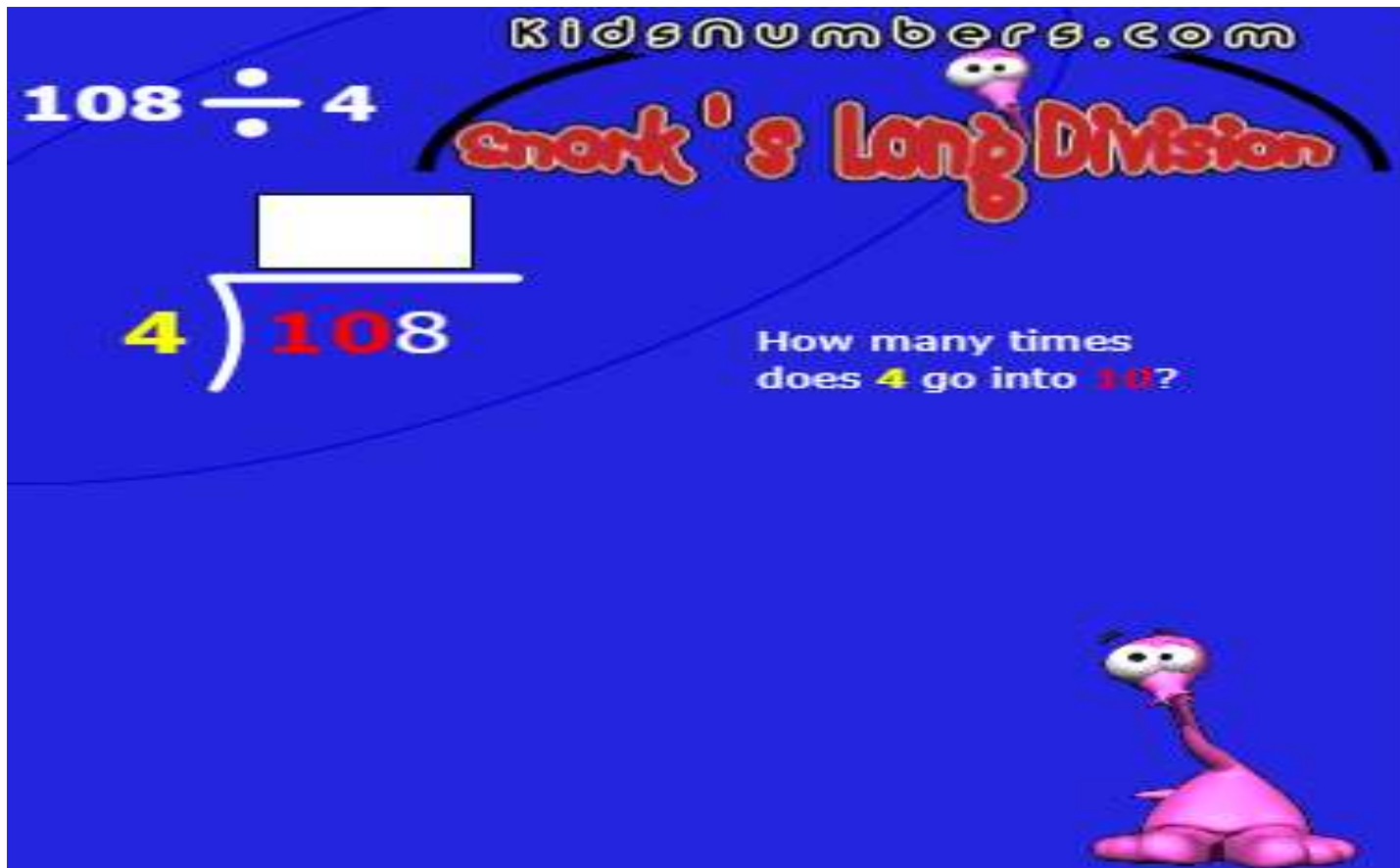
- Simple division



The screenshot shows a game interface for 'Division Derby'. At the top, there is a track with a grey oval and a small car. Below the track, several colorful, worm-like creatures (yellow, purple, blue, orange, red) are scattered on a brown field. At the bottom, there is a control panel. On the left, there is a blue horse icon labeled 'Child'. In the center, a black box displays 'QUESTION 3' and the division problem  $16 \div 8$ . Below this, there are four blue buttons with numbers: 1, 5, 8, and 2. On the right, there is a grey button labeled 'RATE' with a red arrow pointing to it. At the bottom left, the text 'Division Derby' is displayed. At the bottom right, the text 'Today's Top Score' is displayed.

# Factual Fluency games

- Long division



KidsNumbers.com

108 ÷ 4

Snork's Long Division

4 ) 108

How many times does 4 go into 10?

Snork

The image shows a game interface for 'Snork's Long Division' on KidsNumbers.com. It features a blue background with a pink alien character named Snork. The main problem is 108 divided by 4. A long division setup is shown with 4 on the left, a closing parenthesis, and 108 on the right. A yellow box is positioned above the 108. A question asks how many times 4 goes into 10. The website name 'KidsNumbers.com' is at the top, and the character 'Snork' is at the bottom right.

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# Use of concrete materials

Tom has 3 marbles.

Susie has twice as many marbles as him.

How many marbles do they have altogether?

Tom



Susie



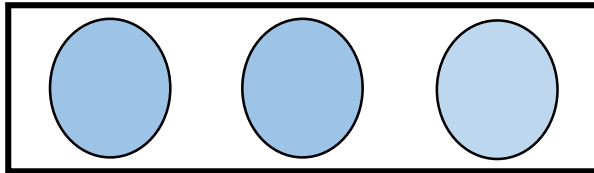
# Pictorial Representation

Tom has 3 marbles.

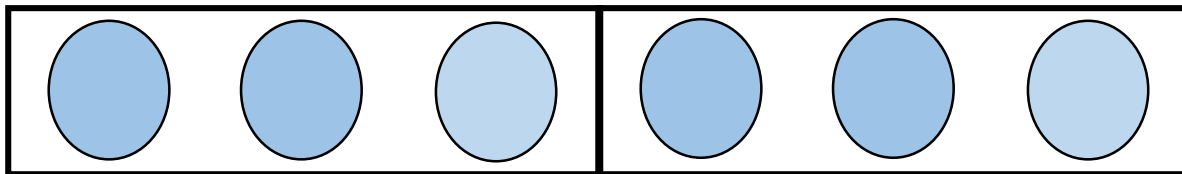
Susie has twice as many marbles as him.

How many marbles do they have altogether?

Tom



Susie



# Comparison Model (as many as)

Tom has 3 marbles.

Susie has twice as many marbles as him.

How many marbles do they have altogether?

Tom



Susie



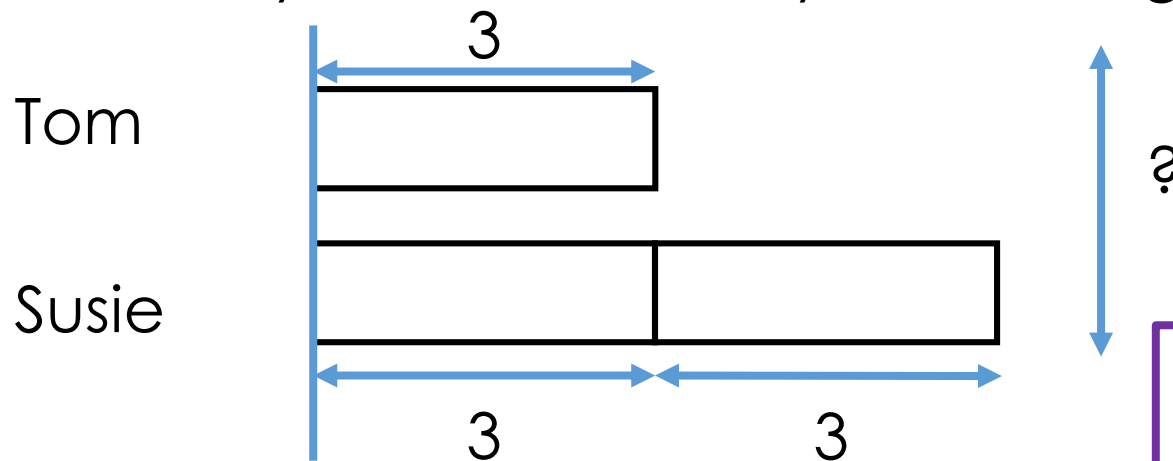
What can I do to help  
my child to better  
solve word problems?

# Comparison Model (as many as)

Tom has 3 marbles.

Susie has twice as many marbles as him.

How many marbles do they have altogether?



$\times 3$

1 unit — 3

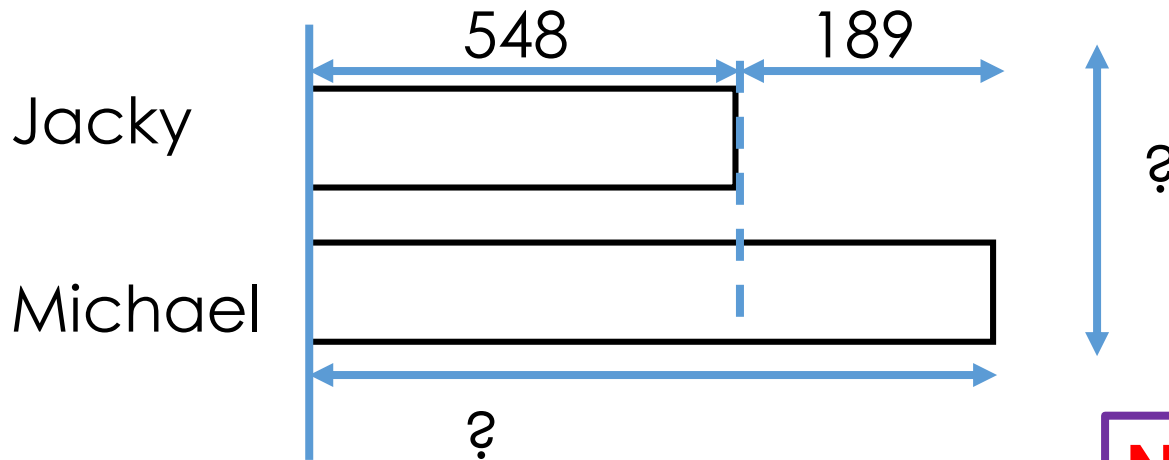
3 units —  $3 \times 3 = 9$

**N**umbers  
**T**ransfer  
**U**nit  
**C**alculation

Ans: 9

# Comparison Model (more/less than)

Jacky packed 548 packets of chocolates in a day.  
 Michael packed 189 fewer packets of chocolates than Jacky in a day. How many packets of chocolates did both of them pack altogether?



$$\text{Michael: } 548 + 189 = 737$$

$$\text{Both: } 737 + 548 = 1285$$

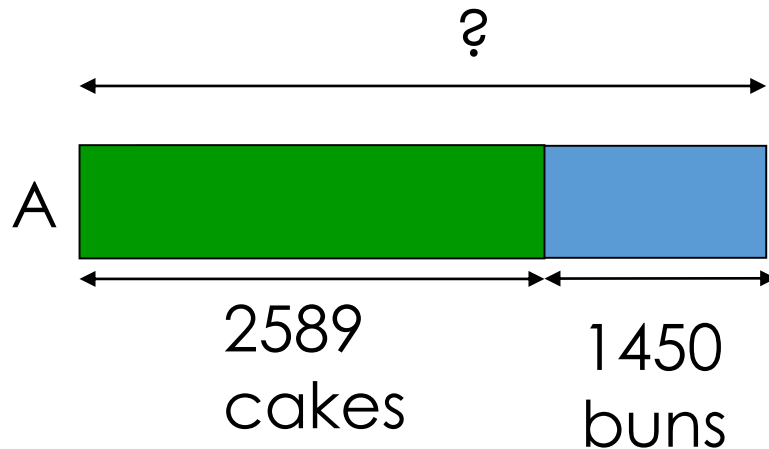
$$( M + J )$$

**N**umbers  
**T**ransfer  
**U**nit  
**C**alculation

# Part-Whole Model

Ahmad sold 2589 cakes and 1450 buns.

How many cakes and buns did he sell altogether?



$$2589 + 1450 = 4039$$

**N**umbers  
**T**ransfer  
**U**nit  
**C**alculation

Ans: 4039

# Guess and Check

There were a total of 10 cows and chickens in a farm.  
The farmer counted a total of 32 legs.  
How many cows and how many chickens were there?

No. of cows	Cow legs	No. of chickens	Chicken legs	Total no. of legs	check
5	$5 \times 4 = 20$	5	$5 \times 2 = 10$	$20 + 10 = 30$	X
6	$6 \times 4 = 24$	4	$4 \times 2 = 8$	$24 + 8 = 32$	✓



# Outline

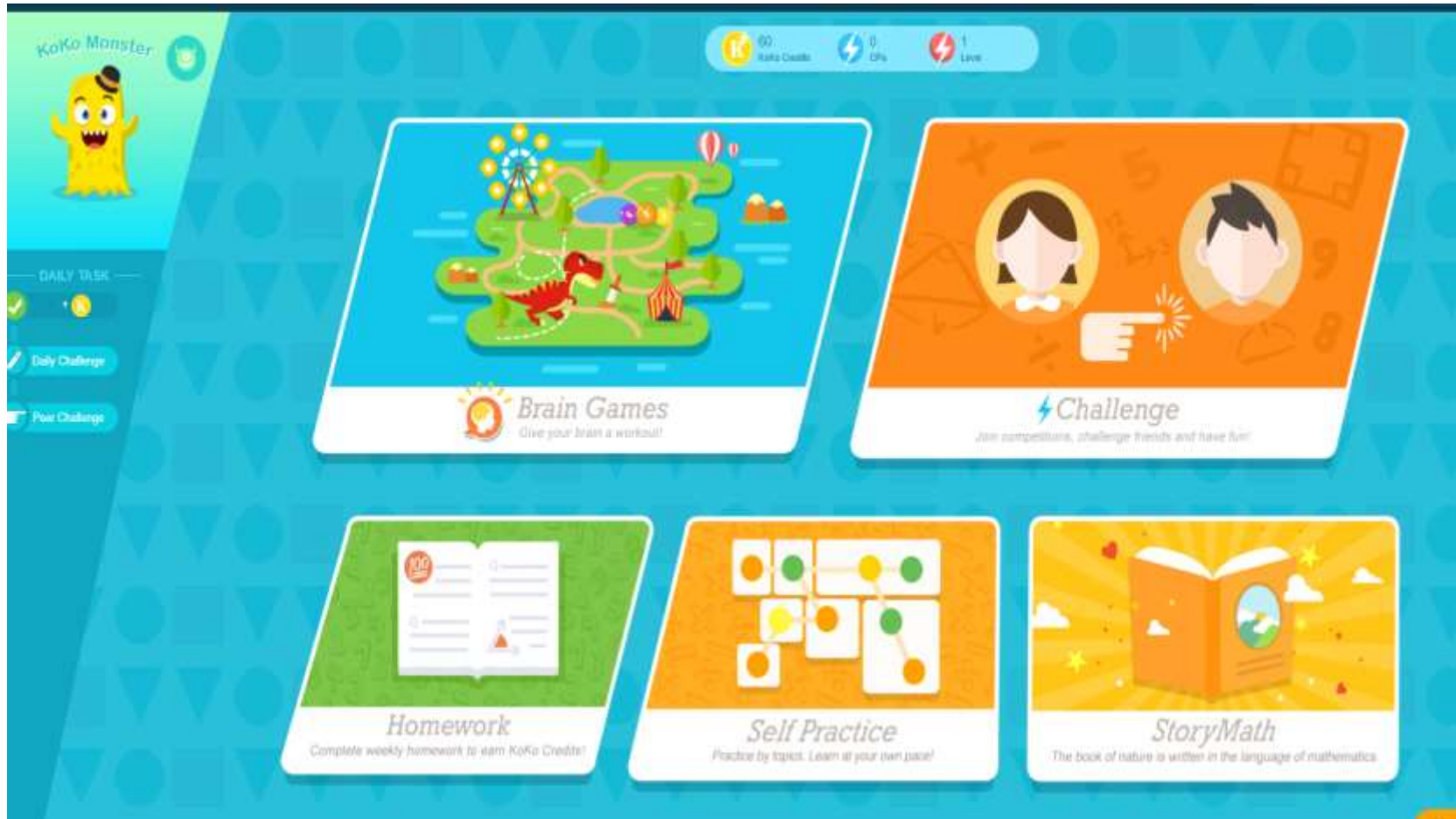
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# Koobits Portal

- <https://problemsums.koobits.com/>
- NRIC: S0912345A
- Login : pips12345a
- Password: pips12345a



# Koobits Portal



The screenshot displays the Koobits Portal interface. At the top left, there is a profile section for 'KoKo Monster' with a yellow character icon and a '35' level indicator. To the right, a status bar shows '60 KoKo Credits', '0 EPs', and '1 Live'. Below this, five main activity cards are arranged in two rows. The top row features 'Brain Games' (a green landscape with a dinosaur and a hot air balloon) and 'Challenge' (an orange card with two children's faces). The bottom row features 'Homework' (a green card with a notebook), 'Self Practice' (an orange card with a grid of colored dots), and 'StoryMath' (a yellow card with an open book). A left sidebar contains 'DAILY TASK' with 'Daily Challenge' and 'Peer Challenge' buttons.

KoKo Monster 35

60 KoKo Credits 0 EPs 1 Live

DAILY TASK

Daily Challenge

Peer Challenge

**Brain Games**  
Give your brain a workout!

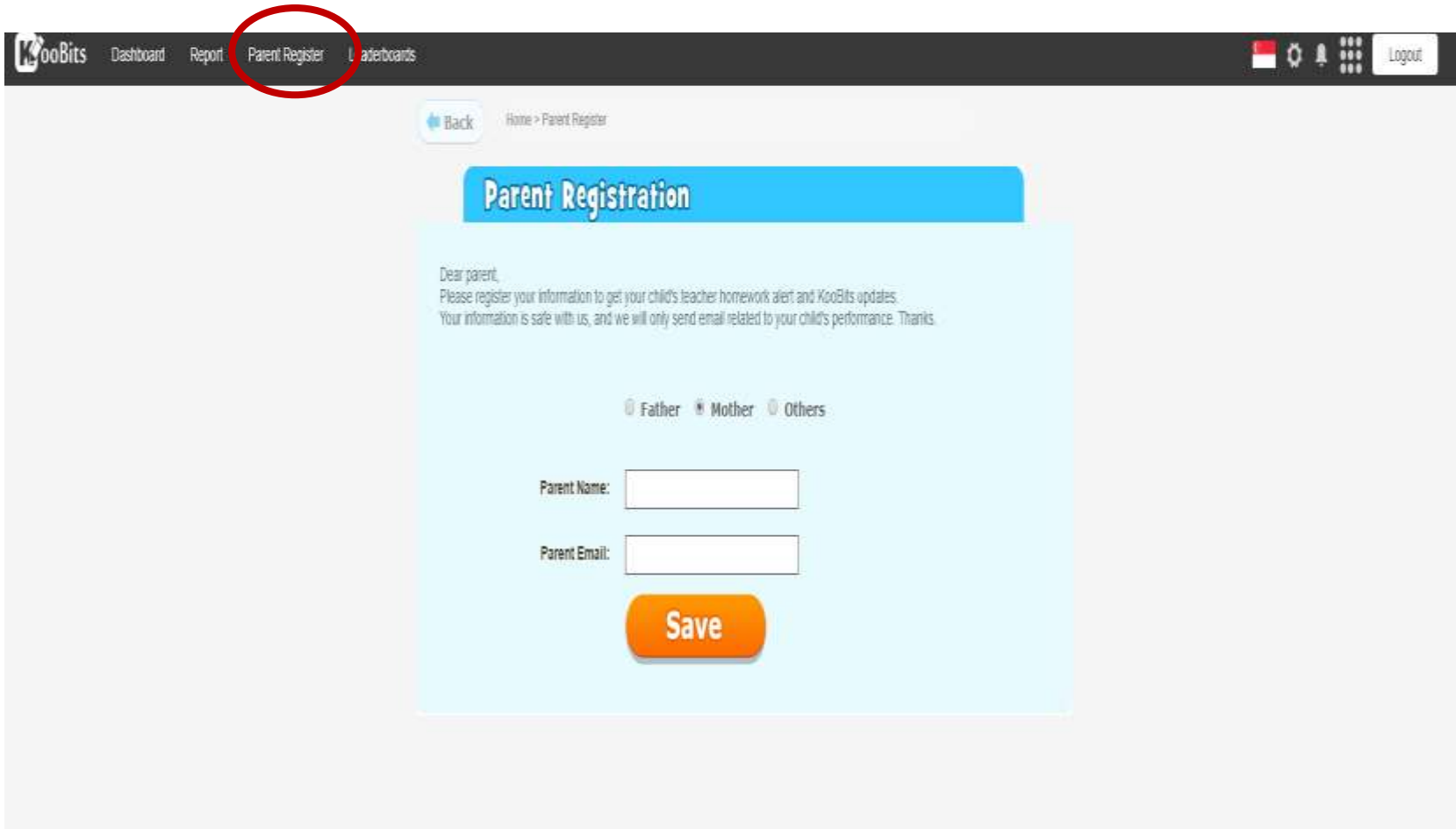
**Challenge**  
Join competitions, challenge friends and have fun!






**Homework**  
Complete weekly homework to earn KoKo Credits!

**Self Practice**  
Practice by topics. Learn at your own pace!

**StoryMath**  
The book of nature is written in the language of mathematics.

# Koobits Portal



Koobits Dashboard Report **Parent Register** Leaderboards      Logout

[Back](#) Home > Parent Register

## Parent Registration

Dear parent,  
Please register your information to get your child's teacher homework alert and Koobits updates.  
Your information is safe with us, and we will only send email related to your child's performance. Thanks.

Father  Mother  Others

Parent Name:

Parent Email:

# Koobits Portal



The screenshot displays the Koobits Portal interface for April 2018. At the top left, a button labeled "+ Create new homework" is circled in red. To its right is a link "Switch to List View". Below these, the date "Apr 2018" is shown next to a cartoon fox icon. A callout box with a fox icon says "Click the icon on the timeline to open a homework". On the right, there are dropdown menus for "2018" and "April". The main content is divided into two columns: "Assigned Homework (Homework created by your teachers and parents)" on the left, which is currently empty, and "KooBits Homework (Homework created automatically by KooBits Maths portal)" on the right. A blue arrow points from the "08-Apr" date on the timeline to the "Assigned Homework" column. The "KooBits Homework" column contains four "Incomplete" items, each with a notepad icon and a pencil icon. The items are: "KooBits Homework Apr(5) - Primary 3" with a deadline of "25-Apr"; "KooBits Homework Apr(4) - Primary 3" with a deadline of "20-Apr"; "KooBits Homework Apr(3) - Primary 3" with a deadline of "15-Apr"; and "KooBits Homework Apr(2) - Primary 3" with a deadline of "09-Apr".


+ Create new homework [Switch to List View](#)


Apr 2018  Click the icon on the timeline to open a homework

2018 ▾ April ▾

**Assigned Homework**  
(Homework created by your teachers and parents)

**KooBits Homework**  
(Homework created automatically by KooBits Maths portal)

**Incomplete**    
KooBits Homework Apr(5)  
- Primary 3  
Deadline: 25-Apr

**Incomplete**    
KooBits Homework Apr(4)  
- Primary 3  
Deadline: 20-Apr

**Incomplete**    
KooBits Homework Apr(3)  
- Primary 3  
Deadline: 15-Apr

**Incomplete**    
KooBits Homework Apr(2)  
- Primary 3  
Deadline: 09-Apr

08-Apr

# Koobits Portal

## Homework

[← Back](#)

[Home](#) > [Homework](#) > Create New Homework



Quick Creation

Start

Assign homework with one click based on the schedule of MOE curriculum



Custom Creation

Start

Assign homework by selecting specific skills and questions

# Koobits Portal

Primary 3

Problem Sums **Mechanical Sums** High Ability

Select Topic	Topic	Number of Questions
▶	<b>Numbers To 10 000</b>	0
▶	<b>Addition &amp; Subtraction of Numbers Within 10 000</b>	0
▼	<b>Multiplication &amp; Division</b>	0
	Build up the multiplication table of 6	Add Qn ▼
	Build up the multiplication table of 7	Add Qn ▼
	Build up the multiplication table of 8	Add Qn ▼
	Build up the multiplication table of 9	Add Qn ▼
	Divide to find the number of items in each group using related multiplication facts of 6, 7, 8 and 9	Add Qn ▼
	Divide to make equal groups using related multiplication facts of 6, 7, 8 and 9	Add Qn ▼
	Multiply a 2-digit number by a 1-digit number without regrouping	Add Qn ▼
	Multiply a 3-digit number by a 1-digit number without regrouping	Add Qn ▼
	Multiply a 2-digit number by a 1-digit number with regrouping in ones and tens	Add Qn ▼
	Multiply a 3-digit number by a 1-digit number with regrouping in ones, tens and hundreds	Add Qn ▼

# Koobits Portal

Primary 3

Problem Sums **Mechanical Sums** High Ability

Select Topic	Topic	Number of Questions
▶	<b>Numbers To 10 000</b>	0
▶	<b>Addition &amp; Subtraction of Numbers Within 10 000</b>	0
▼	<b>Multiplication &amp; Division</b>	0
	Build up the multiplication table of 6	Add Qn ▼
	Build up the multiplication table of 7	Add Qn ▼
	Build up the multiplication table of 8	Add Qn ▼
	Build up the multiplication table of 9	Add Qn ▼
	Divide to find the number of items in each group using related multiplication facts of 6, 7, 8 and 9	Add Qn ▼
	Divide to make equal groups using related multiplication facts of 6, 7, 8 and 9	Add Qn ▼
	Multiply a 2-digit number by a 1-digit number without regrouping	Add Qn ▼
	Multiply a 3-digit number by a 1-digit number without regrouping	Add Qn ▼
	Multiply a 2-digit number by a 1-digit number with regrouping in ones and tens	Add Qn ▼
	Multiply a 3-digit number by a 1-digit number with regrouping in ones, tens and hundreds	Add Qn ▼






# Koobits Portal

Primary 3 ▾

**Problem Sums** Mechanical Sums High Ability


Select Topic	Topic	Number of Questions
▶	Numbers up to 10 000	0
▶	Addition & Subtraction	0
▼	<b>Multiplication &amp; Division</b>	<b>5</b>
	Given total value and quantity for other notes, find the quantity for a particular note	5 ▾
	Given total quantity and number of sets, find the quantity for each set	Add Qn ▾
	Given quantity of item in a set and number of sets, find quantity in a different set	Add Qn ▾
	Given total quantity and quantity in a set, find remaining quantity	Add Qn ▾

# Koobits Portal

	Angles	0
	Perpendicular & Parallel Lines	0
	Area & Perimeter	0

Randomize questions     List questions by topic    **Total: 5**

Homework Title:

Submission deadline of this homework:  

**Create This Homework**

# Koobits Portal



The screenshot displays the Koobits Portal interface for April 2018. At the top left, there is a button labeled '+ Create new homework'. The main content area is divided into two columns: 'Assigned Homework (Homework created by your teachers and parents)' on the left and 'KooBits Homework (Homework created automatically by KooBits Maths portal)' on the right. A blue arrow points from the 'Assigned Homework' section to the 'KooBits Homework' section, with a callout box that says 'Click the icon on the timeline to open a homework'. The 'Assigned Homework' section contains one item: 'My Homework' with a deadline of '11-Apr', which is circled in red. The 'KooBits Homework' section contains five items, all marked as 'Incomplete': 'KooBits Homework Apr(5) - Primary 3' (Deadline: 25-Apr), 'KooBits Homework Apr(4) - Primary 3' (Deadline: 20-Apr), 'KooBits Homework Apr(3) - Primary 3' (Deadline: 15-Apr), 'KooBits Homework Apr(2) - Primary 3' (Deadline: 09-Apr), and 'KooBits Homework Apr(1) - Primary 3' (Deadline: 09-Apr). The interface also shows a calendar for April 2018 and a navigation bar at the bottom.

# Koobits Portal

*Self Practice*

Challenge Homework Practice

Story Math

Mechanical Summ Problem Summ High ability

Primary 3

Primary 3

10 000  
Numbers up to 10 000

Fractions Whole Numbers Measurement Geometry

Multiplication & Division Addition & Subtraction Length Area & Volume

Mass Area and Perimeter Volume

- Dashboard
- Practice
- Multiplication and division

# Koobits Portal

**Multiplication & Division**

needs improvement ●  
Incomplete ●  
[View Scoring Rules](#)

Skill	Description	Lesson	Practice	Proficiency	Correctly Answered
1	Given total value and quantity for other notes, find the quantity for a particular note	Lesson	Practice	0%	0 out of 0
2	Given total quantity and number of sets, find the quantity for each set	Lesson	Practice		
3	Given quantity of item in a set and number of sets, find quantity in a different set	Lesson	Practice		
4	Given total quantity and quantity in a set, find remaining quantity	Lesson	Practice	0%	0 out of 0

- Videos to teach your child

# Koobits Portal

P3-Multiplication and Division Skill 1 (KooBits ProblemSums)

**Question:**  
Miko puts her savings into a bag. The bag contains some \$2, \$5, and \$10 notes with a total value of \$1449. There are 82 pieces of \$10-notes and 95 pieces of \$5-notes. How many pieces of \$2-notes are there?



Miko's savings

$82 \times \$10$        $95 \times \$5$       Total value of \$2 notes

Total value of \$2 notes =  $\$1449 - \text{value of } \$10 \text{ notes} - \text{value of } \$5 \text{ notes}$

Copyright © www.koobits.com

KooBi

- Videos to teach your child the different types of problem solving heuristics

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BEHIND EVERY YOUNG  
CHILD WHO BELIEVES  
IN HIMSELF IS A  
PARENT WHO  
BELIEVED FIRST.

-MATTHEWLJACOBSON.COM

**Thank you!**