# FUN WITH MATHS - WORKING WITH 100 CHARTS

Warm Up Advice	Activity 1 Activity 2												
With your child, try the following:	1	2	3	4	5	6	7	8	9	10	Someone stole some of the numbers from the hundred board puzzle. Then they lost some of the puzzle pieces		
<ul> <li>Point to a number. Get your child to say the</li> </ul>	11	12	13	14	15	16	17	18	19	20	as they left in a hurry. Fill in the missing blocks without looking at the chart. Use the chart to check answers.		
number. • Now add 10 by counting	21	22	23	24	25	26	27	28	29	30	13		
squares. What number are you on now? Now	31	32	33	34	35	36	37	38	39	40	23 25 85		
subtract 10. • Look for addition and	41	42	43	44	45	46	47	48	49	50			
subtraction patterns. 3+9=? Now go to 23+9,	51	52	53	54	55	56	57	58	59	60			
notice? What do 15-7,	61	62	63	64	65	66	67	68	69	70	85		
<ul> <li>Cover all numbers that baye a 2 in either the</li> </ul>	71	72	73	74	75	76	77	78	79	80			
ones or tens place.	81	82	83	84	85	86	87	88	89	90			
see. • Use the chart to find:	91	92	93	94	95	96	97	98	99	100			
<ul> <li>* 3 more than 11</li> <li>* 6 less than 80</li> <li>* 10 more than 64</li> <li>* 10 less than 78</li> <li>Point to a number smaller than 20. Add 20 to this number. Add another 20.</li> <li>Choose a number. Count backwards in 5s. Then count forwards in 5s.</li> <li>Try counting in 2s, 3s, 4s. 10s and 20s.</li> <li>Then make up some</li> </ul>	Answer the question & colour the numbers on the grid • Half of 24 • 9 more than 10 • 5 tens and 6 ones • 40 + 6 = • 9 lots/sets of 5 • 10 more than 45 • 11 more than 12 • 3 more than 25						ets of e num Id 36 more less th – 3 = nore t ens ar less th t shap e?	10 plu ber be than 4 nan 93 han 70 nan 99 <b>e hav</b>	s 4 etwee 14 ) nes <b>e you</b>	en 38	Activity 3 How many numbers are there from 11 to 15? Are there 4 or 5? What about from 91 to 100? 9 or 10? What does it mean to count from one number to another? When you count, do you include the first number, or the last one, or both, or neither? Talk about this type of counting, and then make up counting puzzles for each other. Brought to you by the SA Numeracy Chair is hosted by Rhodes University & is jointly SA Numeracy Chair is hosted by Rhodes University & is jointly tunded by NUMERACY the FirstRand Foundation with the RMB fund, the Anglo American Chairman's Fund & the DST and administered by the NRF.		
examples of your own.	25, 26, 35, 36, 37 כ) 74, 75, 76, 85, 95 d) 74, 75, 76, 85, 95 e) 8, 18, 19, 28, 29, 30 f) 18, 20, 29, 39 answered correctly, you should have a cross shape										<b>AuSWERS</b> Activity 1: if all the questions are answered correctly, you should have a cross shape Activity 2: a) 13, 22, 23, 24, 33 b) 25, 26, 35, 36, 37 c) 74, 75, 76, 85, 95 d) 74, 75, 76, 75, 76		

#### FUN WITH MATHS - PYRAMIDS





Put the numbers 1 to 4 in the bottom row of the Christmas tree. They can be in any order. Add 2 numbers to get the 1 above. What order on the bottom row will give the highest possible total at the top? There is more than one possible way.

#### Dice Game:

Throw 1 dice many times. Keep adding each time to get to **exactly** 20. If your score adds to more than 20 you are bust! Start again. Variations: Add to 30, 50 or 100.

Brought to you by the SA Numeracy Chair is hosted by Rhodes University & is jointly funded by the FirstRand Foundation with the RMB fund, the Anglo American Chairman's Fund & the DST and administered by the NRF.

## FUN WITH MATHS - NUMBER FACTS

#### Warm Up Advice

With your child, try the followina:

- Say a number below 10. Ask your child to give you the number to add to it to makes 10. e.g. You say 4, child says 6
- Say a number for example: 6. Ask your child to find as many ways to make the number as possible e.g. 6+0, 3+3, 5+1 etc. For extension encourage other operations e.g. 2x3, 12÷2 etc
- Ask your child the answer to 4+6. Then ask 6+4.

Ask 7+13 and 13+7. Repeat asking reverse pairs of questions until your child notices that they get the same answer.

**ACTIVITY 1:** Find 2 numbers which add up to **10**. The numbers must touch each other. One has been done for you  $\left( \right)$ (

must touch each other. One has been done for you

**ACTIVITY 3:** Look at each sum. If the sum adds up to exactly 20, shade the box. Read the message

	0					
7+7	13+5	11+3	14+2	5+11	6+8	15+4
19+3	10+10	8+8	12+8	5+5	19+1	6+7
8+6	14+6	7+4	3+17	15+3	17+3	6+6
7+8	2+18	19+1	8+12	12+6	20+0	6+5
18+4	11+9	17+2	6+14	14+5	5+15	11+8
8+4	13+7	5+12	7+13	17+1	9+11	9+9
9+7	19+0	8+9	16+3	13+4	9+6	9+2

**ACTIVITY 4:** When you have found all the pairs of numbers in ACTIVTIES 1 & 2, see if you can find 3 or more numbers that add to 10 or 20 in different shapes.

For example:



#### Dice Games

- Throw two dice
- Add the numbers together
- Say how many more you need to make 20



answer 15 • + \

VARIATIONS:

You can use more dice and say how many to add to 25: 30: 50 or 100



## FUN WITH MATHS - WORKING WITH NUMBER LINES



### FUN WITH MATHS - MORE WORK WITH NUMBER LINES



## FUN WITH MATHS - PATTERNS (1)



### FUN WITH MATHS - MORE WORK WITH 100 CHARTS

	Activity 1 - Arrow Clues				
With your child, try the following: 1 2 3 4 5 6 7 8 9 10 Means move 1 block to the right Means move up Means move 1 block to the left Means move up	) 1 block wn 1 block				
• Have your child point to the 11 12 13 14 15 16 17 18 19 20 a) Where do you end up on the 100 chart?					
directions.					
22 and count on 3 more       21       22       23       24       25       26       27       28       29       30       e.g. 23       ⇒⇒⇒       26         37 and count on 6 more       21       22       23       24       25       26       27       28       29       30       e.g. 23       ⇒⇒⇒⇒       26					
<ul> <li>▶ 63 and count on 2 more</li> <li>■ Have your child point to the</li> <li>31</li> <li>32</li> <li>33</li> <li>34</li> <li>35</li> <li>36</li> <li>37</li> <li>38</li> <li>39</li> <li>40</li> <li>69</li> <li>69</li> <li>10</li> </ul>					
numbers as you give directions. 41 $42$ $43$ $44$ $45$ $46$ $47$ $48$ $49$ $50$					
Now try to work out the start number on this one:					
3 more than 73 51 52 53 54 55 56 57 58 59 60 77 7					
Have your child point to the					
numbers as you give directions. 61 62 63 64 65 66 67 68 69 70 b) Now make the moves and write the sum					
• 47 and count back 4 • 54 and count back 9 • 71 72 73 74 75 76 77 78 79 80 e.g. 25 → → → 25 + 3 = 28					
58 and count back 2 71 72 73 74 73 78 77 78 77 80 45 € € €					
• Have your child point to the numbers as you give 81 82 83 84 85 86 87 88 89 90 25 ↓ ↓ ↓					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $					
7 less than 20					
• 6 less than 80 Activity 2 - Number Pattern Investigations Activity 3 - Guess the secret Brought to	ACTIVITY 3 - GUESS THE SECTED BROUGHT TO YOU BY THE				
<ul> <li>Have your child point to the</li> <li>Get your child to point to 11, 22, 33, 44, 55, 66, 77, 88, 99.</li> <li>Numbers as you give</li> </ul>	number.				
directions.	$\partial 2 $				
10 more than 38 $(11 \text{ is } 1 + 1 - 2 \text{ : } 22 \text{ is } 2 + 2 - 4)$ are 2.4.6.8.10.12.14.16.18 ten's digit is one more than the	<b>4×9</b>				
10 less than 27 These are also all even numbers Rhodes	Q.				
• Get your child to point to 5, 14, 23, 32, 41, 50, Discuss what	Using only the numbers that have     University &				
<ul> <li>Have your child point to the same they notice. They may notice that you are adding 9 each been shaded, draw a circle</li> </ul>					
value as: time & the sum of the digits all equal 5. around all of the odd numbers.	CHAIR				
• Get your child to point to 7, 16, 25, 34, 43, 52, 61, 70. Notice • Which number is shaded, circled Foundation					
4 x 10c pieces and 1 x 5c what the sum of the digits equal (7). Check to see if this and is in the 5 times table? That's with the RMB tun American Chair	d, the Anglo nan's Fund & the				
piece pattern works for other set of diagonal numbers. the secret number!	the secret number! DST and administered by the NRF.				
<ul> <li>Fix soc piece and 2 x zoc</li> <li>Get your child to point to the five times table on the chart</li> </ul>					
• 4 x 5c pieces What do they notice?	Activity 3: 65				
• Do the same for the three times table.	Activity 1: a) 54, 49, 64, 94 b)45-4=41, 25+40=65, 51-30+2=23				
piece	2010/NERS				

## FUN WITH MATHS - MORE WORK WITH PATTERNS (2)

																				1	
1	2	3	4	5	6	7	8	9	10	ACTIVITY 1: Get your	AC.		4: Allov	v vour (	child	MATO	HSTIC	K PUZZ	LE <b>∄</b>	SQAURE PUZZLE:	
11	12	13	14	15	16	17	18	19	20	child to shade in the	to e	explore	other	numbe	er	Move	3 ma	tches s	ю <sup>0</sup> . Т		1
21	22	23	24	25	26	27	28	29	30	multiples of 2 on the	e patterns on the charts to the that you make 6										
31	32	33	34	35	36	37	38	39	40	100 chart.	left.	left. For example 7, 8, 9 & 11 squares 듯 응									
41	42	43	44	45	46	47	48	49	50	Mark the multiples of	time	es tabl	es dep	ending							
51	52	53	54	55	56	57	58	59	60	3 with a cross.	their level. 중 문										ĺ
61	62	63	64	65	66	67	68	69	70	Discuss what they	AC	ΤΙνιτγ	<b>5:</b> Ask y	our ch	ild to		1	1	Htp: vzle		
71	72	73	74	75	76	77	78	79	80	notice about the	put	their f	inger o	n 14, th	nen				///w//		1
81	82	83	84	85	86	87	88	89	90	pattern.	add	d 10 ar	nd adc	1 10 an	a ada			_	- Hick	How many squares c	can
91	92	93	94	95	96	97	98	99	100		IU.	Do t	nis rep	eatear	y with				_pu	you see?	
											Wh	ereni s	hove		ers.				arnir zzle	HINT: there are more	; than
											VVII	araor	neync	nce.					ng-	9	
1	2	3	1	5	6	7	8	0	10		AC	TIVITY	5: Find	the po	atterns	for the	e missir	ng num	nbe. <sup>3</sup>	ACTIVITY 5 SOLUTION	
	12	13	14	15	16	17	18	10	20	ACTIVITY 2: On this	со	mplete	e grid					-			
21	22	23	24	25	26	27	28	29	30	square, shade in the					40	4 5	4.0			66 97 27 89 <del>4</del> 9 09	
31	32	33	34	35	36	37	38	39	40	multiples of 5. Circle the multiples of 10. Discuss the patterns.					12	15	18				
41	42	43	44	45	46	47	48	49	50							20				69 <b>74 64 66 66 75</b> 70 70	
51		53	.54	55	.56	57	.58		60							20				69 87 07 78 77 91	8
61	62	63	64	65	66	67	68	69	70				10	15	20					14 32 to 1	4
71	72	73	74	75	76	77	78	79	80		Adc			15	20					30 33 36 33	+
81	82	83	84	85	86	87	88	89	90		apte		12				22	36	30	10 12 <b>30</b> 32 31	<i>.</i> ς
91	92	93	94	95	96	97	98	99	100								55	50	39	8 <b>30</b> 50	
											m		11							9 0 1 <b>5 12</b> 18 51 54	3
						1					BEA.									PUZZLE SOLUTIONS	
1	2	3	4	5	6	7	8	9	10	ACTIVITY 3: shade the	N E	8		24							T_T
11	12	13	14	15	16	17	18	19	20	multiples of 4 and	duc	0		27						of sqaures:	1=1+0+6
21	22	23	24	25	26	27	28	29	30	mark the multiples of	atio										-
31	32	33	34	35	36	37	38	39	40	6 WITH C CROSS. DISCUSS	D										_
41	42	43	44	45	46	47	48	49	50	bayo markod twico					51	58				SA Numeracy Chair is	;
51	52	53	54	55	56	57	58	59	60	These are multiples of					51	50				hosted by Rhodes	27
61	62	63	64	65	66	67	68	69	70	both four & six.									89	funded by the FirstRand	<b>X</b> 0
71	72	73	74	75	76	77	78	79	80										07	Foundation with the RMB fund, the Anglo	
81	82	83	84	85	86	87	88	89	90						68		76		99	American Chairman's SA	
91	92	93	94	95	96	97	98	99	100						00		70		"	administered by the CHAIF	.KACY {
																				NRF.	

# FUN WITH MATHS - MATHS GAMES WITH PLAYING CARDS

This week we focus on using playing card games to strengthen number facts to 10 and 20. **Why card games?** Games can be played at home and shared with other members of the family, allowing your child to practice maths skills in a fun way.

#### **PYRAMID GAME**

Play on your own or take turns with a friend You need: 1 pack of cards Layout: 15 cards FACE UP as shown All picture cards = 10, Ace = 1



- The aim of the game is to remove as many cards from the pyramid as possible. Only cards that are "free" (not covered by other cards) may be used.
- Keep the rest of pack face up on the table
- Look for pairs of cards in the pyramid or on top of the pile that make 10. Remove these from the pyramid or the pile and put to one side.
- Keep looking for free cards that make 10. If you cannot find any in the pyramid, turn over 1 card from the pack. The pack can be used with cards from the pyramid to add to 10.

#### VARIATIONS: See panel to the right

acts to 10 and 20. Why card games?	
amily, allowing your child to practice m	aths skills in a fun way.
<ul> <li>TEN!</li> <li>Play on your own or with a friend.</li> <li>You need: 1 set of playing cards.</li> <li>Take out Jokers and picture cards.</li> <li>Place 12 cards FACE UP in 3 rows of 4 like this:</li> <li>Take turns removing a pair or group of cards that add to 10. For example, you can choose a 7 and a 3; or a 3, an Ace, a 1 and a 4. You can also choose a 10.</li> <li>Each player keeps the removed cards.</li> </ul>	<ul> <li>PYRAMID GAME VARIATIONS:</li> <li>Bonds to 11: find pairs that add to 11.</li> <li>Bonds to 12: find pairs that add to 12.</li> <li>Bonds to 13: King = 13, Queen = 12, Jack = 11, Ace = 1. find all pairs that add to 13.</li> <li>Make up your own variations by adding to other numbers eg 20, 30 etc</li> <li>Add another row to the bottom of the pyramid</li> </ul>
<ul> <li>Fill in the spaces with new cards from the deck</li> <li>Play continues until no more sets of ten can be formed.</li> <li>The winner is the player who has the most cards at the end.</li> </ul>	<b>Brought to you by</b> the SA Numeracy Chair which is hosted by Rhodes University & is jointly funded by the FirstRand Foundation with the RMB fund, the Anglo American Chairman's Fund & the DST and administered by the NRF.
If you are playing alone, see what is the highest number of cards you can get in a game.	SA NUMERACY

CHAIR

## FUN WITH MATHS - MATHS GAMES WITH PLAYING CARDS (2)

This week we focus on playing card games that strengthen addition strategies and skills.

#### **FLIP OUT**

Skill: Efficient addition strategies Players: play with friends (2 to 4) You need: 1 Deck of cards per player (or equal parts of a deck each), scrap paper & pencil Picture cards = 10, Ace = 1

- Each player shuffles his/her deck and lays it FACE DOWN
- A timer calls out, "Go!" and times 1 minute.
- Each player flips over one card at a time and calculates a running total of the values on the cards.
- After one minute the person keeping time shouts "Stop!" •
- Players write down their total

e.g. 32 for this set: 1 + 4 = 5; 5 + 10 = 15; 15 + 3 = 18; 18 + 10 = 28; 28 + 4 = 32



- Players check each others totals. •
- The winner is the one with the highest total. You cannot win if your total is wrong.

#### ADD 5 CARDS

Skill: 1 & 2 digit addition and addition strategies

- Work with a friend using 1 pack of cards. King = 13, Queen = 12, Jack = 11, Ace = 1
- Deal out 5 cards face up as shown
- Both players add up the values of the cards. For this example the tota would be 31
- Check each other's totals and discuss the strategies used to add
- Play again with 5 new cards ٠
- VARIATIONS: Use less cards for younger players or take out picture cards



#### drills.com/addition.shtml#Games

#### Brought to you by

the SA Numeracy Chair which is hosted by Rhodes University & is iointly funded by the FirstRand Foundation



with the RMB fund, the Anglo American Chairman's Fund & the DST and administered by the NRF.

You can change the time depending on the players abilities.

Math Games

