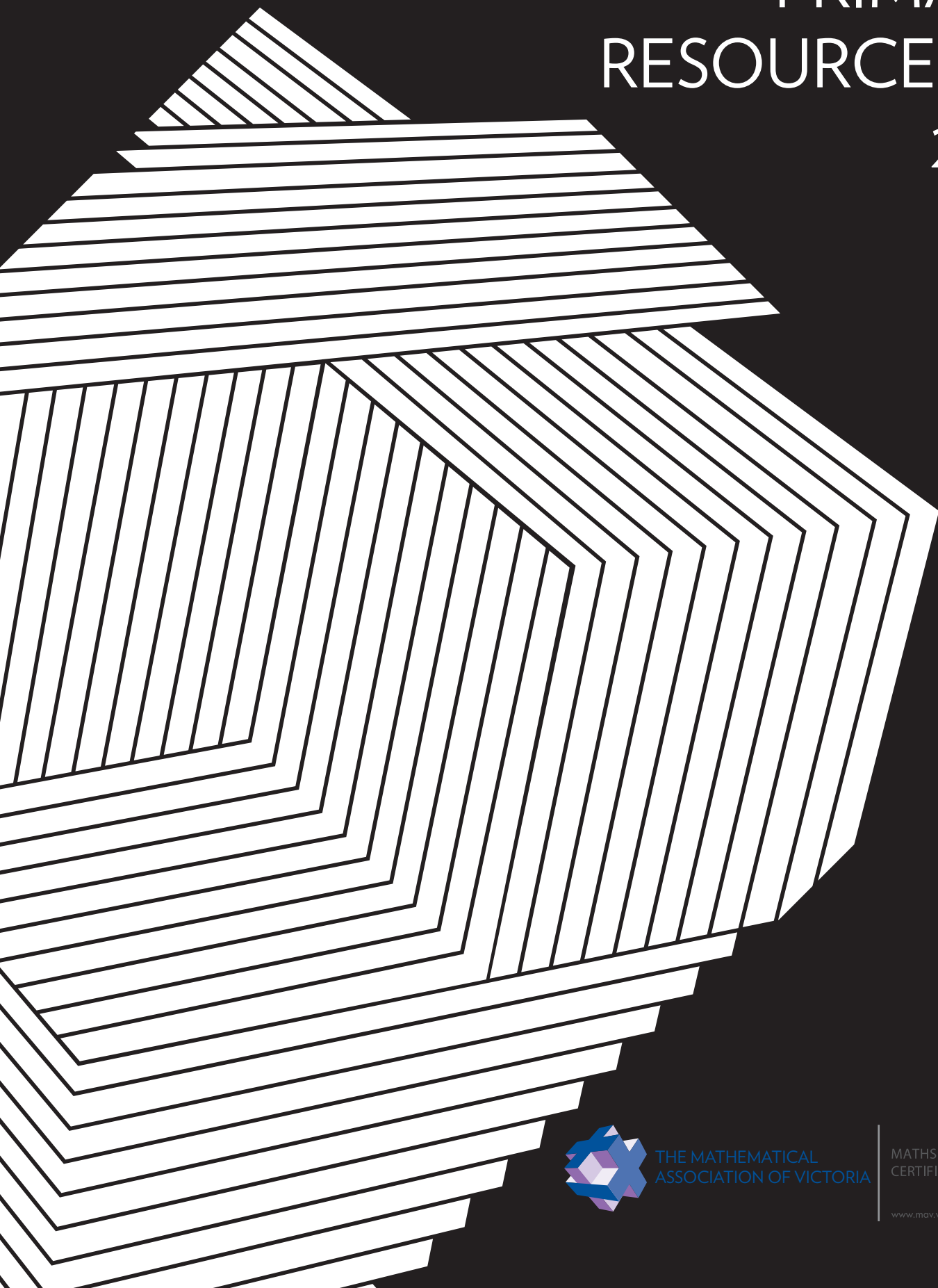


MATHEMATICS ACTIVE SCHOOLS PRIMARY RESOURCE KIT

2014

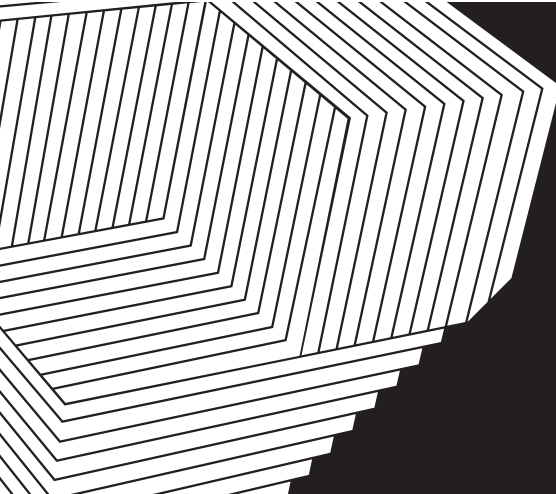


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10 CHALLENGES FOR PRIMARY STUDENTS

Consider including one challenge in each edition of your regular school newsletter. Parents and students can work to solve the challenges together, this helps to promote mathematics learning in the home environment.

MATHS CHALLENGE 1: TARGET NUMBER

Take it in turns with your partner to write down any two-digit number. You could use playing cards to randomly select one. Then together with your partner, using any one of the four operations (addition, subtraction, multiplication, division) create a list of as many different ways to get to the target number.

Example: Target number 20

$$10 + 10 = 20$$

$$50 - 30 = 20$$

$$5 + 5 + 5 + 5 = 20$$

$$4 \times 5 = 20$$

Extension: Use more than one process

Example: Target number 20

$$(2+3) \times 4 = 20$$

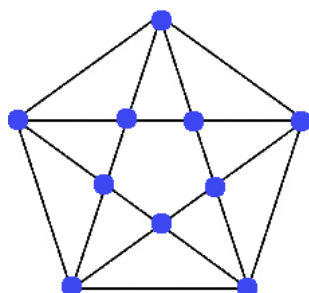
$$(90 + 10) \div 5 = 20$$

MATHS CHALLENGE 2: YOUR WEIGHT

Weigh yourself and each family member. Find another object/s in the house that weighs the same amount as each family member. You can use multiple objects if you wish.

MATHS CHALLENGE 3: PENTAMIN

Place one counter on each spot. Players, in turn, remove one counter or two adjacent counters. 'Adjacent' means that they are connected by a line and there are no other counters in between. The winner is the player who picks up the last counter or the last two counters.



<http://nrich.maths.org/>

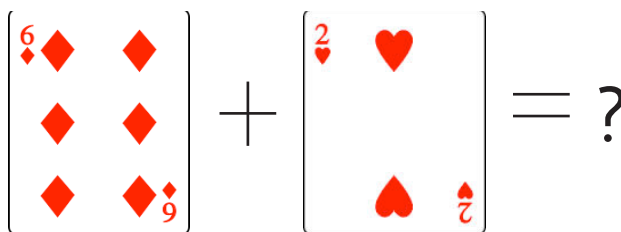
MATHS CHALLENGE 4: CARDS FOR FUN

Take an A4 piece of paper. Fold it into eighths and cut each piece out. On two pieces place a '+' sign, on two more a '-' sign, on two more a 'x' and on the last two a '÷' sign. (With students in the younger years you may like to stick with addition and subtraction.)

Next take a pack of cards and remove the picture cards.

Place the number cards in a pile face down and place the operation cards you created earlier face down next to the pile of cards.

1. First turn over one number card and place it on the table in front of you.
2. Next turn over an operations card and place it next to the number card.
3. Lastly turn over another number card and place it next to the operations card. Now you have created a sum, solve it.



Extension

- Add another process and another number card.
- Turn two number cards over to make a two-digit number then an operations card before turning two more number cards.

MATHS CHALLENGE 5: TELLY TIMETABLE

Create a timetable showing when your family's favourite TV shows are on.

Extension: Include headings or colour coding on your timetable to show each family member, time, and day of the week.

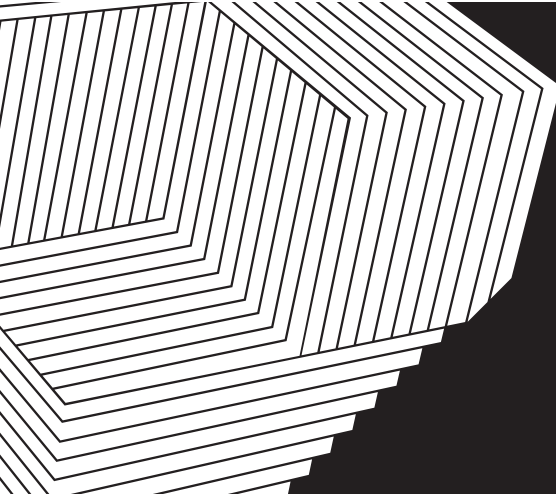


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MATHS CHALLENGE 6: PADDOCKS

Using an empty grid of dots, players take turns adding a single line joining two unjoined dots together. The player who draws the 4th line of a box, places their initial in the box and has another turn. Play finishes when all dots have been joined and all boxes have been formed. Tally the number of boxes each player has created. The winner is the player who has completed the most boxes.

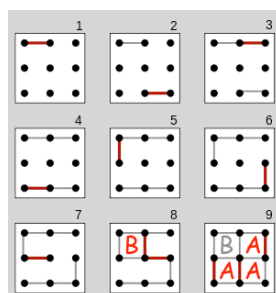


Image: http://en.wikipedia.org/wiki/Dots_and_Boxes

MATHS CHALLENGE 7: BUILD-A-THON

Get out Lego, blocks or any building type equipment.

- Using the equipment you have, construct a building. It could be a bridge, tower, fort, castle etc.
- Take a photograph of the building you have created.
- Knock down your building
- Ask someone else to rebuild the same building using the photograph to help them.

Note: You may want to take several photographs from different perspectives.

MATHS CHALLENGE 8: TWO DICE

Roll two dice and add up the numbers on the top. What other totals could you get if you roll the dice again? Create a table to find all of the answers.

Extension: Roll three dice and add to form the totals – 3 to 18.

MATHS CHALLENGE 9: COOK OFF

Decide on a recipe to cook. You may do the cooking or you may be getting an adult to do the cooking.

Using a stop watch (on your phone, computer or watch), record how long it takes to do each step of the cooking process. You may create a table to show your recordings.

Example:

Get out the ingredients - 45 seconds

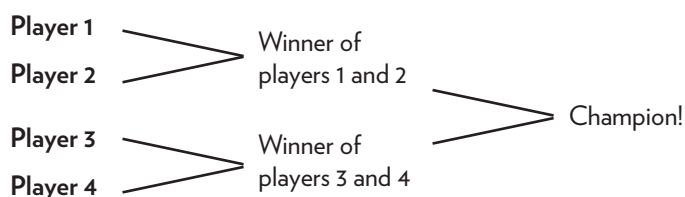
Spread the butter on the sandwiches- 10 seconds

Cut up cheese and place on the sandwich- 26 seconds

MATHS CHALLENGE 10: NOUGHTS & CROSSES

Create a Noughts and Crosses championship for all of your family members to participate in. Decide on how many games each pair of players needs to play and who they may play next.

You could create your own tree diagram like the one below.

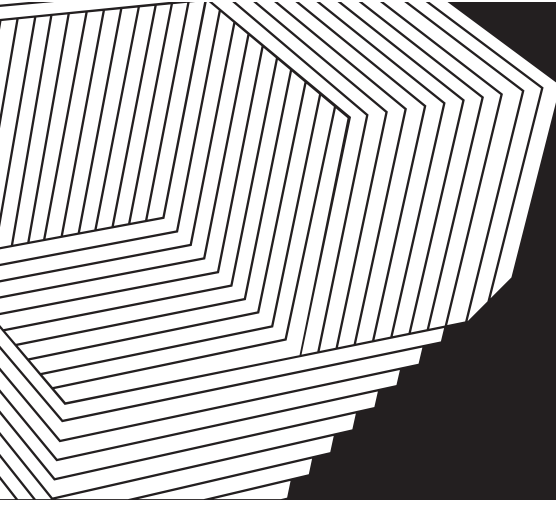


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FOUR KEY WAYS TO PROMOTE NUMERACY IN THE HOME

BE SUPPORTIVE

- Encourage a positive attitude towards all learning.
- Keep in mind that you are your child's most important role model.
- Spend as much time helping your child with mathematics as you do reading, writing or sports.
- Keep positive about mathematical experiences.

LISTEN

- Listen to the way in which your child sees the world.
- Discuss your child's methods of solving problems and if an error has occurred redirect them without saying it is wrong.
- Notice the way your child solves a problem and share with them the way you may have solved the same problem.
- Assist your child with their understandings rather than telling them rules.
- There is no right or wrong way to solve a problem as long as the process is a logical and thoughtful one.

PLAY

- Through play children will develop an enjoyment for mathematics.
- Children develop numeracy, logic skills and number sense through play.
- Share mathematical puzzles and games. For example Monopoly, Jenga, LEGO, blocks, Yahzee, Uno, Snakes and Ladders, Guess Who etc. Or play Old Granny, Go Fish, Poker, 500, Spoons or Snap.
- Take time together to play in the sand pit, complete puzzles, draw, create with play dough, construct paper aeroplanes and build with LEGO.

IN THE EVERYDAY

- Think about the everyday activities that you do that involve mathematics. Highlight the mathematics in these tasks with your child. These simple everyday tasks may take place in the kitchen, bathroom, in the garden or on your journey to school. Some examples are listed below.

COUNT

- Anything – pegs, pasta
- Forwards and backwards
- By 1's, 2's, 5's, 10's - etc.

MEASURE

- Anything - you can use formal measurement (eg measuring tapes) or informally.
- Informal measurement, how many steps, how many blocks, which is the heavier item, which is the smallest or biggest.

TIME

- Use time related words: next, then, before,
- Use words to describe the passing of time: tomorrow, yesterday, next week
- Measure time: 'in one minute we will be going', 'the pasta boils for 10 minutes'
- Sequence events such as 'at 8.45am we are leaving for school' 'at 1.00pm we are going out to...'
- Provide analogue and digital watches and clocks for your child.

FURTHER RESOURCES

- Department of Education and Early Childhood Primary Pages.
- 201 Literacy and Maths Tips to Help Your Child.
- NRICH Enriching Mathematics, rich.maths.org.

