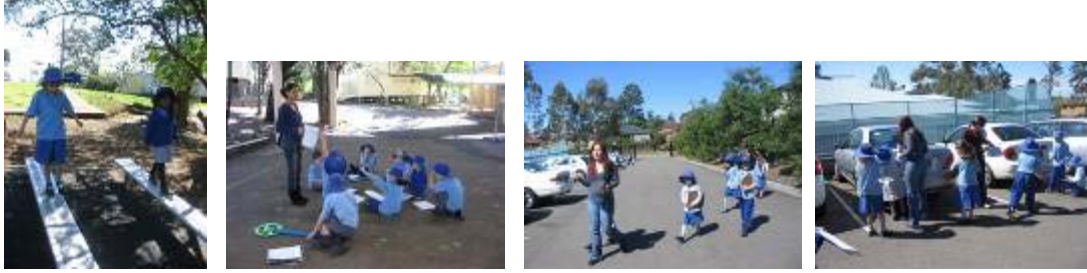


## National Literacy and Numeracy Week 2009 Project Report

<b>Project title:</b> Maths Trails
<b>Project description:</b> Each Stage has prepared a "Maths Trail" around our school site. Various tasks, across all strands of mathematics, are completed at each checkpoint and recorded.
<b>Person responsible for project:</b> Clare Moore
<b>School, region, diocese:</b> Seven Hills North Public School
<b>Contact person's email:</b> <a href="mailto:clare.moore@det.nsw.gov.au">clare.moore@det.nsw.gov.au</a>
<b>Number of students, teachers, parents, other community members directly involved:</b> <ul style="list-style-type: none"><li>All 8 classes across the four stages (185 students); 8 teachers; 2 student teachers; 6 parents to assist the kindergarten class.</li></ul>
<b>Intended literacy and/or numeracy outcomes:</b> <ul style="list-style-type: none"><li>Participation in a range of practical activities at different stage levels, in small groups with parents and teachers</li><li>Explore our unique school site from a different perspective.</li><li>Correlate classroom learning with real life situations.</li><li>Encourage a positive attitude to mathematics.</li><li>Work co-operatively in a small group.</li><li>Share results within stages</li></ul>
<b>Evidence of achievement of intended literacy and/or numeracy outcomes:</b> <ul style="list-style-type: none"><li>All classes completed the relevant trails for their stages. The children had to record relevant data on worksheets as they completed each part of the trail.</li><li>The tasks required the students to view our school site from a different perspective and complete a mathematical activity.</li><li>Each class completed the tasks at different times during the week to be able to use all the equipment. The children had been shown how to use each piece of equipment previously and then had to apply it in a real situation.</li><li>The students worked in small groups. Stage 3 students worked in pairs to complete the tasks.</li><li>One student (year2) wrote on her worksheet - "This is the best maths sheet I've ever had!" Her mother told me that she had thoroughly enjoyed the activities and the message was unsolicited.</li><li>A teacher who is new to our school this year reported that it was a great activity and her whole class really enjoyed the trail.</li><li>The classes compared results later in the classroom. Most tasks sheets required graphs to be completed back in the classroom with data that was gathered.</li></ul>
<b>Other information:</b> The photos are of the kindergarten children completing the tasks with parental assistance, year 6 students assisting and a year 1 group with their class teacher (second photo).

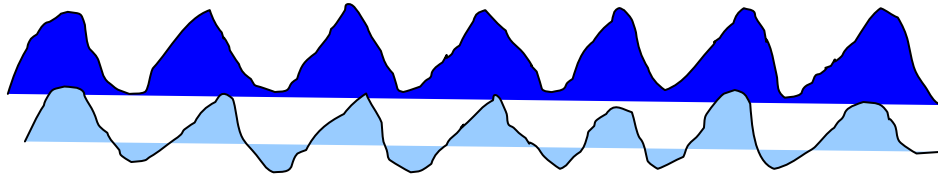


**Feedback about making grants available for such projects:** The whole school community appreciated the opportunity to purchase class sets for 5 areas of measurement and have the necessary quantity of equipment for the whole class to participate on activities at the one time. The material is going to be well used in the future as it is being stored as a whole class set.

The trails were designed by the teachers of each stage as part of our professional development and refining the trails is going to be an ongoing process.

Thank you for the opportunity to participate in National Literacy and Numeracy Week.

# Maths Trails



@ Seven Hills North

## EARLY STAGE ONE

STARTING POINT: Outside Library

END POINT: Bubblers outside

toilets

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Use your map to find your way along the trail.

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1. How many rails are there on the locked gate near the library?  
\_\_\_\_\_
2. How many tall plants are there in the garden next to the COLA steps?  
\_\_\_\_\_
3. How many steps are there up to the COLA?  
\_\_\_\_\_
4. Look at the cars in the teachers' car park. Tally the colours of the cars.

Colours	Tally
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Graph the colours of the cars when you get back to your room.

Add up the numbers on each number plate.

How many add to less than 10? \_\_\_\_\_

How many add up to more than 10? \_\_\_\_\_

5. Go to the COLA.  
How many poles are there under the COLA?  
\_\_\_\_\_  
How many fence panels are there under the COLA?  
\_\_\_\_\_  
How many dots are there in each row at class lines?  
\_\_\_\_\_
6. Go to the wooden classroom building (Boardroom).  
How many steps does it take to walk around the perimeter of the handball courts? \_\_\_\_\_

How many halves are there on the handball court?

\_\_\_\_\_

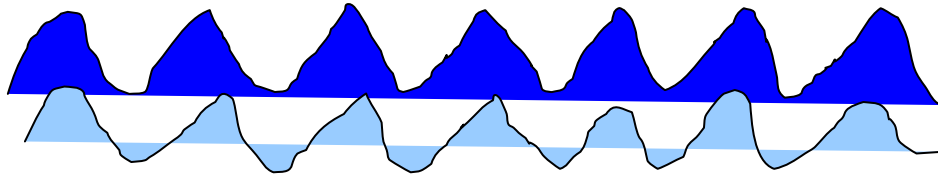
How many quarters are there on the handball court?

\_\_\_\_\_

7. Go to the hopscotch game.  
Read the numbers out loud.  
Place a dead leaf on number 5.  
Look around the front garden - find :
- the tallest tree.
  - the shortest tree.
  - the widest tree.
  - the narrowest tree.
8. Walk to the Hall (SHNOOSH).  
Use a five minute timer and :
- Count the number of trucks that go past. \_\_\_\_\_
  - Count the number of cars. \_\_\_\_\_
  - Count the number of buses. \_\_\_\_\_
  - Count the number of vans. \_\_\_\_\_
  - Count the number of bikes. \_\_\_\_\_
  - How many compost bins are there behind the hall?  
\_\_\_\_\_
9. Go to the oval. How many black fence \_\_\_\_\_ panels are there  
at the side of the oval.
- \_\_\_\_\_
10. Go to the silver seats under the mulberry tree.
- How many steps does it take to walk along a silver seat?  
\_\_\_\_\_
  - How many silver seats are there? \_\_\_\_\_
  - Draw how the seats are positioned.. \_\_\_\_\_
11. Walk back to the bubblers outside the toilets.
- How many letters altogether in the words BOYS and GIRLS?  
\_\_\_\_\_
  - How many bubblers are there? \_\_\_\_\_

Well done.

# Maths Trails



@ Seven Hills North

## STAGE ONE

STARTING POINT: TOP OVAL  
END POINT: TEACHERS CAR PARK

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Use your map to find your way along the trail.

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5. Get a stopwatch.

How many minutes does it take to walk around the oval?

\_\_\_\_\_

How many seconds? \_\_\_\_\_

How many steps does it take to walk around the oval?

\_\_\_\_\_

Form groups of three. Lying down on the grass (if it is dry) make different 2D shapes using your bodies. How many shapes did your group make?

\_\_\_\_\_

How many bodies does it take to lay across the oval from one tree to the fence? \_\_\_\_\_

Estimate the length of the oval in metres.

\_\_\_\_\_m

Then measure with a trundle wheel. How many metres long is the oval?

\_\_\_\_\_ m

Pick on tree on the oval. Estimate the height that tree?

\_\_\_\_\_

6. Go to the Sandpit.

a. Takes turns to jump into the longjump pit. Measure your jump with a measuring tape.

b. How far did you jump? \_\_\_\_\_

c. Using scales, make timers using sand.

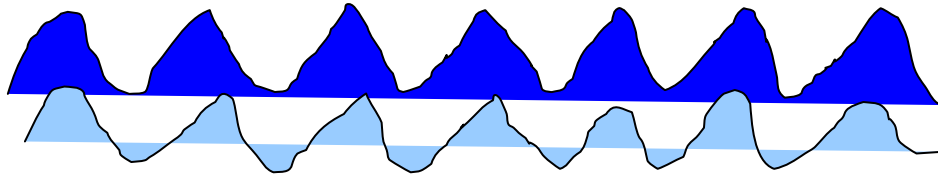
7. Go to the cricket nets.

a. How many students does it take (standing in single file) to fill the length of the cricket pitch?

\_\_\_\_\_

- b. Use a tennis ball. How far can you throw the ball inside the nets?  
\_\_\_\_\_ m.
8. Go to the Playground Equipment.
- How many 3D shapes can you see? \_\_\_\_\_
  - Tally the different shapes.
  - Make a graph of the 3D shapes when you go back to your room..
  - How many poles and rings altogether in the playground equipment area? \_\_\_\_\_
  - How many parallel lines can you see in the playground equipment area? \_\_\_\_\_
9. Go to the COLA.
- How many dots area there altogether in class lines? \_\_\_\_\_
  - How many square metres of newspaper does it take to cover a handball court? \_\_\_\_\_
  - How many 2D shapes can you find under the COLA?  
\_\_\_\_\_
10. Go to the Teacher's Car Park.
- How many cars are parked in the car park? \_\_\_\_\_
  - How many wheels are there altogether? \_\_\_\_\_
  - How many windows are there altogether? \_\_\_\_\_
  - Graph the colours of the cars when you go back to your room.
  - Measure the length and width of one car space.  
\_\_\_\_\_m x \_\_\_\_\_m

# Maths Trails



@ Seven Hills North

## STAGE TWO

STARTING POINT: OUTSIDE FRONT OFFICE  
DOOR.

END POINT: Lower Courtyard

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Use your map to find your way along the trail.

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11. Go to the office door. Look at the clock in the window.  
- Write the analog time in digital form. \_\_\_\_\_
12. Go to the courtyard ramp.  
How many dots are there on the first black mat at the start of the courtyard ramp? \_\_\_\_\_
3. Go to the Teacher's Car park.  
- Tally the colours of the cars and use Microsoft Excel (when you return to your room) to graph the results.

<u>Colour</u>	<u>Tally</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

- How many parallel lines are there on both large gates at the car park entrance. \_\_\_\_\_

- How many tyres altogether in the car park? \_\_\_\_\_

4. Go to the COLA.  
- How many yellow vertical / perpendicular poles are holding up the COLA?  
\_\_\_\_\_

- Estimate the perimeter of the netball court.

My estimate is \_\_\_\_\_ metres.

13. Measure (using a trundle wheel) the perimeter of the netball court. Answer = \_\_\_\_\_ metres.

14. List the names of all the 2D and 3D shapes you can see under the COLA.

2D shapes

3D shapes

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

- Stand in the middle circle of the netball court. Using a compass answer these questions...
- In which direction is SHNOOSH?  
\_\_\_\_\_
- In which direction is the Library?  
\_\_\_\_\_
- In which direction is Seven Hills Rd?  
\_\_\_\_\_

15. Walk to the back of the Clothing Shop.

- Name the shape of the air conditioner on the back wall.  
\_\_\_\_\_  
\_\_\_\_\_

- Name the shape of the compost bin under the air conditioner.  
\_\_\_\_\_

16. Walk to the rear of the old wooden classroom building.

On the concrete pathway:

- How many quadrilaterals on the pathway? \_\_\_\_\_
- How many pentagonal shapes on the pathway? \_\_\_\_\_

17. Go to the handball courts near the steps of the Boardroom.

- a. Using a square metre of newspaper as a template – measure the surface area of the four handball courts in square metres.

Answer = \_\_\_\_\_

18. Walk to the front of the Clothing Shop. Name all the 2D shapes you can see on the front wall.

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19. Walk to the Hopscotch game. What is the total of all the numbers added together? \_\_\_\_\_

20. Walk to the signpost near SHOOSH. Use string and a ruler to measure the circumference of the post.

Answer in centimetres = \_\_\_\_\_ cm

Using a compass – what direction, from the signpost, is ...

- the longjump pit \_\_\_\_\_
- the clothing shop \_\_\_\_\_
- the canteen \_\_\_\_\_
  
- \_\_\_\_\_
- the teachers' car park \_\_\_\_\_
- the school office \_\_\_\_\_

11. Walk to the SHNOOSH building. How many 3D shapes are attached to the outside walls of SHNOOSH (you need to include all four walls).

\_\_\_\_\_

Name these 3D shapes -

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

21. Walk to the lunch tables/chairs.. Use a metre ruler to measure the exact length and width of the table.

a. Length = \_\_\_\_\_

b. Width = \_\_\_\_\_

22. Walk to the Pit. Go down the steps. Use a trundle wheel to measure the perimeter of the Pit.

Answer= \_\_\_\_\_ metres.

23. Go to the playground equipment.

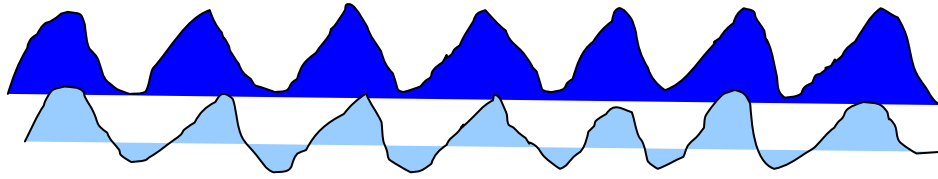
- How many right angles can you see? \_\_\_\_\_
- How many acute angles can you see? \_\_\_\_\_
- How many obtuse angles can you see? \_\_\_\_\_

14. Walk to the Lower Courtyard.

- How many cylinder-shaped poles can you see? \_\_\_\_\_

15. How many steps are there in the whole school? \_\_\_\_\_

# Maths Trails



@ Seven Hills North

## STAGE THREE

STARTING POINT: LOWER COURTYARD.

END POINT: COLA

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Use your map to find your way along the trail.

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1. Go to the lower courtyard. Estimate then measure the perimeter of around the shade cloth poles.

Estimate = \_\_\_\_\_ Perimeter = \_\_\_\_\_

2. List the types of angles that are visible on the staircase.

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

3. Go to the rainwater tank.

- What is the diameter of the tank? \_\_\_\_\_

- What is the circumference of the tank? \_\_\_\_\_

4. Go to the Playground equipment.

- List all the 2D shapes you can see in the playground equipment area.

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5. Walk into the playground equipment area. Using a stop watch, how long does it take you to climb through the following pieces of equipment (three times).

- monkey bars – chain walk – cylinder climb – climb down rails.

Answer -

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6. Walk to the four gum trees next to the playground equipment. Estimate the height of each tree.

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How could you accurately **measure** their heights without climbing the trees?

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7. Go to the Pit.
  - How many vertical steel poles surround the Pit? \_\_\_\_\_
  
8. Go to the Top Oval. On a separate sheet of paper draw a map (to scale) of the oval, including all natural and man-made features.
9. Walk to the Canteen. Determine, by measuring accurately, the shortest possible pathway from the Canteen to the COLA.  
Answer = \_\_\_\_\_
  
10. Go to the COLA. Stand in the little circle in the middle of the COLA. Using a compass, determine the direction to:
  - the Boardroom \_\_\_\_\_
  - Home base 7 \_\_\_\_\_
  - SHNOOSH \_\_\_\_\_
  - The Clothing Shop \_\_\_\_\_
  - The teachers' car park \_\_\_\_\_