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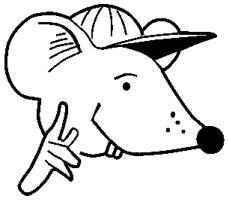
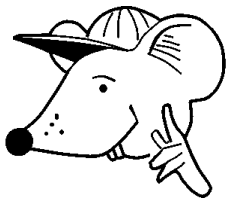


MATHEMATICS



N.S. Yr. 2 P.87

Describe positions and directions.

Equipment

Paper, pencil, ruler

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Concepts

Children should understand and be able to use in practical contexts the following words. Where possible, they should be taught to read the words.

position, over, under, underneath, above, below, on, in, outside, inside, in front, behind, beside, before, after, higher, lower, next to, opposite, between, close, far, apart, middle, centre, edge, corner, top, bottom, side, direction, left, right, up, down, forward, backwards, sideways, across, along, around, through, to, from, towards, away from, clockwise, anticlockwise, journey, route.

Children should be becoming more adept at spotting or describing position and direction using phrases such as 'at the corner of', 'higher/lower than', 'further away from'.

They should be able to describe features on a simple map and describe the position of the features in relation to the others.

They should be able to move a counter on a piece of squared paper using directions such as 'three squares up and two to the left'.

They should be able to turn clockwise and anticlockwise and control a turtle type floor robot.

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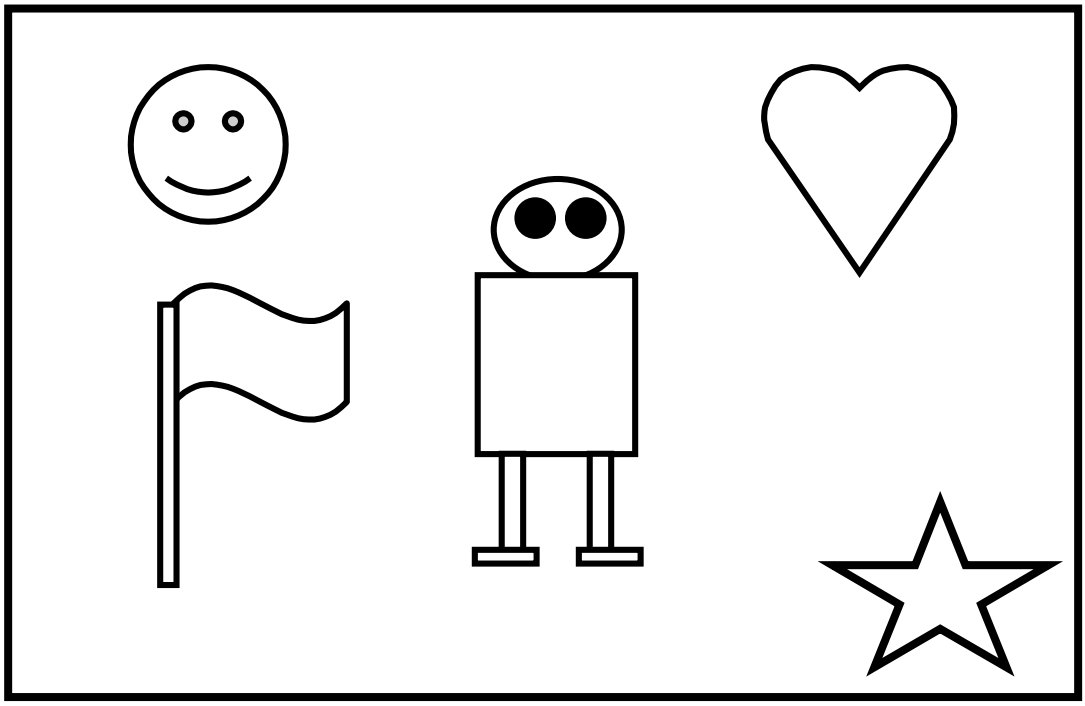

Point to shapes which are:

a) Higher than the robot.

b) To the left of the robot.

c) Below the heart.

d) To the right of the face.

e) Next to the flag.

f) Lower than the face.

g) Further from the face than the flag.

h) Further from the star than the robot.

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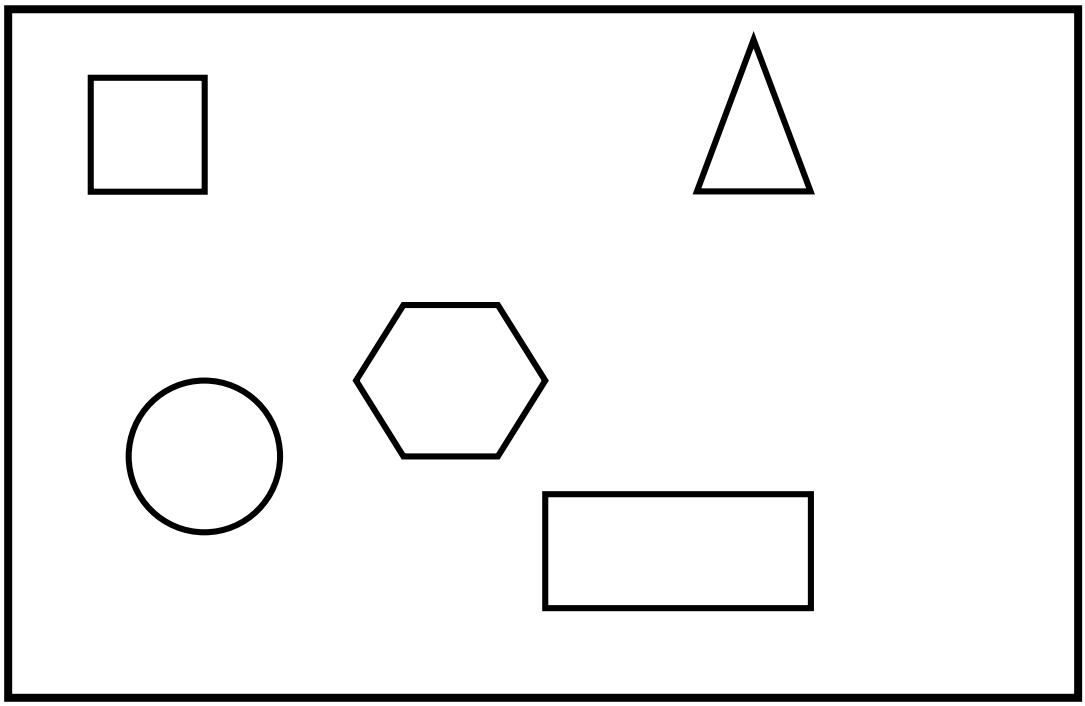

Point to shapes which are:

a) Lower than the square.

b) To the right of the hexagon.

c) Below the triangle.

d) Nearest to the circle.

e) Above the hexagon.

f) Nearer to the rectangle than the square.

g) Further from the circle than the hexagon.

h) Nearer to the circle than the rectangle.

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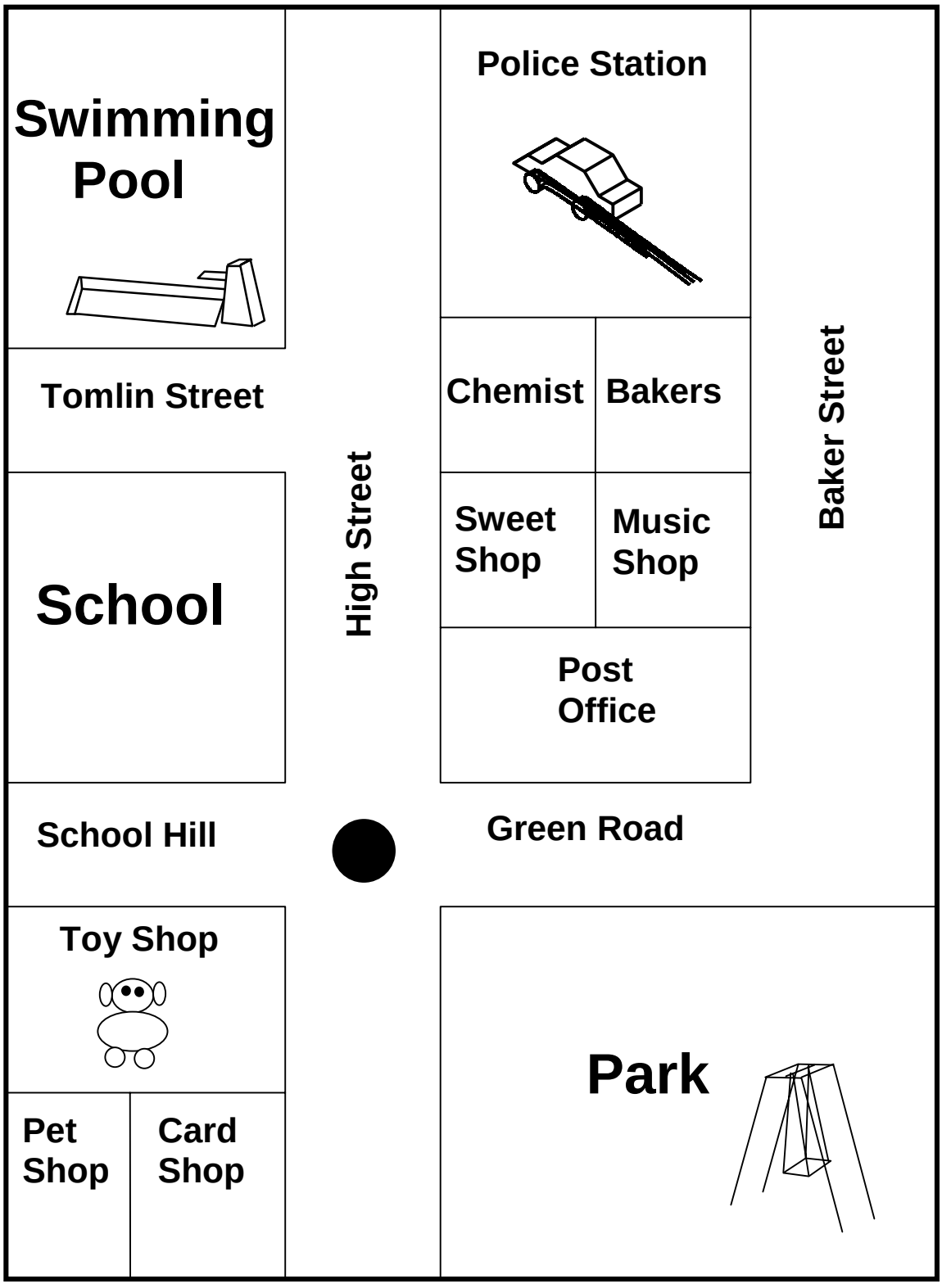
Map of Mathstown



(See next page for ideas for activities)

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Ideas for using map of Mathstown

Ask questions such as the following:

a) Which shops are next to the **Music Shop**?

b) Which shops are in **Baker Street**?

c) Which shops are next to the **Card Shop**?

d) In which three roads is the **Post Office**?

e) Which is furthest from the **Post Office**, the **Bakers** or the **Swimming Pool**?

f) Which roads are next to the roundabout?

g) If Janet goes from the **Bakers** to the **Toy Shop**, which way does she turn when she gets to **Green Road**?

h) Which way do cars go around roundabouts - clockwise or anticlockwise (show this by moving around the roundabout on the map).

i) Which things are in the corners of the map?

k) What things are on the edge of the map, but not in a corner?

l) Which roads join the **High Street**?

m) Which is the furthest thing from the **Swimming Pool**?

n) Describe the journey from the **Swimming Pool** to the park.

o) Describe the journey from the **School** to the **Bakers**. Include 'left' and 'right'.

p) Pretend to stand in the **Sweet Shop** facing the **Chemist**. Turn a half turn. What are you facing now? Turn a quarter turn clockwise. What are you facing now?

q) Extend these activities to the child's real world, eg. going to the shops.

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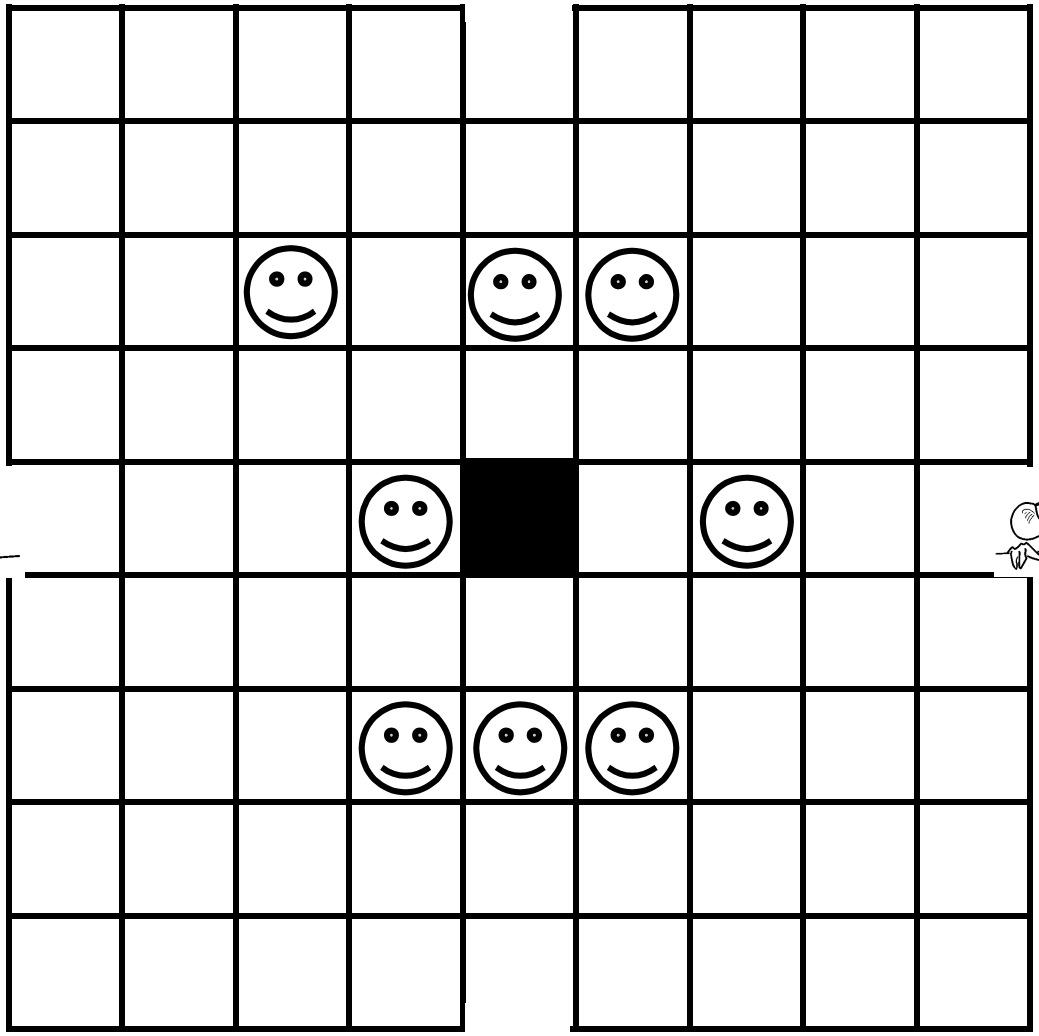
Here is the board for a game.



Multi

Divvy

Subby

Rules of the game:

You must not go on a square with a smiley face.

You must start by putting a counter on the middle black square.

2 D means move two squares down the board.

What do you think 3 U, 2 L and 3 R mean?

Now look at the next page for the moves.

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Here are some moves for the board game:

Game 1.

Start at the black square in the centre of the board.

Move **1 U**
3 R
1 D
2 R

Which Maths Rat do you meet?

Game 2.

Start at the black square in the centre of the board.

Move **1 U**
2 L
2 D
5 R
4 U
3 L
2 U

Which Maths Rat do you meet?

Now make up some of your own games. Both adults and children should design the moves.

Do not be afraid to change the rules when you are ready. For example, start at one Maths Rat and try to find another. Put in your own obstacles.

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Here are some ideas for positional and directional work:

It is very important that these ideas should be fun. Keep them short and laugh a lot. If the child feels self-conscious, let them use a teddy instead of themselves ('Can teddy describe the route?' etc).

a) Make up a 'map' on the floor (or gym, if available), using any handy objects. One person describe the route in terms of directions, distance measured in paces and turns (clockwise, anticlockwise, left and right). The other follows the directions.

b) Play 'pin the tail on the donkey' with one person giving instructions to another, blindfolded, person.

c) Play 'Simon Says' with a number of children. The children should only respond to your instructions in you precede the instruction with 'Simon Says'. They are out if they carry out the instruction when you did not precede it with 'Simon Says' or if they did not carry it out when you said 'Simon Says'. Include in the instructions many of the form 'Move two steps forwards/backwards', 'Turn a quarter turn clockwise/anticlockwise', Face inwards/outwards'.

d) Watch things moving such as car wheels, swings, roundabouts and fairground rides, and say whether they are moving clockwise or anticlockwise. Many oscillate from one to the other.

e) Make up simple dances in which the child has to follow a given set of instructions using positional language (walk three steps forward, turn to the left, hop four hops towards the wall, etc). Gradually increase the complexity of the dances to include standing in circles and facing inwards or outwards. Let the children make up and describe the rules.

f) If a lot of children are available (about a classful, in fact) stand them in rows all facing the same way with their arms outstretched and touching, so that it is possible to move through them one way, but not the other. One 'volunteer' has to get from one side to the other. When you say 'Turn', the children rotate one quarter turn clockwise/anticlockwise, making it now possible to move only in the direction at right angles to the first.

g) Program a 'turtle' type robot if you have one.