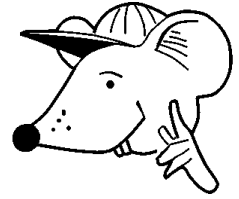


MATHEMATICS



N.S. Yr. 3 P.87

Describe positions and directions.

Equipment

Paper, pencil, ruler

MathSphere

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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, grid, row, column, map, plan, compass point, north, south, east, west, horizontal, vertical, diagonal, descend, ascend.

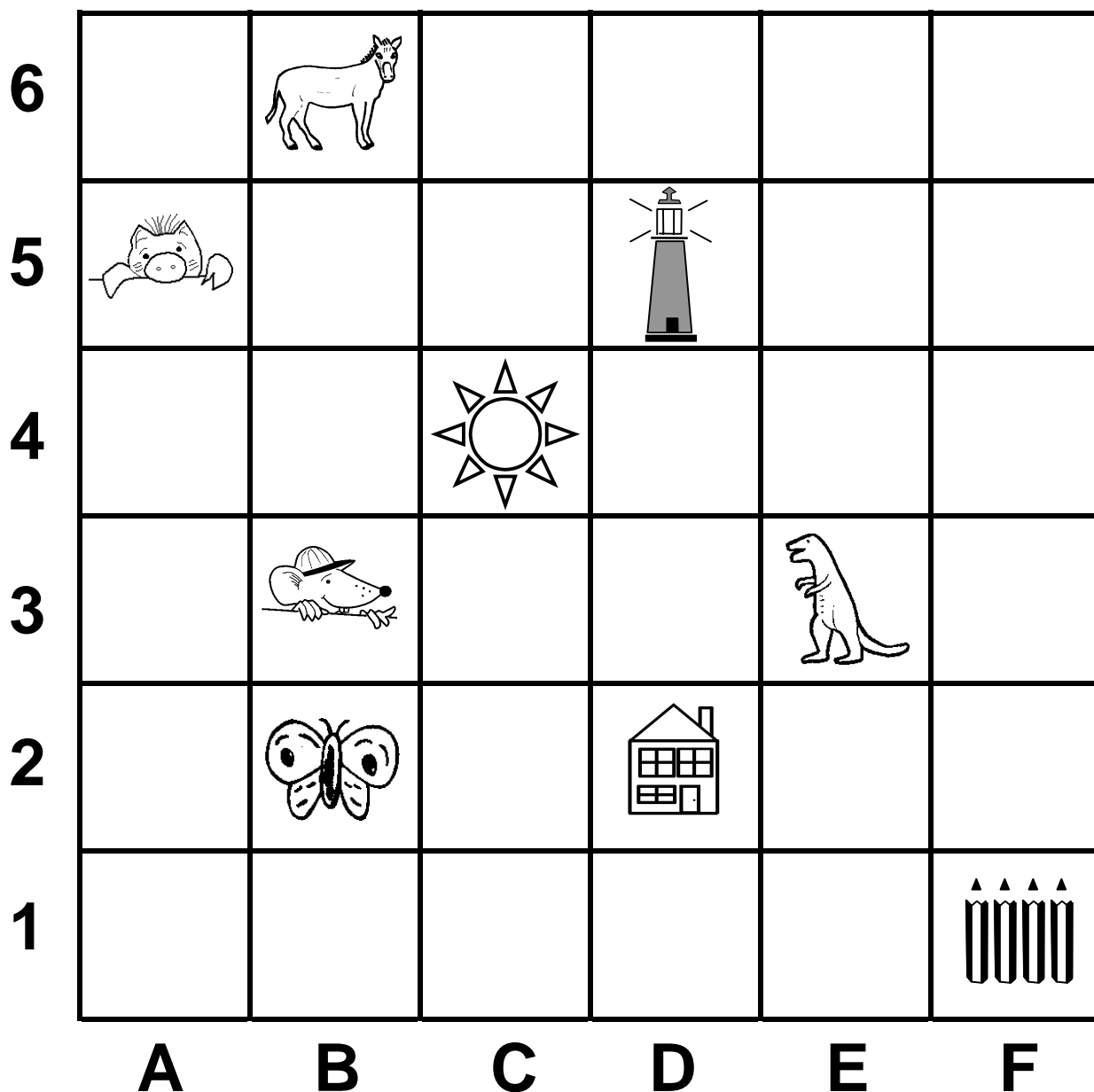
In addition to describing position in terms of 'behind', in front of' etc, they should now be becoming confident with describing position in an absolute sense, ie on a grid or map. They should be able to say how many squares from a zero point horizontally and vertically an object is and give these labels when appropriate (square B3, F5 etc).

They should know the difference between a column and a row. Columns are vertical (as in the old Greek buildings), rows are horizontal (imagine standing at the front of a cinema and looking out at the rows of seats).

They should understand that a diagonal goes from one corner of a grid to the opposite corner.

They should know the directions North, South, East and West and that on a map or plan, the North direction is almost always towards the top. The North direction should, in any case, always be indicated. North and South are generally easy to remember, but most children will mix up East and West for a long time.

They should know the meaning of the words 'ascend' and 'descend'.



The Lighthouse is in square D5.

Say in which square you will find each of the following:

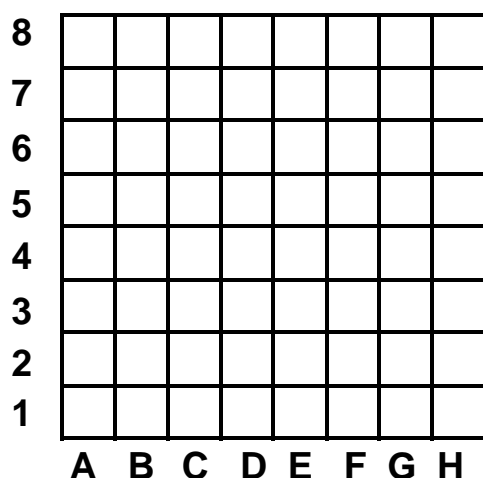
- | | | | |
|---------------|----------------|----------------|-----------------|
| a) The Sun | b) A horse | c) A Maths Rat | d) A house |
| e) A dinosaur | f) A butterfly | g) A pig | h) Some pencils |

6						
5						
4						
3						
2						
1						
	A	B	C	D	E	F

Draw these things in the right squares:

- a) A Maths Rat in **C1** b) A teddy in **D4** c) A Tree in **B5**
d) A Boy in **A3** e) A Girl in **F6** f) A Car in **F3**
g) A Rabbit in **C6** h) A Robot in **E1**

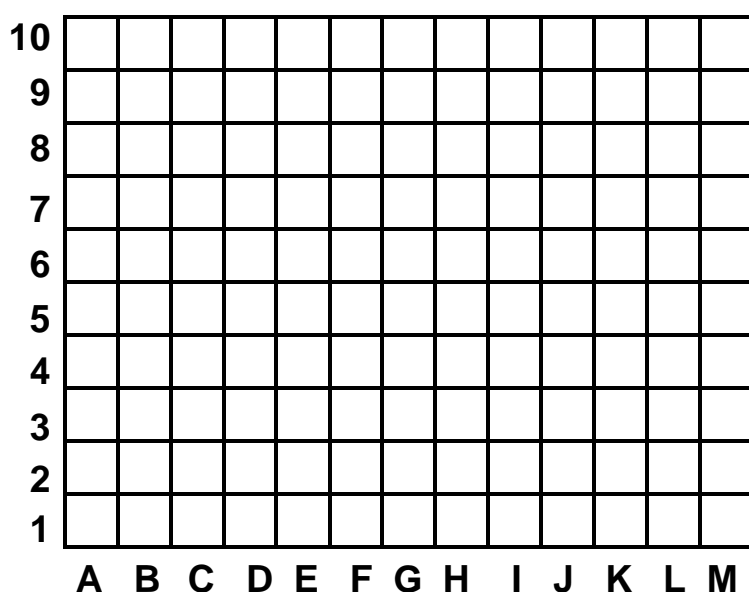
a)

**Colour in these squares:**

B1, C6, D3, E1, G2, G6, C7, E7,
 G7, F3, F2, E6, F6, D4, C2, H1,
 F5, D2, E2, G1, D6, C1, F1, D5,
 E3, F4, D1

What have you drawn?

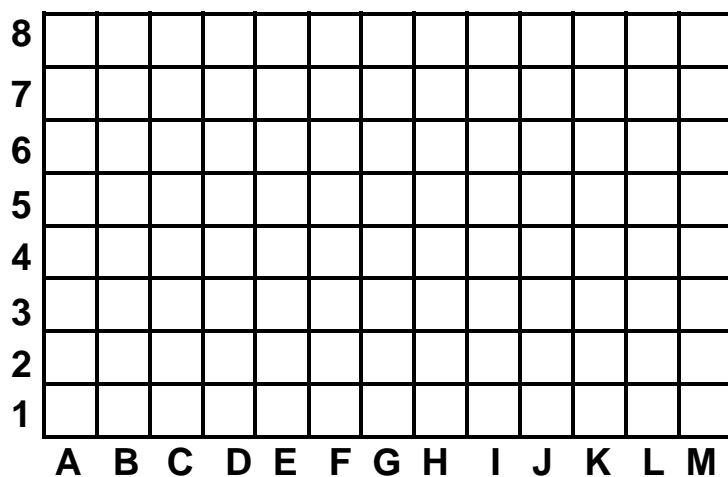
b)

**Colour in these squares:**

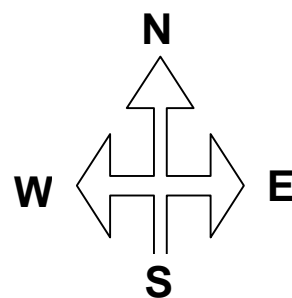
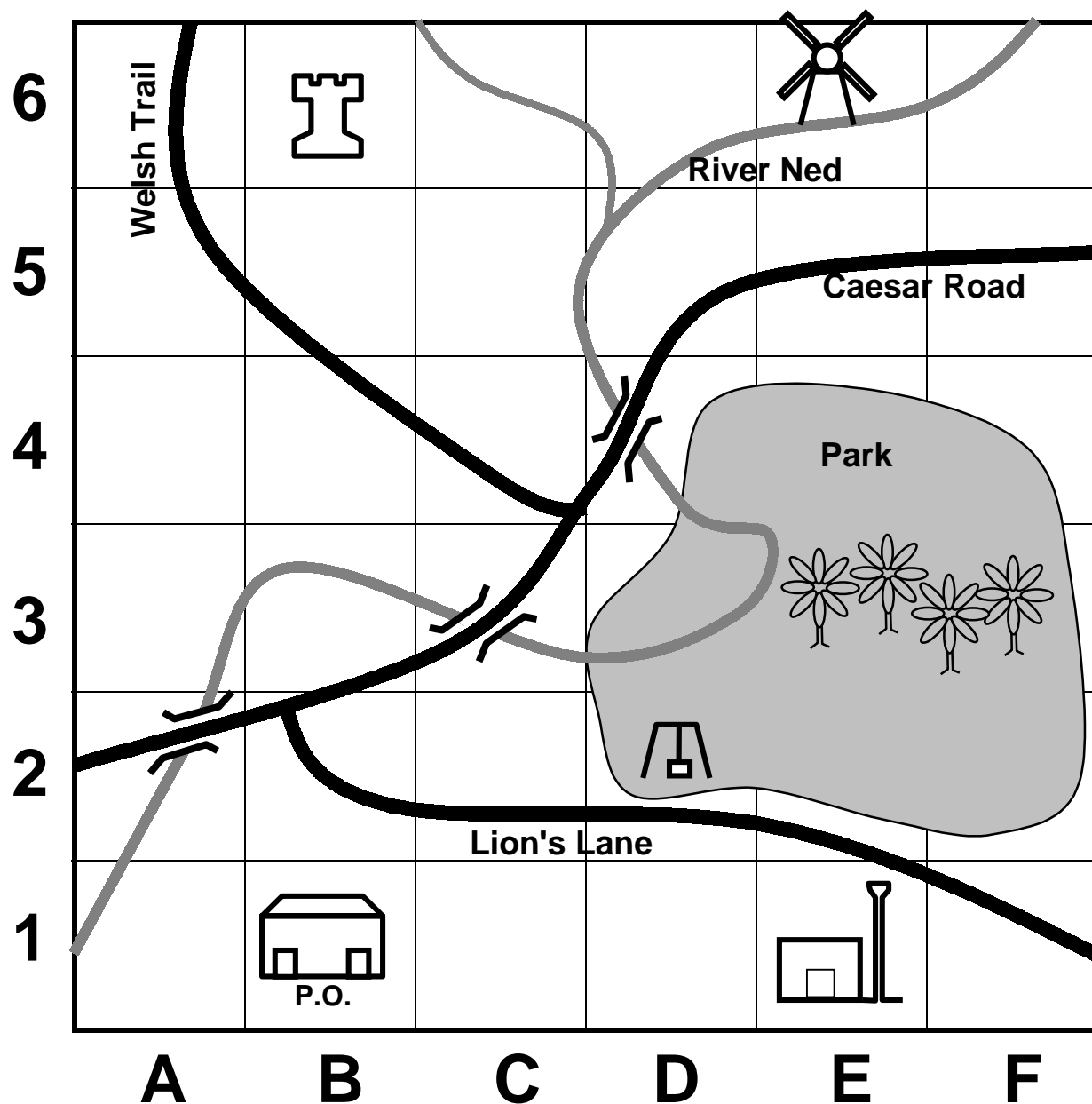
F10, G10, H10, I10, J10,
 F9, G9, H9, I9, J9, F8,
 G8, H8, I8, J8, F7, G7,
 H7, I7, J7, B6, H6, L6,
 M6, B5, C5, H5, L5, M5,
 C4, D4, E4, F4, G4, H4,
 I4, J4, K4, L4, D3, E3,
 F3, G3, H3, I3, J3, K3,
 L3, D2, E2, F2, G2, H2,
 I2, J2, K2.

What have you drawn?

c)

**Draw your own shape and write down the squares you have used.**

Here is a map of Playland



(See the next page for questions to ask about this map)

Questions for the map on Page 6

- a) In which square is the **Castle**?
- b) In which square is the **Windmill**?
- c) In which square is the **Post Office**?
- d) Which two squares contain the **Flower Garden**.
- e) Which nine squares contain the **Park**?
- f) How many bridges across the river are there?
Which squares are they in?

The **Castle** is west of the **Windmill**.

- g) In which direction is the **Post Office** from the **Castle**?
In which direction is the **Factory** from the **Post Office**?

You can get from the **Post Office** to the **Windmill** by going five squares north and three squares east.

- h) How can you get from the **Post Office** to the **Playground**?
How can you get from the **Playground** to the **Castle**?
- i) John starts at the **Windmill**. He goes two square west, five squares south and two squares east. Where is he now?
- j) Sam starts at the **Playground**, goes one square south, two squares west and five squares north. Where does he finish?
Which building did she pass on the way?
- k) Alan goes three squares west and then two squares south. He finishes at the **Post Office**. Where did he begin?

Here are some ideas for positional and directional work:

- a) Play games in which the squares on a grid are numbered or referenced by a letter and a number. Examples include Battleships and Treasure Hunt games.
- b) Play games where movement of pieces or markers is involved such as Snakes and Ladders and Draughts.
- c) Look at maps with grid references, particularly when going on a journey. Tell someone how to get to a particular place by describing the journey in terms of squares to be travelled and the four compass directions (eg. Move three squares east).
- d) Draw a map of a town or island and put on relevant features. Label the squares as in this module and refer to them when discussing the map.
- e) Tell or write a story using the words 'North, South, East, West, ascend, descend'.

Answers

Page 3 a) Sun is in C4 b) Horse is in B6 c) Maths Rat is in B3 d) House is in D2 e) Dinosaur is in E3 f) Butterfly is in B2 g) Pig is in A5 h) Pencils are in F1	Page 7 a) B6 b) E6 c) B1 d) E3 and F3 e) D4, E4, F4, D3, E3, F3, D2, E2, F2 f) Three bridges. A2, C3, D4. g) South East h) Two squares east and one square north (or similar). Two squares west and four squares north (or similar). i) Factory j) Castle Post Office k) Flower Garden.
Page 5 a) A castle tower b) A sailing boat	