# Maps

### Apparatus

street directory, other maps, e.g. campus maps

#### Action

The students examine the maps and look for examples of the use of vectors. They choose a starting and finishing point on a map, for example the university and the local shops, and find a vector which represents the displacement when travelling from one to the other.

#### **The Physics**

Vectors are used to define positions on the maps via a letter/number grid. Most maps will also show a vector pointing north to define compass directions on the map, and sometimes vectors showing both true north and magnetic north. The vector representing displacement can be written as x North + y West, or in terms of the angle.



#### Accompanying sheet

## Maps

Examine the maps.

How many examples of the use of vectors can you find? (There are at least two.)

Choose a starting point and an end point. Write down the vector that describes the displacement from the starting point to the end point.