

# All about me

## Teacher notes

### Aim

To use information on genetic traits to determine how 'unique' a person is.

### Objective

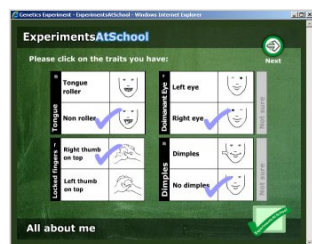
Pupils collect information on common (and clear cut) genetic traits.  
Pupils analyse random samples of data to find how many other people share the same traits as themselves.

### Introducing the experiment

Pupils are likely to know that fingerprints are unique and useful in identifying individuals. Are there other combinations of personal characteristics (traits) which can be used in place of fingerprints such as height, left/right handedness, tongue rolling etc? Can someone in the class be (uniquely) identified with a small number of such genetic traits? How many traits do we need?

Some example traits are given on the first sheet – pupils could annotate this with their own results/data.

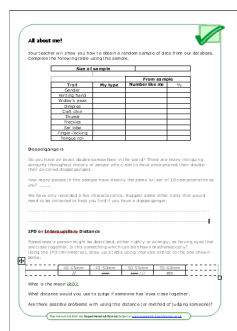
### Recording their data



Schools that have (freely) registered with ExperimentsAtSchool, are given their own logon codes. These codes enable you submit and request your own school's data back – as well as obtain random samples from the whole database. To help access data for particular classes, teachers should give the class a **project code** eg Mrs Smith's Middle Yr 9 group could be "smi\_901".

Once school and project codes have been entered, pupils can quickly input their data by clicking on appropriate picture or entering numerical values (using the results from the worksheet).

### Using the data



With the second sheet they compare their traits with a random sample of 100 subjects obtained from the ExperimentsAtSchool database. The codes used in the database can be found on the first pupil sheet next to each trait.

For each trait they calculate the % of people that match their traits.

Pupils then try to identify if they have a doppelganger in the sample; in this case someone with the same 10 traits as themselves. They also consider how this probability changes with more recorded traits.

We might describe people as having eyes close together/far apart. The distance between someone's pupils (Interpupillary distance, IPD) has a genetic basis. For the current round of data collection, the ExperimentsAtSchool team want to collect data on IPD and compare this with the width of the individual's mouth.

