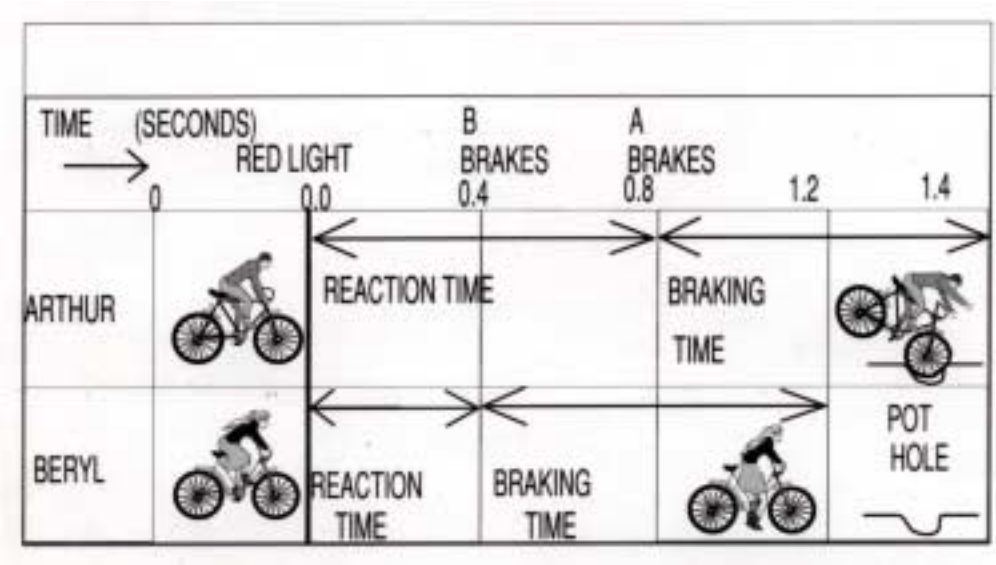
MOTION: SPEED

3. REACTION TIME AND DRIVING

The best drivers have fast reactions to events. For most adults there is a gap of 0.6 seconds between seeing danger and applying the brakes.
In the picture below, Beryl reacts faster then Arthur.
How fast do you react? (What is your 'reaction time'?)



Plan an investigation to find out how long it takes people to react to seeing a colour flash on the screen.

PLAN Decide on the type of switches you will use to start and stop the time measurement.

Who will operate the start switch?

On the screen, what tells you that the computer is ready to start timing?

How will you arrange for the start switch to be hidden from the view of the person being tested?

How will you use the results to decide who has the fastest reactions?

APPARATUS
2 Light gates
2 Pressure pads

COMPUTER

Measurement:	Time from A to B
Display:	Digits, bar graph, Signal
Table:	Stopping distance at 30mph

DISCUSS

In what ways might the person being tested have been distracted?

Did some people know when to expect the signal to appear on the screen?

Might people get better with practice? How could this be shown on the screen?

GOING FURTHER

Are some groups of people faster then others?

Do people react faster or slower with different parts of their bodies?

Look up in the 'Highway Code' how far a car travels whilst the driver is reacting. Use the table to calculate the stopping distance at 30mph.

Do people react differently when the signal is a noise? (Hit pressure pad at A with a book).

Does a cup of cola or coffee affect the reaction time?