

## 7. Test your logic

Two methods for establishing logical relationships between ideas are:

### Inductive reasoning and Deductive reasoning

#### 7.1 Deductive reasoning

Deductive reasoning reveals a conclusion which necessarily follows from a set of premises. For instance:

1. Jessica meets the three criteria necessary for being a great athlete
2. Jessica is an athlete
3. Therefore, Jessica is a great athlete

A deductive argument is sound if it is valid and its premises are true.

The first premise states that Jessica meets the three criteria necessary for being a great athlete. The second premise states that Jessica is classified an athlete. The conclusion states that Jessica must be a great athlete because she meets the necessary criteria from her classification as an athlete.

Here's an example of an argument which is valid but not sound:

1. All greyhounds can run very fast.
2. Some horses can run very fast.
3. Therefore, some horses are greyhounds.

#### 7.2 Inductive reasoning

Inductive reasoning requires some degree of support and probability for the conclusion. Inducing means: bringing about. Inductive reasoning means: bringing about facts to guide you towards the conclusion. For instance:

1. When chimpanzees become angry, they may become violent.
2. Humans are similar to chimpanzees
3. Therefore humans may become violent when angry."

Here's another example:

1. Many heart patients live in New Town and travel to Old Town Hospital for their specialist medication.
2. The number of heart patients in New Town would justify a local specialist heart unit.
3. New Town Hospital has available finance to upgrade its heart specialist facilities.
4. New Town Hospital can attract and recruit the required medical specialists.
5. New Town Hospital should build its own specialist heart unit.

Inductive reasoning is the method you are most likely to use to create your arguments.