# Unit 2: Does science tell the truth?

###### Lesson 3: Pupil Resource 3

Direct and indirect evidence

***Take a look at this squirrel story.***

Andy lives in a village in England near some woods

#### I’ve just seen a black squirrel

*in the woods!*

Then Jen, Sean and Luce come running out from the trees.

*Guess what! We’ve seen black*

*squirrels in the woods!* Greg has only ever seen grey

squirrels in the woods. He’s

also been told that British

squirrels are all grey or red.

*There’s no such thing as black*

*squirrels – only grey and red!*

Greg has to think again.

*Hmmm! Well I haven’t seen*

*any black squirrels but if lots*

*of you say you have seen them perhaps they are there after all*.

**Fact**: Black squirrels exist in North America and Canada, and now some are beginning to be spotted in Britain. None of the children knew this.

Andy has *seen* the black squirrel. *This is direct evidence (from your senses).*

He tells Greg. *This is indirect evidence.(You learn about something from someone else.)*

Greg doesn’t believe him because he hasn’t seen a black squirrel himself and it doesn’t fit in with what he knows.

Jen, Sean and Luce say they have *This is more indirect evidence*  
seen black squirrels.

Greg starts to think that there are black *If more and more people tell him they*

squirrels in the woods. have seen black squirrels, he becomes more likely to believe it. When evidence builds up like this it is called cumulative evidence.

*To discuss:*

* Which evidence is more reliable? Direct or indirect evidence?
* When do we start to put our trust in indirect evidence?
* Can we put complete trust in either?
  + Why not?

Think back to what you have learnt so far about the senses and seeing what you want to see.

There can also be other reasons to be cautious of indirect evidence. Perhaps the other children were all playing a trick on Greg! Sometimes people ‘jump on the bandwagon’ of a trendy idea and pretend they know something, or have seen something when they really haven’t.

You will often carry out a fair test in your science investigations.

* Is fair testing using direct or indirect evidence?
* How do we make the evidence in a fair test more reliable?
  + Think of *cumulative evidence.*