



## **Sixty Second Adventures in Astronomy**

### *Special Relativity*

#### **David Mitchell:**

60 Second Adventures in Astronomy. Number ten, Special Relativity.

Does time fly when you're having fun?

In 1905 Albert Einstein introduced the theory of Special Relativity, which said that – if the speed of light is constant – then people must experience time differently.

Which may sound impossible – but Richard Feynman later showed that you can prove it with just lights and mirrors.

If you set up two mirrors, one of which had a flashbulb and a detector on it, you could build a clock which ticked every time the flash was reflected back to its original source.

It would keep time perfectly – though would make a slightly annoying alarm clock.

But if you make this 'clock' go past you very quickly – the light has further to travel. And since light always travels at the same speed - the moving clock runs slower than when it was at rest.

So, though time might not fly when you're having fun – a moving clock does tick more slowly than the observer's stationary clock.

Which may have changed the way we see the universe – but doesn't always make for a good excuse.