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Title : Science course unit 3.

Contributors : M.J. Pentz.
A.J. Walton.
F.R. Stannard.

Producer: Nat Taylor.

CU S100/03
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Form VC (8 mm.)

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Seq.	Time	Footage	Sequence List	Sound Cue
1.	[illegible]'35"		M.J. Pentz introduces the concept of measuring the velocity of a moving body through indirect means. To illustrate his point, he fires an airgun pellet into a cylinder able to move freely on an air track.	
2.	12'27"		A.J. Walton demonstrates the principle of conservation of momentum using an air track and bodies of: 1. Equal mass. 2. different masses. Momentum is transferred from one body to the other. Speed of the moving bodies is calculated in an experiment which uses photoelectric cells wired to an oscilloscope to monitor the motion. In this experiment one body moving at a known velocity collides with a stationary body which is set in motion. The speed of the second body is then calculated. Walton performs the same experiment using magnetised bodies which repel each other before actual collision. He finds that momentum is still conserved.	
3.	13'35"		M.J. Pentz uses an air cushion table to introduce the principle of conservation of momemtum in two dimensions.	
4.	16'20"		This sequence explains and demonstrates a technique for measuring the velocity of light. F.R. Stannard sets up a model of the apparatus to be used to measure the velocity of light. He explains how it works.	
			F.R. Stannard at the Royal Society, London, with the Society's experimental apparatus for for measuring light velocity. He explains how the apparatus works.	

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Continuation

Seq.	Time	Footage	Sequence List	Sound Cue
	20'05"		Speed of light is measured with this apparatus. Electric sparks are used as light sources. The light pulses travel over two different measured courses - one long, one short. The difference in time taken to cover the courses, is used to calculate the velocity.	
5.	24'30"		Relativity is discussed and demonstrated in an animated cartoon. Two observers, one stationary, the other in motion, see pulses of light. Velocity of light pulses appears constant to each observer no matter what his position and speed. Credits.	