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Title : Science Course unit 6. clock title: (Mass spectrometers) Contributors : M.J. Pentz. F.R. Stannard. R.A. Ross.

### PROGRAMME SEQUENCE LIST

CU S100/06 Tape No. 6LT/10023 Project No. 00520/1106 Date Recorded 8-6-70 Form VTR.

1ST TX: 14-2-1971

Seq.	Time	Footage	Sequence List	Sound Cue	
1.	59"		M.J. Pentz introduces the unit. He discusses the importance of the Millaken oil drop experiment and gives a definition of elementary particles.	Stannard to do it.	
	2 147"		F.R. Stannard with a model of the apparatus for performing the Millaken oil drop experiment. He uses the model to show how the apparatus works. The experiment is demonstrated on the model.	Before actually	
2.	4:28"		Stannard with the actual apparatus points out the individual parts and explains their function		
	9145"		Reconstructed film of the experiment being performed. Camera is put to the microscope so the action of the droplet can be seen.		
	10'04"		Stannard asks students to use the readings obtained during the experiment to determine whether or not the charges have elementary character.	have an elementary nature.	
3.	12 '00"		M.J. Pentz with a beam turner. The electron beam is seen on a screen. With a bar magnet, Pentz deflects the beam. He demonstrates further by holding a magnet to a T.V. screen. The picture is distorted.	In just one moment here is Dr. Ross	
	13'30"		R.A. Ross with an analog of a mass spectro- meter. He rolls ball bearings of a different mass down a slope where they are deflected at different angles by a magnet.		
	15'01"		Ross, with the aid of a large movable diagram, explains how a mass spectrometer works.		
			Ross with a small Edwards mass spectrometer. He points out and explains the functions of the various components.		

Producer: Nat Taylor.

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## PROGRAMME SEQUENCE LIST

### Continuation

Seq.	Time	Footage	Sequence List	Sound Cue
4.	16'23"		Still shot of the A.E.I. model M.S. 9 mass	
	17'00"		Film shots of the M.S. 9 mass spectrometer at	
	20 ' 50"		University College in action. Each step of the analysis is shown in detail. Ion currents are shown on a oscilloscope and pen recorded for later examination.	
	221101		Ross with an enlargement of the pen recorded mass spectrum. He asks students at Rome to make a note of the readings and then calculate the relative abundance and atomic mass of the elements.	
	22.17		Credits.	

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