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Title : Science Course unit 11.

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CU S100/11
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Seq.	Time	Footage	Sequence List	Sound Cue
	36"	10	Pentz introduces the programme.	
1	2'06"	33	Ross with model of a di-atomic molecule. He points out the various types of energy of the molecule, particularly vibrational energy.	
	4'01"	62	Ross with graph of a Morse Curve. This shows the energy needed to pull the molecule apart- The Bond dissociation energy. Ross explains.	541.364
2	7'58"	118	Ross with a model of an atom + di-atomic molecule. Morse curve graph shows energy required to separate the atoms. Ross uses a 3 dimensional graph (model) to show the activated complex. He explains	541.364
	10'15"	148	Ross takes the model apart to show the Reaction Coordinate.	
	11'34"	165	The reaction coordinate is shown on a 2 dimensional graph. Ross explains.	show them to you.
3	14'04"	197	Johnson does 3 experiments which monitor temperature changes in chemical reactions. A thermocouple is used to register plus and minus changes of temperature in the reaction. Reaction between magnesium and HCl is monitored. This is an exothermic reaction.	when you strike-----
	15'45"	217	Sodium Carbonate reacts with magnesium sulfate - an endothermic reaction.	541.362
	16'58"	232	Sodium hydroxide reacts with ferric nitrate- an exothermic reaction again.	
	18'17"	247	Johnson with a board on which the equations for the above reactions are written. He discusses the reactions.	a reaction coordinate
	19'55"	267	Ross with a graph showing reaction coordinate for exothermic and endothermic reactions. He explains.	Here we have-------

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Continuation

Seq.	Time	Footage	Sequence List	Sound Cue
	23'25"	306	Model illustrates the way in which energy is given off in chemical reactions. Ross operates the model and provides the commentary.	541.362
	23'39"	308	Credits.	