

Title : Science course unit 21

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CU S100/21

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Form VTR

591.38 591.5

591.47

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Producer: Nat Taylor

Seq.	Time	Footage	Sequence List	Sound Cue
1/	2'52"		Pentz introduces the unit. He has a <u>model</u> which shows the <u>imaginary evolution</u> of building screws from an unspecialised screw and to screws of various shapes.	575.0184 of real animals.
2/	3'15"		Peggy Varley with a <u>grass snake</u> . Shot of the snake moving on table top.	This harmless snake..... 598.12
	3'52"		Varley uses a model of a snake's vertebral column to explain how snakes move.	
	4'35"		Varley discusses the role of the vertebrae using several animals as examples of its development. Shot of <u>dogfish</u> . Varley explains the movements of the vertebrae which allow the fish to swim.	Varley, M.E. 597.41
	4'45"		Shot of a <u>gurnard</u> fish.	
	4'55"		Shots of <u>trout</u> .	597.9
	5'15"		Shots of <u>Tiger Salamander</u> crawling on table top.	597.9
	5'30"		Shot of <u>Tiger Salamander</u> swimming in a tank. Varley points out the fish like swimming motion.	
	6'00"		Shots of <u>grass snake</u> in water tank. Varley points out the fish like swimming motion.	598.12 swim like fish.
3	6'12"		Varley examines convergent evolution showing several examples. Shot of an <u>Ichthyosaur</u> a prehistoric reptile which went back to the water and came to closely resemble a fish.	But of course 568.15
	6'21"		Shot of a <u>dogfish</u> . Varley compares <u>morphological</u> features of the dogfish and <u>Ichthyosaur</u> .	597.41
	6'32"		Shots of <u>Tunny</u> and <u>Marlin</u> fish	Varley, M.E.
	7'28"		Varley goes on to examine the evolution of walking limbs in animals. She uses a cast of an early reptile fossil to describe the probable walking movements of this animal.	

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PROGRAMME SEQUENCE LIST

Continuation

Seq.	Time	Footage	Sequence List	Sound Cue
	7'39"		Shots of a modern <u>lizard</u> . The arrangement of its vertebrae and limbs are seen to be similar to the early reptile.	598.112
	8'14"		Varley with a skeleton of a reptile. She discusses the limbs and vertebral column.	
	8'29"		Varley with a section of a reptile vertebral column. She bends it sideways with ease but finds it difficult to bend in other directions.	any other direction.
4/	9'20"		Varley takes up motion of mammals. Shots of <u>greyhounds</u> running on a track. The dogs are shown in slow motion for part of the time.	now, the mammals..... 599.74442 798.8
	9'31"		Slow motion shots of a <u>cheetah</u> in full run .	599.74428 Varley, M.E.
	10'55"		Shot of a greyhound skeleton. Varley points out differences between this and a lizard skeleton. Varley takes particular note of the lumbar vertebrae which in the greyhound has evolved to allow up and down rather than sideways motion.	
	11'40"		Shot of swimming <u>dolphins</u> . Swimming motion is an up and down movement of the tail as here too the vertebral column has evolved for up and down motion. Varley points out that this is another case of convergent evolution as the dolphin has taken on a fish like appearance.	
	12'15"		Varley with a <u>human skeleton</u> she points out similarity of human and other vertebrae.	612.75
			Shot of a swimmer doing the <u>butterfly stroke</u> . Varley points out the similarity to dolphin motion. Varley discusses the development of arms and hands to paddles for swimming. Shot of a cast of a fossil <u>Plesiosaur</u> which developed paddles for swimming.	797.21 568.16
	14'15"		Shots of <u>terrapins</u> and <u>turtles</u> swimming.	598.13
	14'36"			
	14'58"		Shots of penguins swimming	598.441
	15'30"		Shots of <u>seals</u> on land and in water. Varley with <u>human skeleton</u> . She uses it to show paddle action in swimming.	599.748 612.5
	15'49"		Shot of swimmer doing front crawl in pool.	797.21
	16'22"			

