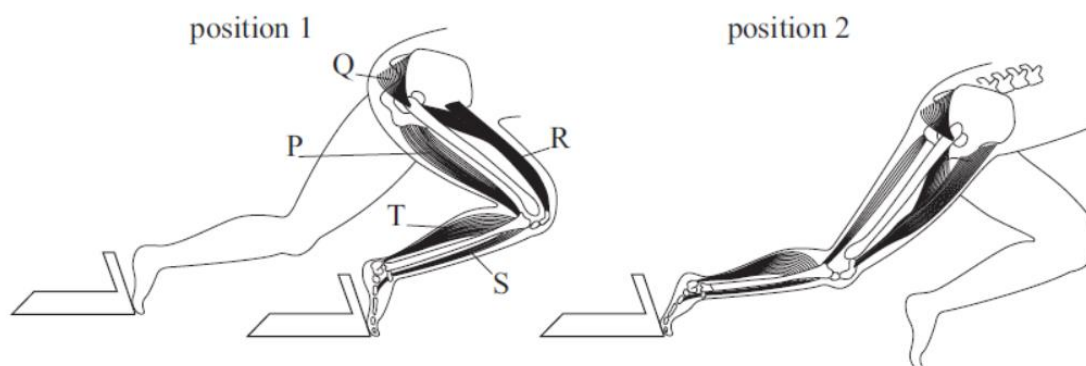




2004

24 The diagram shows the leg muscles of an athlete leaving the starting blocks for a race.



Which muscles contract and which relax to bring about the change from position 1 to position 2?

	muscles that contract	muscles that relax
A	P, Q, R	S, T
B	T, P	Q, R, S
C	Q, R, T	P, S
D	R, S	P, Q, T
E	Q, R, S	P, T



Cell Structure & Function

 2005

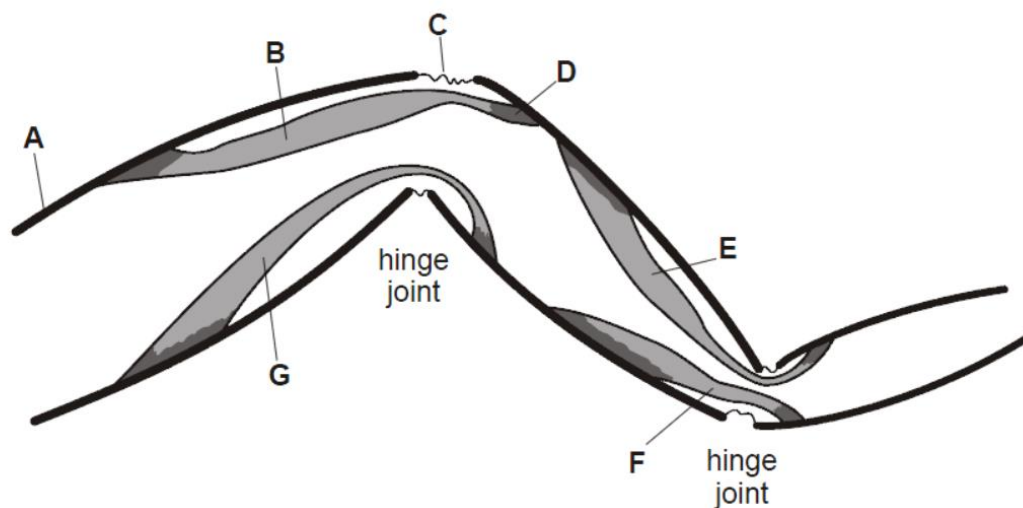
- 12 Which row of the table shows what occurs in the eye when you watch a bird flying away from you?

	ciliary muscles	suspensory ligaments	lens becomes
A	contract	loosened	more convex
B	relax	tightened	less convex
C	contract	tightened	less convex
D	relax	loosened	more convex
E	contract	loosened	less convex
F	relax	tightened	more convex



Cell Structure & Function

- 16 The diagram shows three sections, separated by hinge-like joints, of the leg of a crab with an exoskeleton.



By comparison with the elbow joint of a human, select the letters that match the following:

- i a part that acts in a similar way to a tendon;
- ii a part that has a role that is similar to that of a ligament;
- iii a muscle that is antagonistic to **B**.


Cell Structure & Function

- 20** The table shows the concentrations, in arbitrary units, of four substances. These substances are present in each of two animal cells, K and L, whose cell membranes are in contact.

substance	concentration in arbitrary units	
	cell K	cell L
cytosine	9	15
glucose	12	8
magnesium ions	7	4
nitrate ions	6	3

Which movement of a substance between the two cells requires oxygen?

- A** cytosine from cell L to cell K
- B** glucose from cell K to cell L
- C** magnesium ions from cell L to cell K
- D** nitrate ions from cell K to cell L


Cell Structure & Function

2006

19 Which row of the table shows the response of the iris to reducing levels of light?

	radial muscles	circular muscles	pupil
A	contract	relax	is contracted
B	relax	contract	is dilated
C	contract	relax	is dilated
D	relax	contract	is contracted

2008

1 Which one of the following involves active transport?

- A** movement of carbon dioxide into alveoli in the lungs
- B** uptake of alcohol (ethanol) through the lining of the stomach
- C** secretion of sweat onto the skin's surface
- D** re-absorption of glucose in the kidney tubules
- E** loss of urine from the urethra
- F** transfer of oxygen into the blood from the alveoli