BTEC SPORT EXTENDED CERTIFICATE

Exam board	Pearson BTEC Level 3 National Extended Certificate in Sport
QAN	601/7218/6

BTEC 2016 Specification (pearson.com)

How is the subject usually Examined?

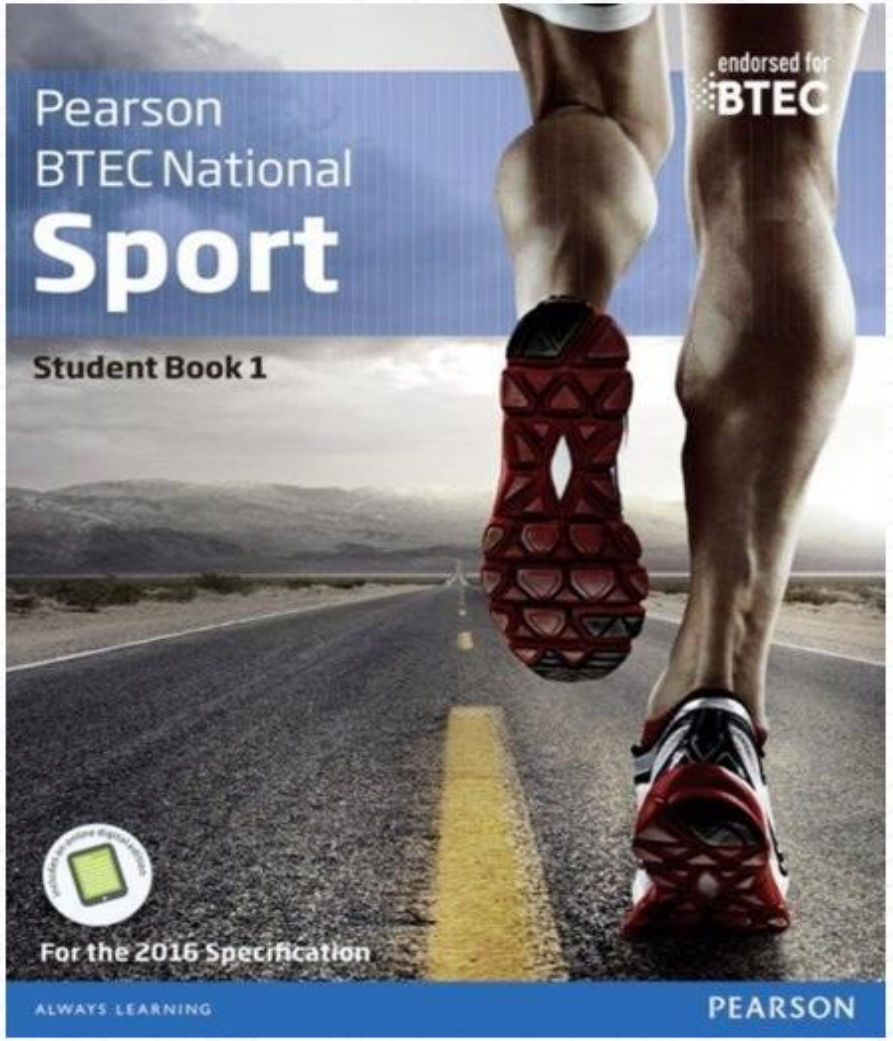
Exam Paper 1: 31524H Unit 1: Anatomy and Physiology 90 Minutes

Exam Paper 2: 31525H Unit 2: Fitness Training and Programming for Health, Sport and Wellbeing, Synoptic exam which includes 4 hours preparation time. Exam duration is 2 hours 30 minutes

Internal assessment 1: Unit 3: Professional Development in the Sports Industry, 60 guided learning hours (NEA)

Internal assessment 2: Unit 4: Sports Leadership, 60 guided learning hours (NEA)

- BTEC Recommended Reading



Name:_____

Class:_____

Teachers:_____

Predicted Grade:____

How to achieve a merit:	How to achieve a distinction:
• Demonstrate thorough knowledge and understanding of the body systems in the context of exercise and sports performance • Able to analyse how the body carries out exercise and sporting movements and how the body systems respond to short-term and long-term exercise.	• Demonstrate thorough knowledge and understanding of the body systems in the context of exercise and sports performance • Able to analyse how the body carries out exercise and sporting movements and how the body systems respond to short-term and long-term exercise. • Able to interpret information on exercise and sports performance and make reasoned judgements on how body systems carry out exercise and sporting movements in a range of different contexts • Demonstrating understanding of the interrelationships between the body systems

UNIT		TITLE	Assessment Outcomes
Unit 1: Anatomy and Physiology: External	A	The effects of exercise and sports performance on the skeletal system	AO1 Demonstrate knowledge of body systems, structures, functions, characteristics, definitions and other additional factors affecting each body system
	B	The effects of exercise and sports performance on the muscular system	AO2 Demonstrate understanding of each body system, the short- and long-term effects of sport and exercise on each system and additional factors that can affect body systems in relation to exercise and sporting performance
	C	The effects of exercise and sports performance on the respiratory system	AO3 Analyse exercise and sports movements, how the body responds to short-term and long-term exercise and other additional factors affecting each body system
	D	The effects of sport and exercise performance on the cardiovascular system	AO4 Evaluate how body systems are used and how they interrelate in order to carry out exercise and sporting movements
	E	The effects of exercise and sports performance on the energy systems	AO5 Make connections between body systems in response to short-term and long-term exercise and sport participation. Make connections between muscular and all other systems, cardiovascular and respiratory systems, energy and cardiovascular systems

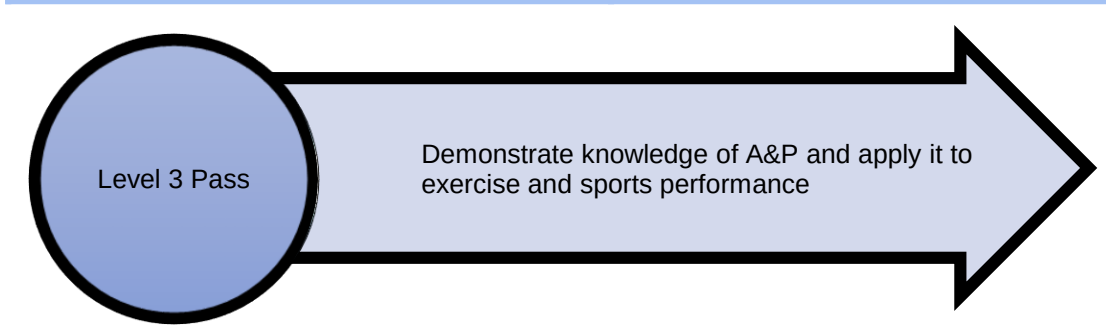
Unit 1 Learning outcome A:

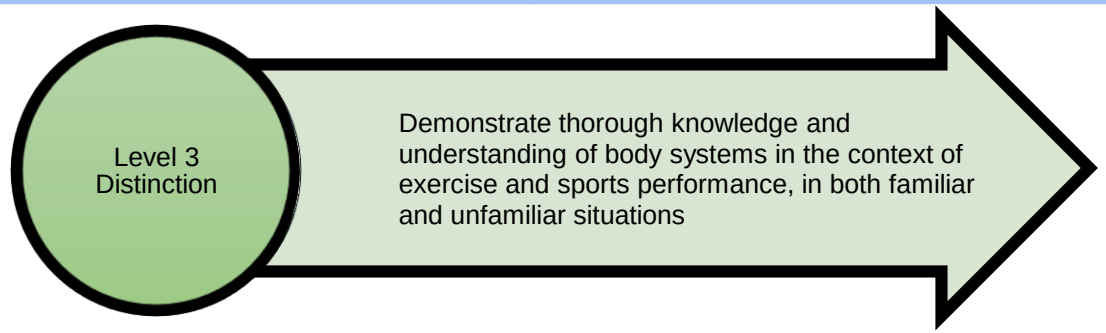
The effects of exercise and sports performance on the skeletal system

Pre-topic task: Write down everything you think you know.

Major bones of the body. **Fill out the missing letters**

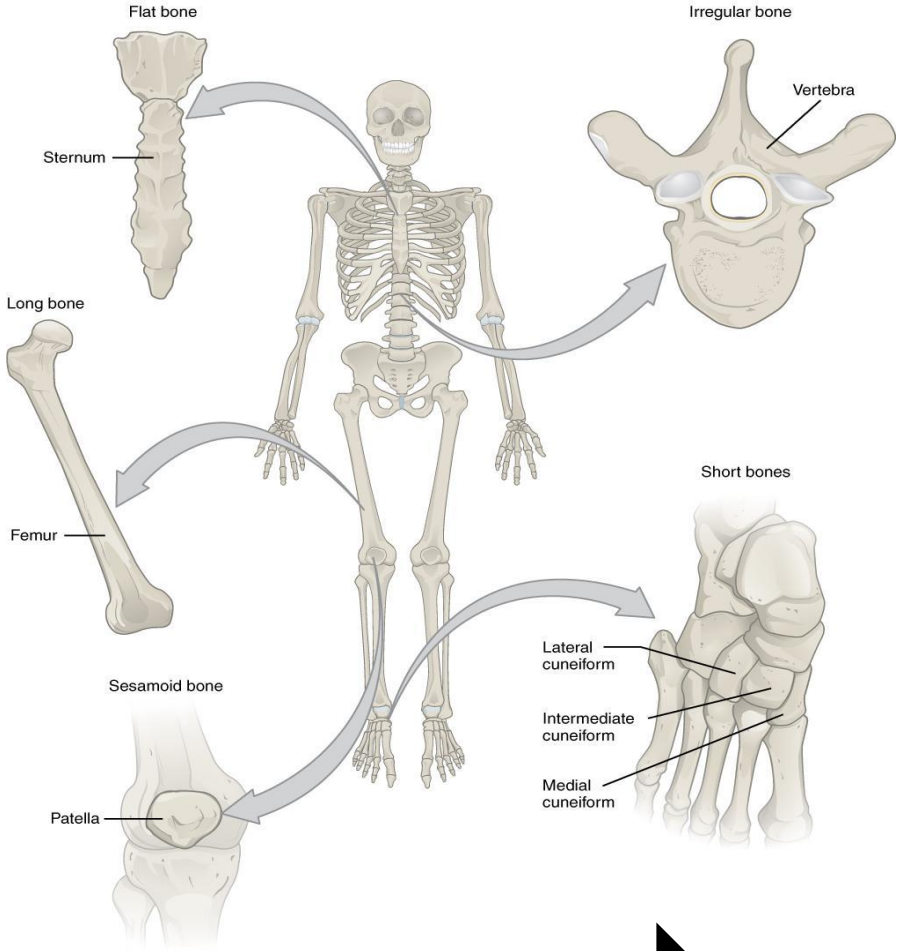
C_____	Cl_____	R_____	St_____
Sc_____	H_____	R_____	U_____
Car_____	M_____	Ph_____	P_____
C_____ V_____	T_____ V_____	L_____ V_____	Sac_____
Co_____	Fe_____	P_____	T_____
Fi_____	Ta_____	Me_____	





Types of Bone: **Fill out the missing letters and try give one example of each type of bone**

- L_____ Bones
- S_____ Bones
- F_____ Bones
- I_____ Bones
- S_____ Bones



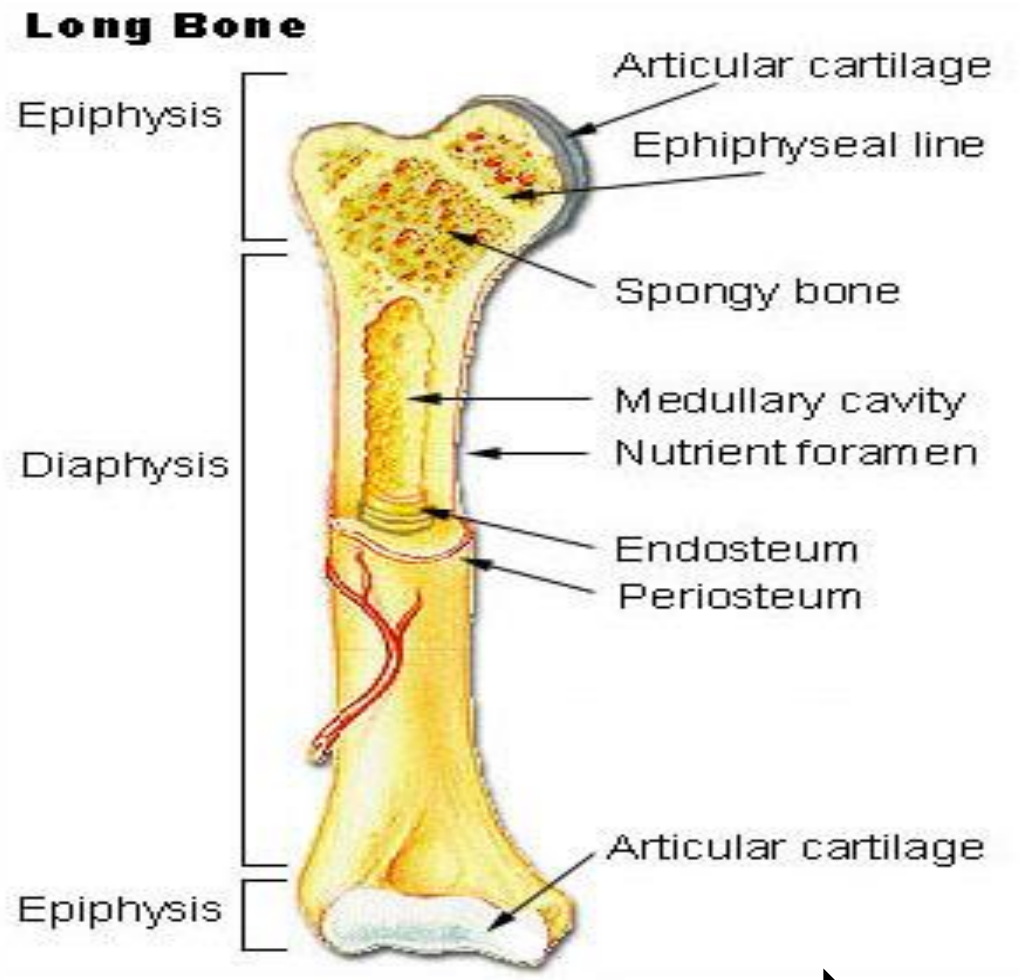
Level 3 Pass

Demonstrate knowledge of A&P and apply it to exercise and sports performance

Level 3 Distinction

Demonstrate thorough knowledge and understanding of body systems in the context of exercise and sports performance, in both familiar and unfamiliar situations

Long Bones: Write a informative paragraph on long bones using the information in the photo



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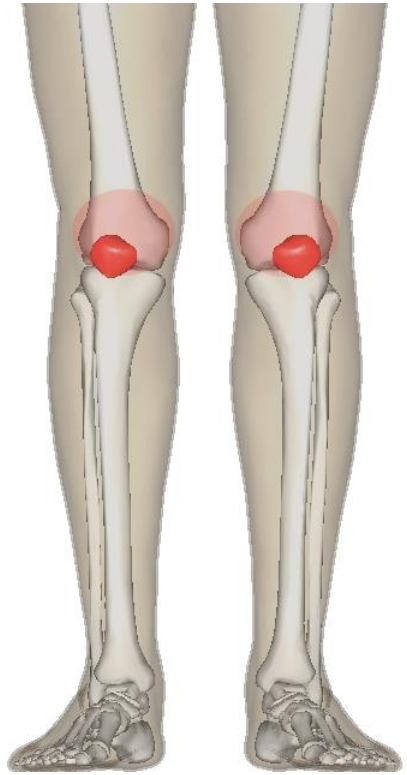
Sesamoid Bones: **Answer the following questions**

Where are sesamoid bones found and what are the job roles of the sesamoid bones?



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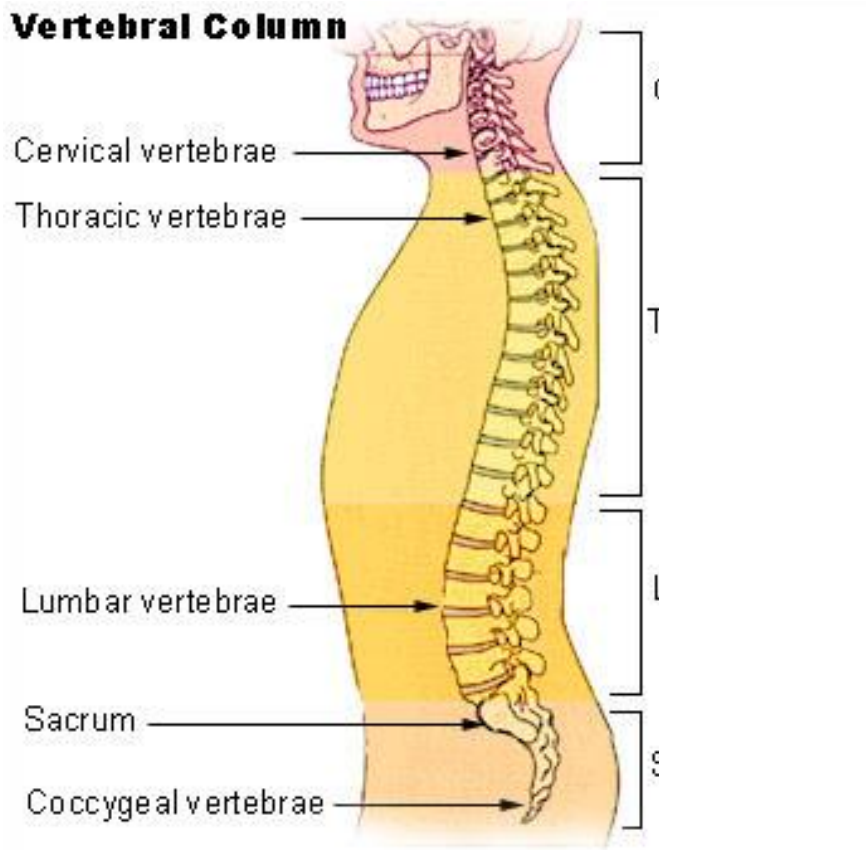
The Vertebral Column: Label the diagram with the missing words



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Axial and Appendicular Skeleton: Write down the axial bone regions and the appendicular bone region

AXIAL=_____

_____

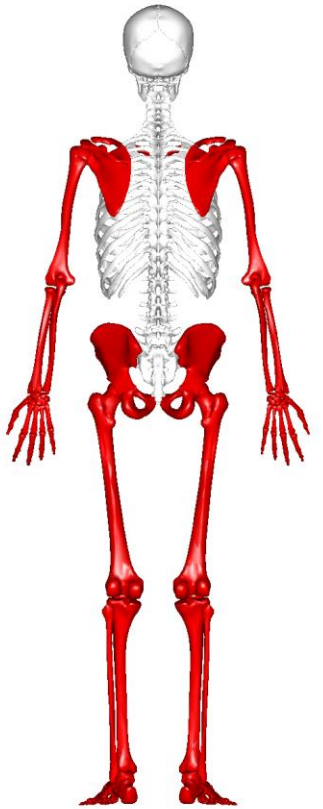
_____

APPENDICULAR =

_____

_____

_____



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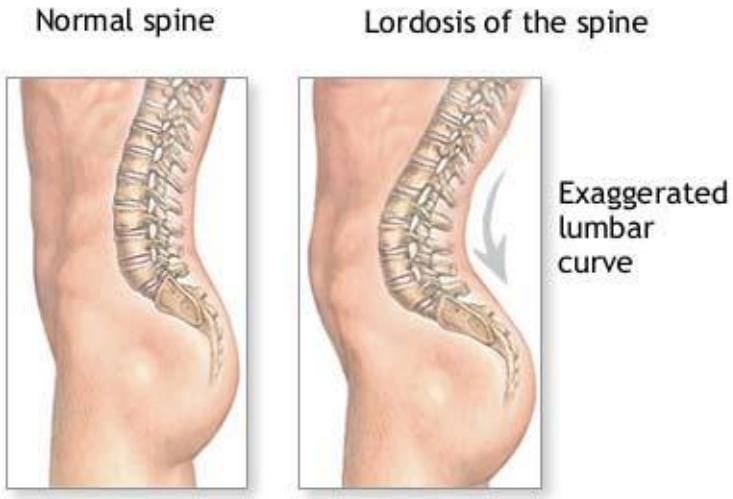
Neutral spine alignment: Explain the different spine curves listed below

- Natural curves in a healthy spine
- Lordosis - _____
- Kyphosis -_____
- Lordosis - _____



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Bone growth: Explain the three terms below

Osteoblasts_____

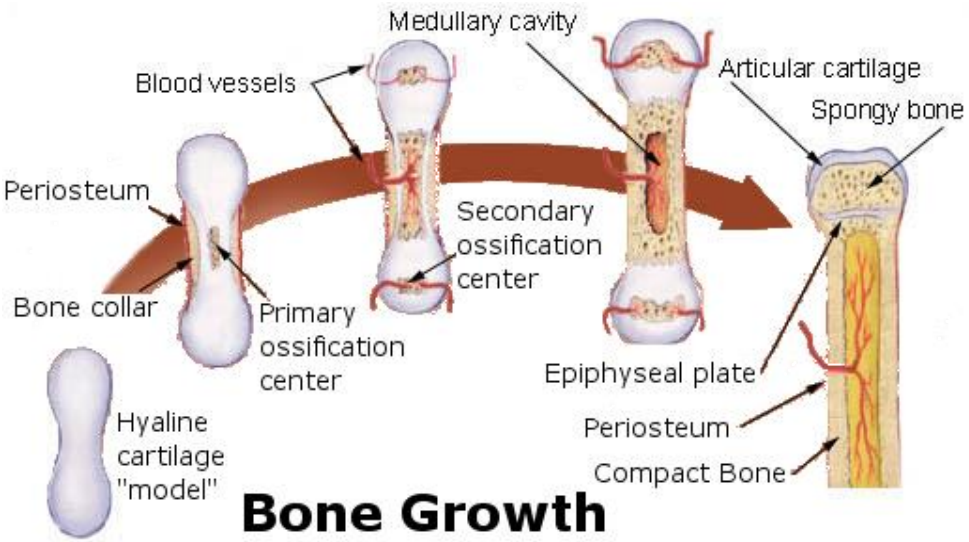
_____

Osteoclasts_____

_____

Epiphyseal plate_____

_____



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Functions of the Skeleton: Explain the functions of the skeleton

1. Support_____
   _____
2. Protection_____
   _____
3. Attachment of Muscles_____
   _____
4. Blood Cell Production_____
   _____
5. Mineral Store_____
   _____
6. Leverage_____
   _____
7. Weight bearing_____
   _____
8. Reducing joint friction_____
   _____

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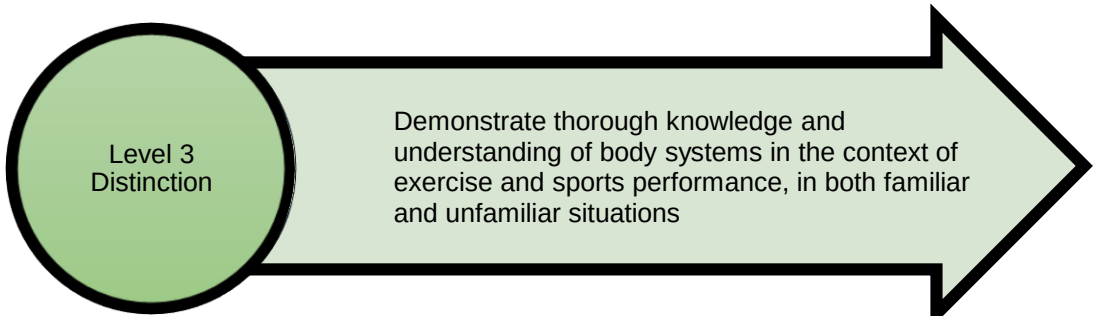
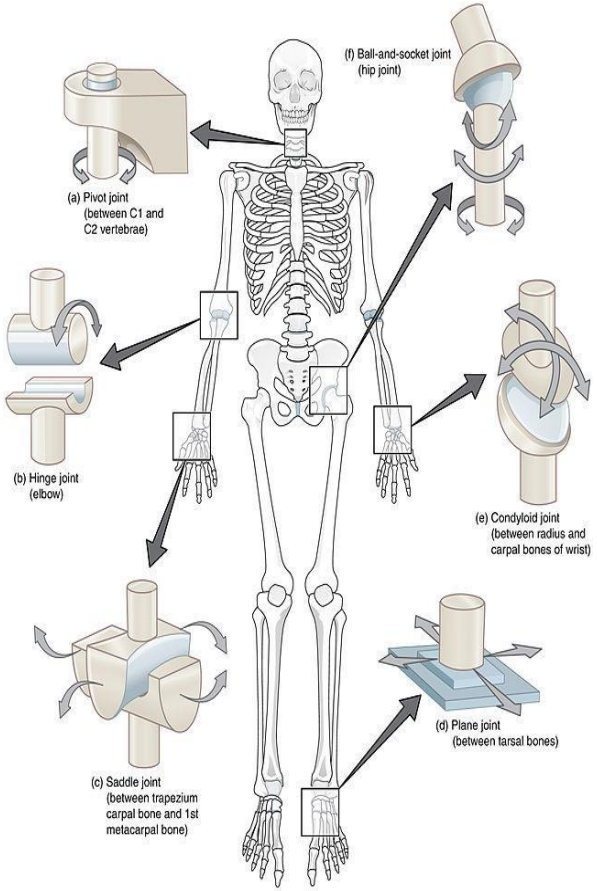
Exam question

Explain how bones of the skeleton are used in movement for sport. (2 Marks)



Types of Joints: State the three types of joints

- F_____
- S_____ M_____
- S_____



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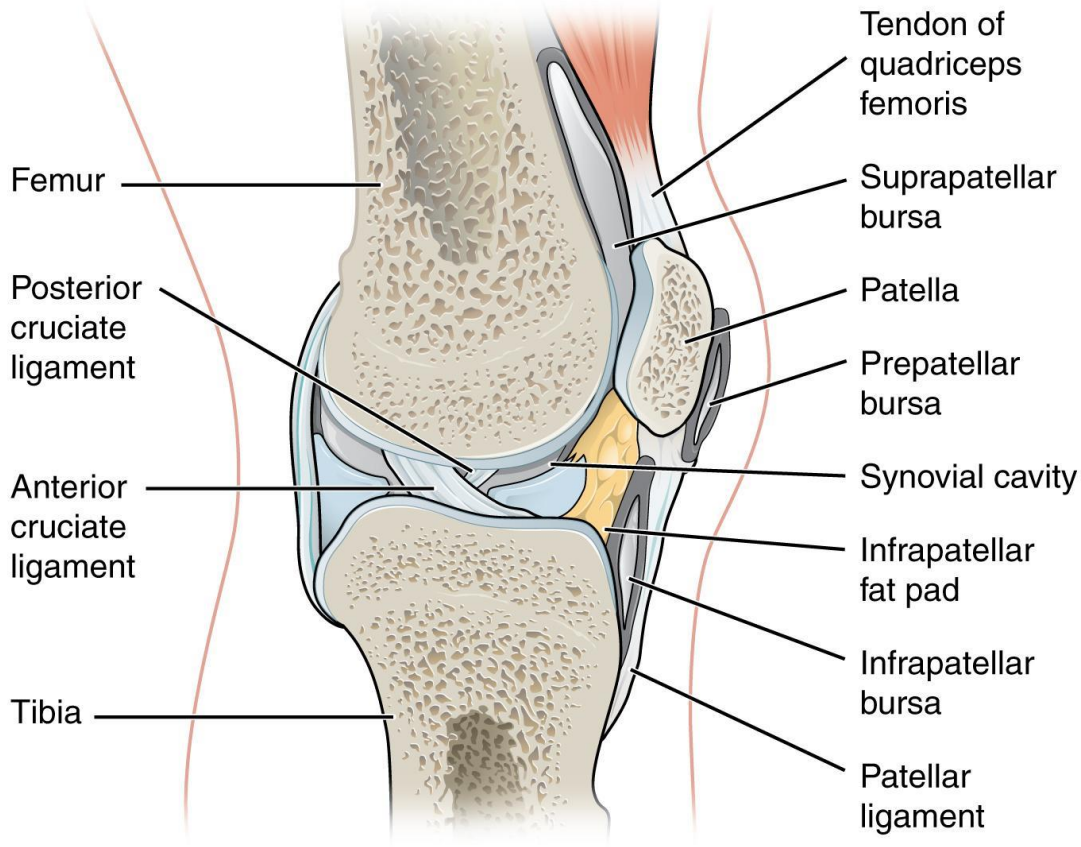
Types of Synovial Joints: Types of Synovial joints

- H_____
- B_____ & S_____
- G_____
- P_____
- S_____



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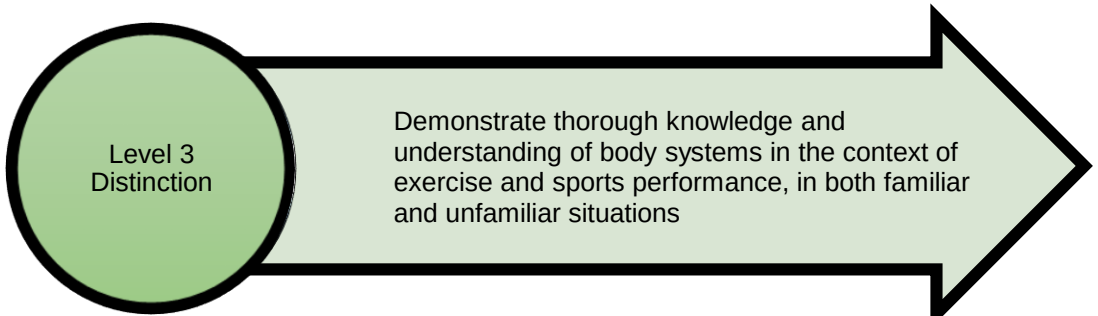
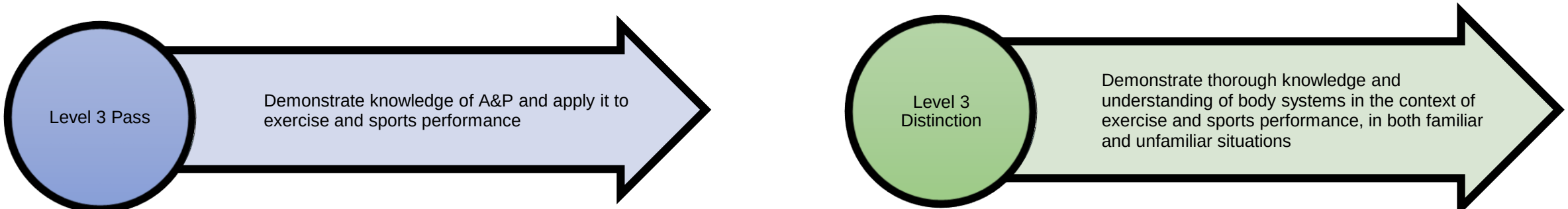
Exam question

Explain why weight bearing exercise will help to prevent the osteoporosis from getting worse.

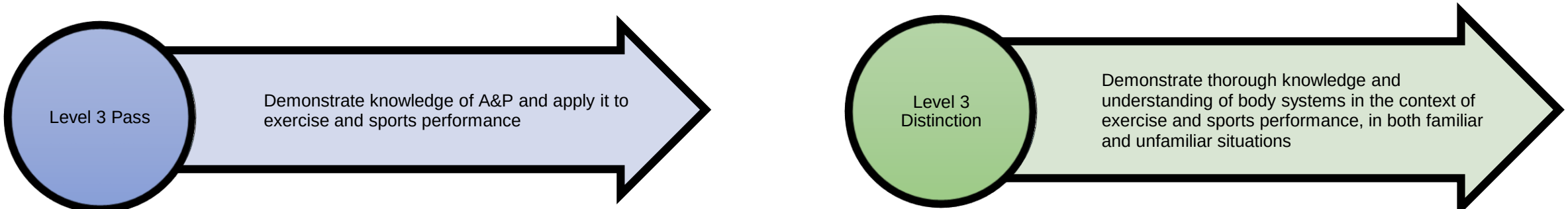
(3 marks)



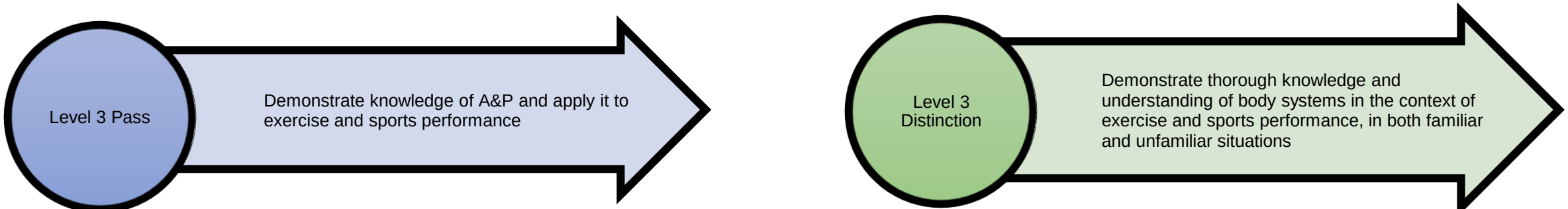
Create a mind map stating different types of bones



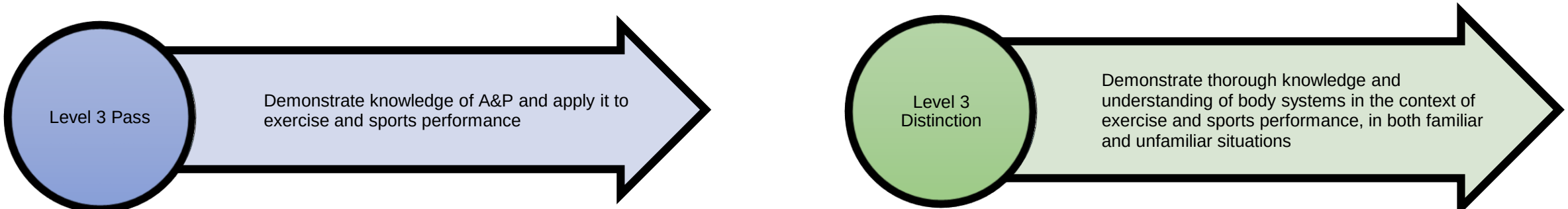
Create a mind map stating different types of joints



Create a mind map stating different types of Movement



Create a mind map stating long term effects of exercise on bones

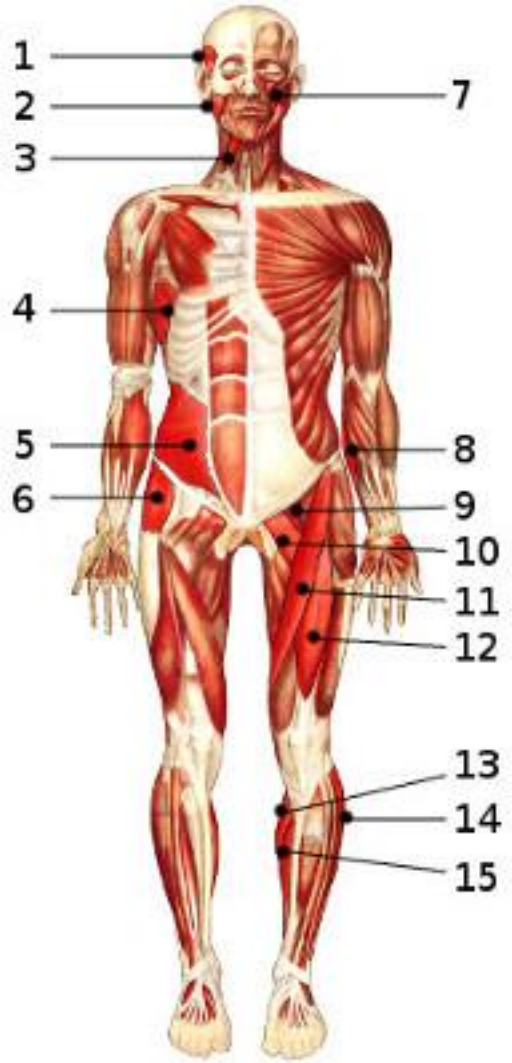


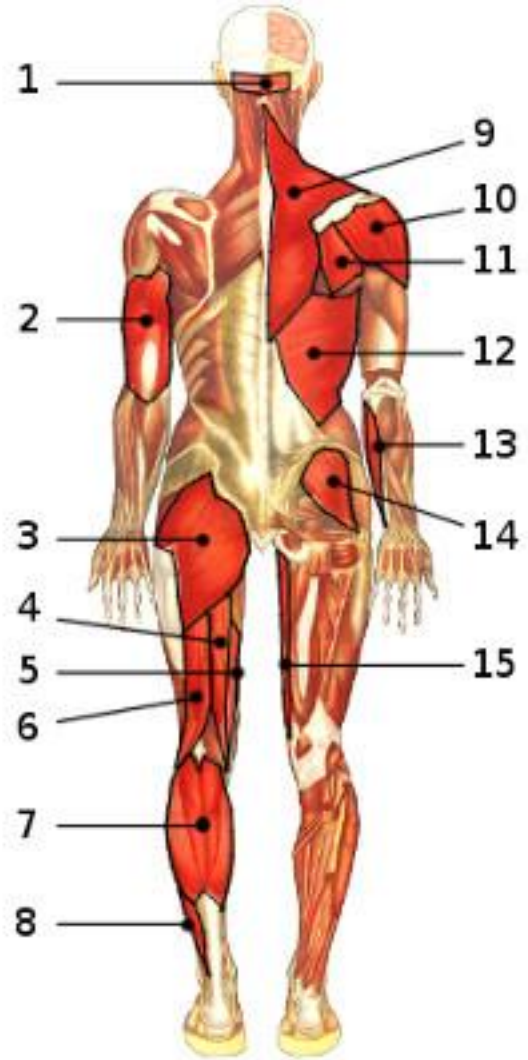
Unit 1 Learning outcome B:

The effects of exercise and sports performance on the Muscular System

Pre-topic task: Write down everything you think you know.

Types of Muscle: Label the muscles





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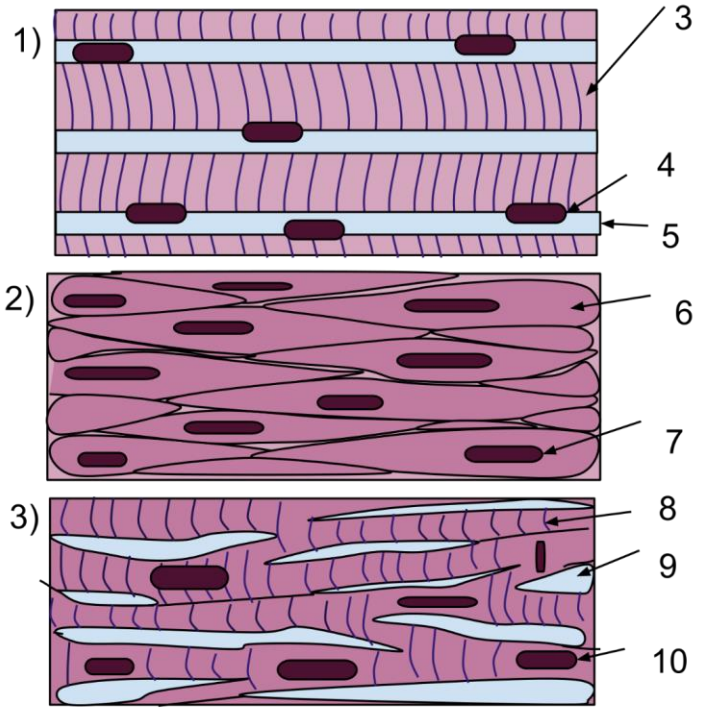
Types of Muscle: Define the different types of muscles

- Skeletal_____
  _____
  _____
- Smooth_____
  _____
  _____
- Cardiac_____
  _____
  _____



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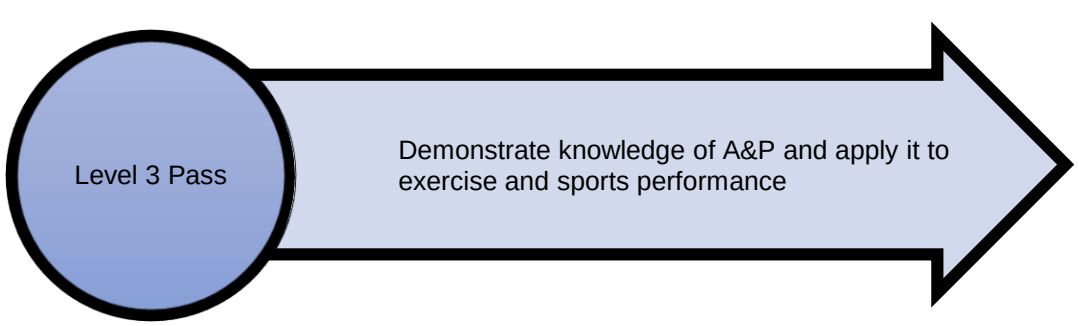
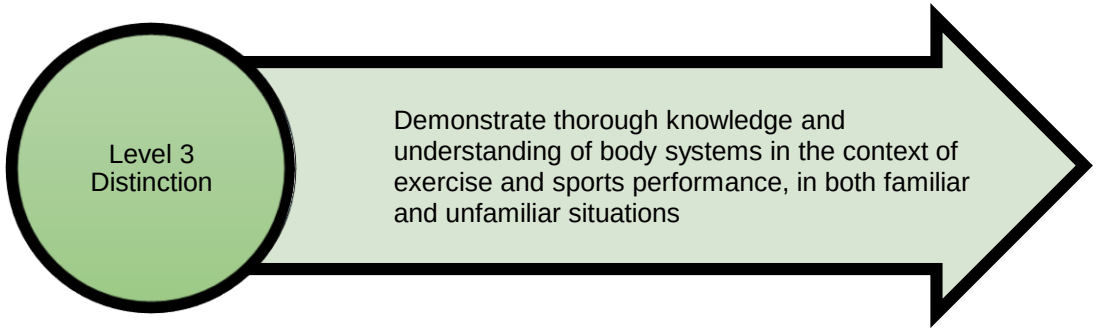
Major skeletal muscles

D_____	B_____	T_____	W___ F____	W___ E_____
S_____	P_____	Pec_____	A_____	O_____
Q_____	H___ F_____	T____ A_____	E_____ S_____	T_____
L_____ D_____	G_____	H_____	G_____	S_____

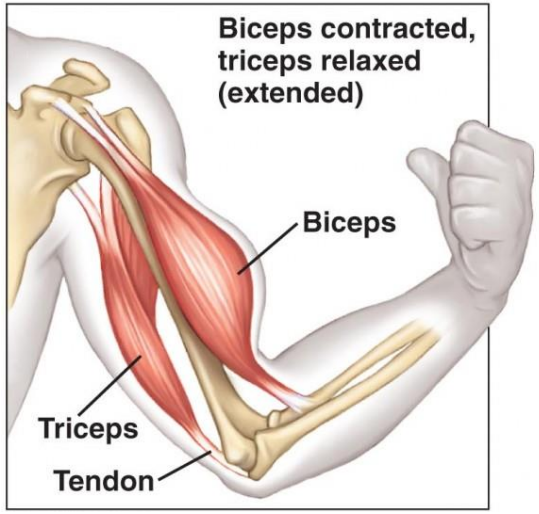


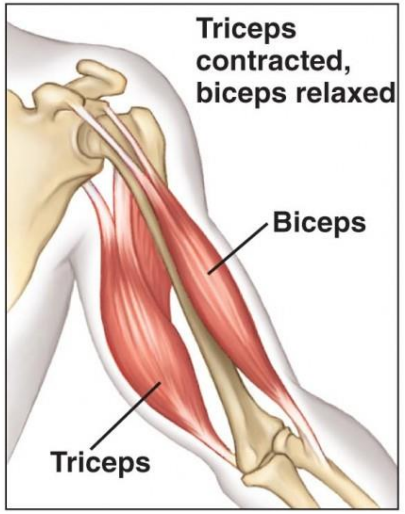


Antagonistic Muscle Pairs: Fill out the missing words

- Muscles work _____ to create movement

- Muscles can function as the following: Ag_____, An_____, Sy_____, F_____.





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Isometric: **Define the key terms**

- Muscle t_____
- Stays the S_____ L____
- Joint angle stays the S____

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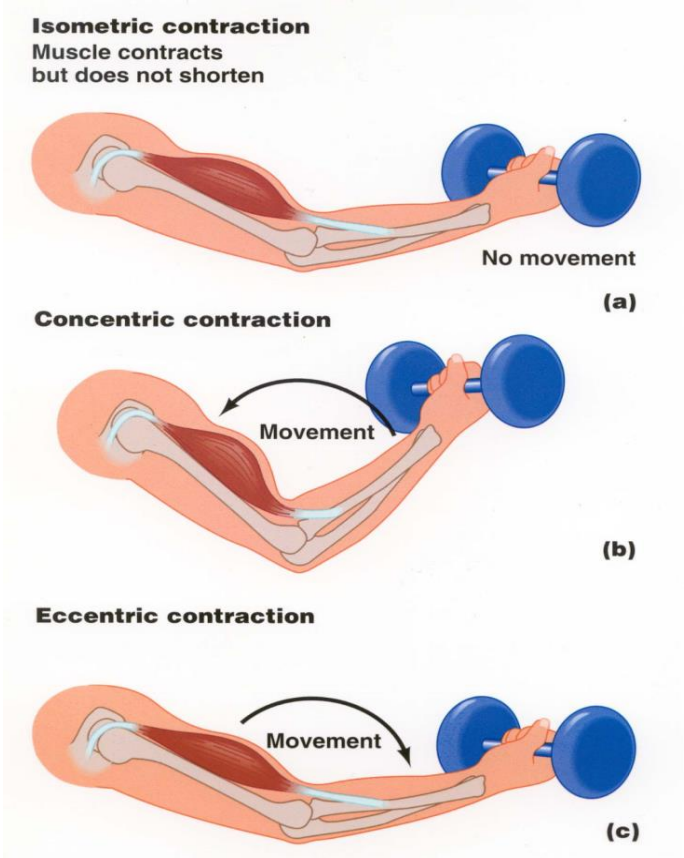
Concentric: Define the key terms

- Muscle s_____ under tension
- O_____ and I_____ move closer together



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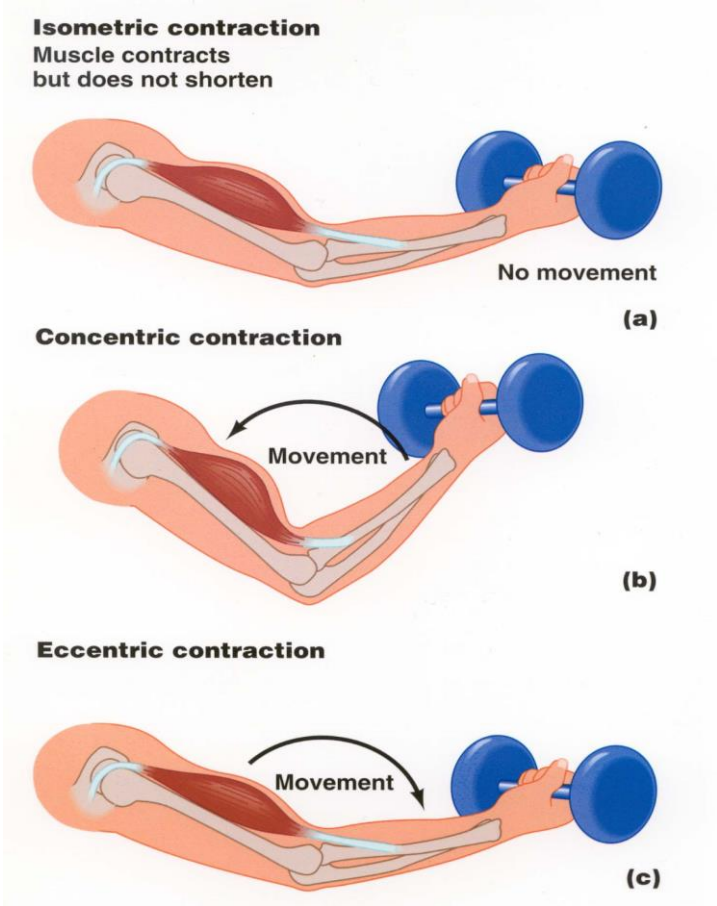
Eccentric: Define the key terms

- Muscle l_____ under tension
- Origin and Insertion move f_____ apart
- E.G. Bicep Curl – Lowering Phase



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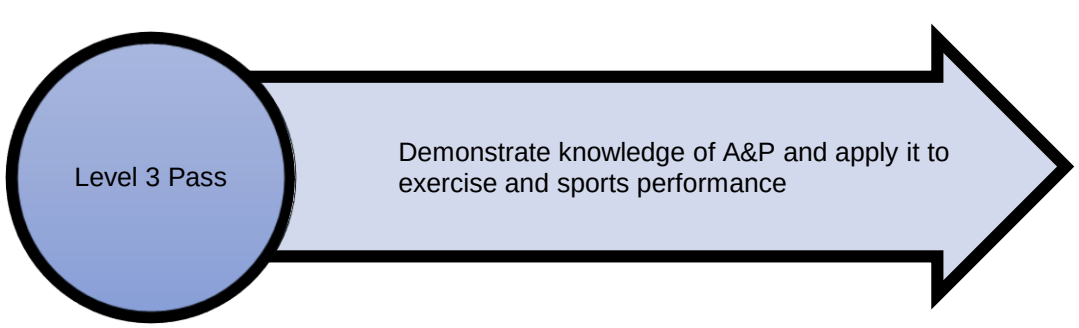
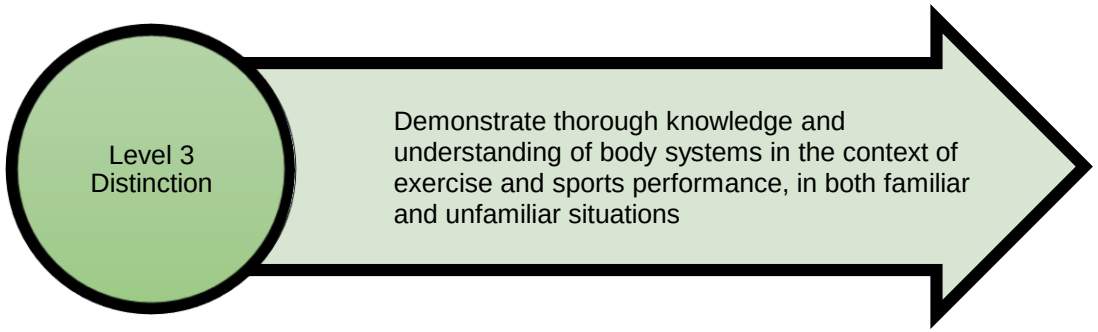
Muscle Fibre Types: Define the types of muscle fibres

- There are three types of muscle fibre:

- Type ___
- Type ____
- Type _____

	Type I Fibers	Type IIa Fibers	Type IIb Fibers
Contraction Time	Slow	Moderately fast	Very fast
Size of Motor Neuron	Small	Medium	Very large
Resistance to Fatigue	High	Fairly high	Low
Activity Used for	Aerobic	Long-term anaerobic	Short-term anaerobic
Maximum Duration of Use	Hours	<30 minutes	<1 minute
Power Produced	Low	Medium	Very high
Mitochondrial Density	High	High	Low
Capillary Density	High	Intermediate	Low
Oxidative Capacity	High	High	Low
Glycolytic Capacity	Low	High	High
Major Storage Fuel	Triglycerides	Creatine phosphate, glycogen	Creatine phosphate, glycogen





Muscular responses to single session: State 5 short term effects

- **Improved:**

1.
2.
3.
4.
5.

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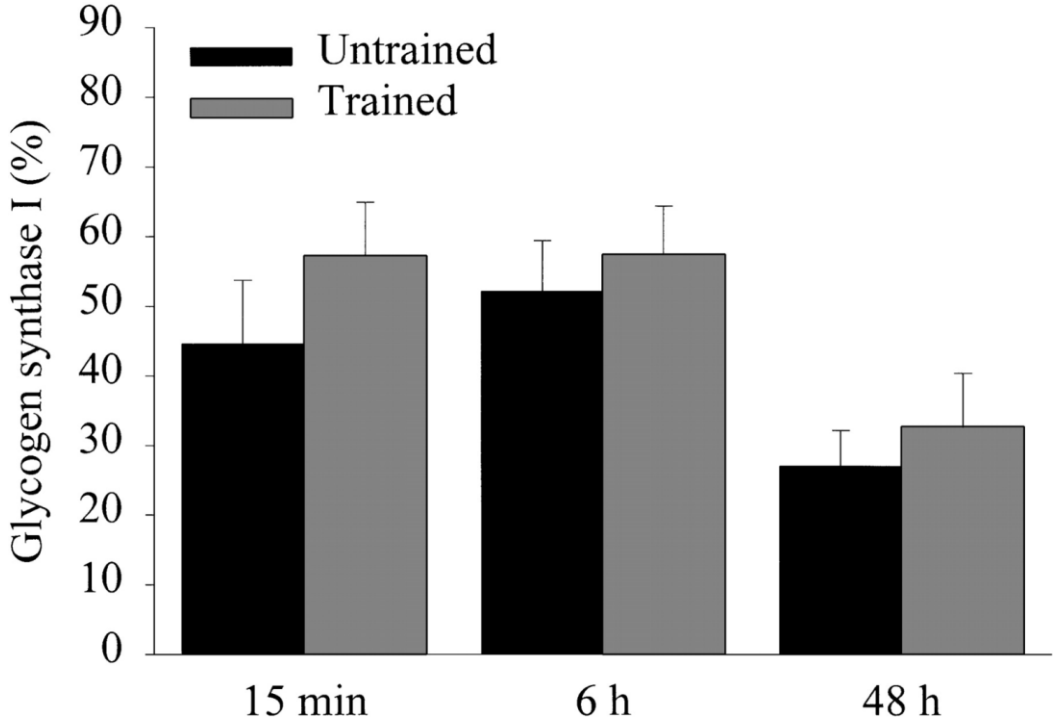
Muscular responses to long term effects: State 5 long term effects

- **Improved:**

1.
2.
3.
4.
5.



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Exam question

Stephanie is a high jumper. She uses weighted lunges as part of her training as shown

Explain how the use of weighted lunges would improve Stephanie's high jump performance.

(3 marks)

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Exam question

Two days after Stephanie's training session she experiences delayed onset of muscle soreness (DOMS).

State why Stephanie's training may cause DOMS.

(1 mark)

Explain how muscle adaptation occurs as a result of Stephanie's training**.**

(2 marks)