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The structure & functions of the skeleton – Part 2

Learning Objectives

- Identify parts of a synovial joint and describe their function.
- Describe two different types of synovial joint and give examples of where they are found in the body.
- Explain the movements that can take place at these synovial joints.

2 bo.

2 bones meet to make a joint

extension

Coverage
11/11/21

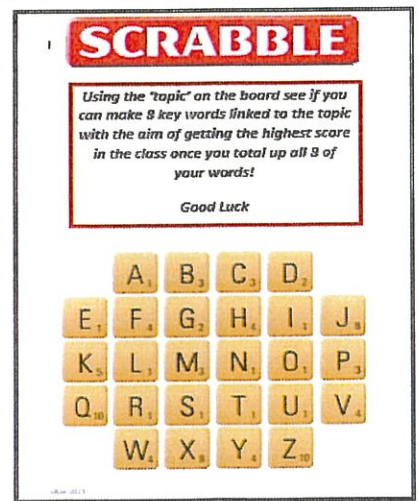


What is the highest value word you can make from the scrabble card?

Feetlech flexion 17

The words MUST be to do with the Skeletal System extension

3 1 1 2 1 1 4 1 1 3 1 1 1 22
Cardiovascular



articulating
1 1 1 3 1 1 1 1 2

15

Haemoglobin
4 1 1 3 1 2 1 1 3 1 1

19

quadriceps

metatarsals
3 1 1 1 1 1 1 1 1

13

Feetlech
4 1 1 1 1 1 3 5

17

sc-rays

8 1 1 4
15

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Synovial joints

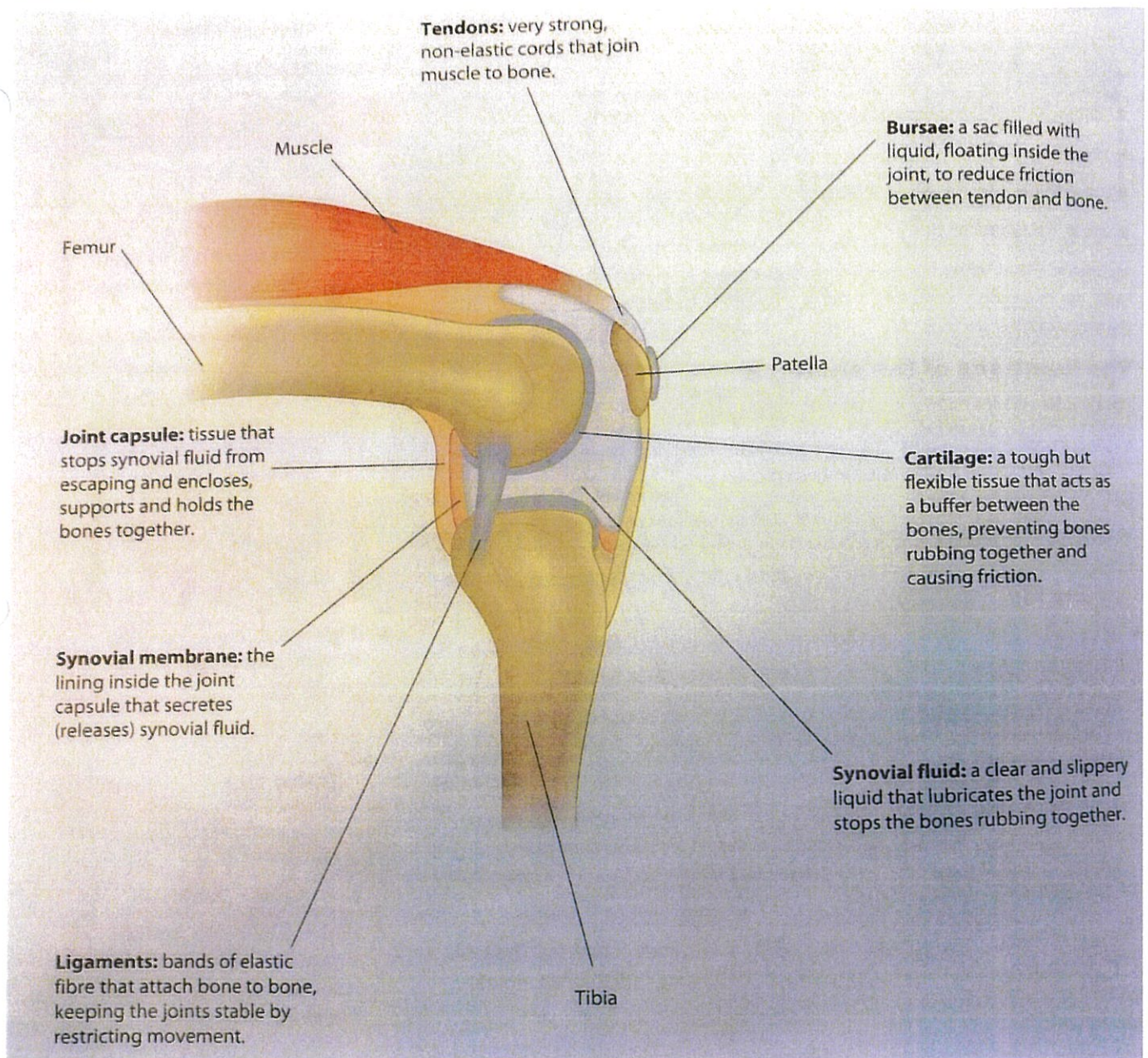


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Synovial joints, or freely moveable joints, are the most common type of joint in the human body. They are found at the shoulder, elbow, hip, knee and ankle.

They are found in areas of the body where two or more articulating bones meet.

K



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Synovial joints



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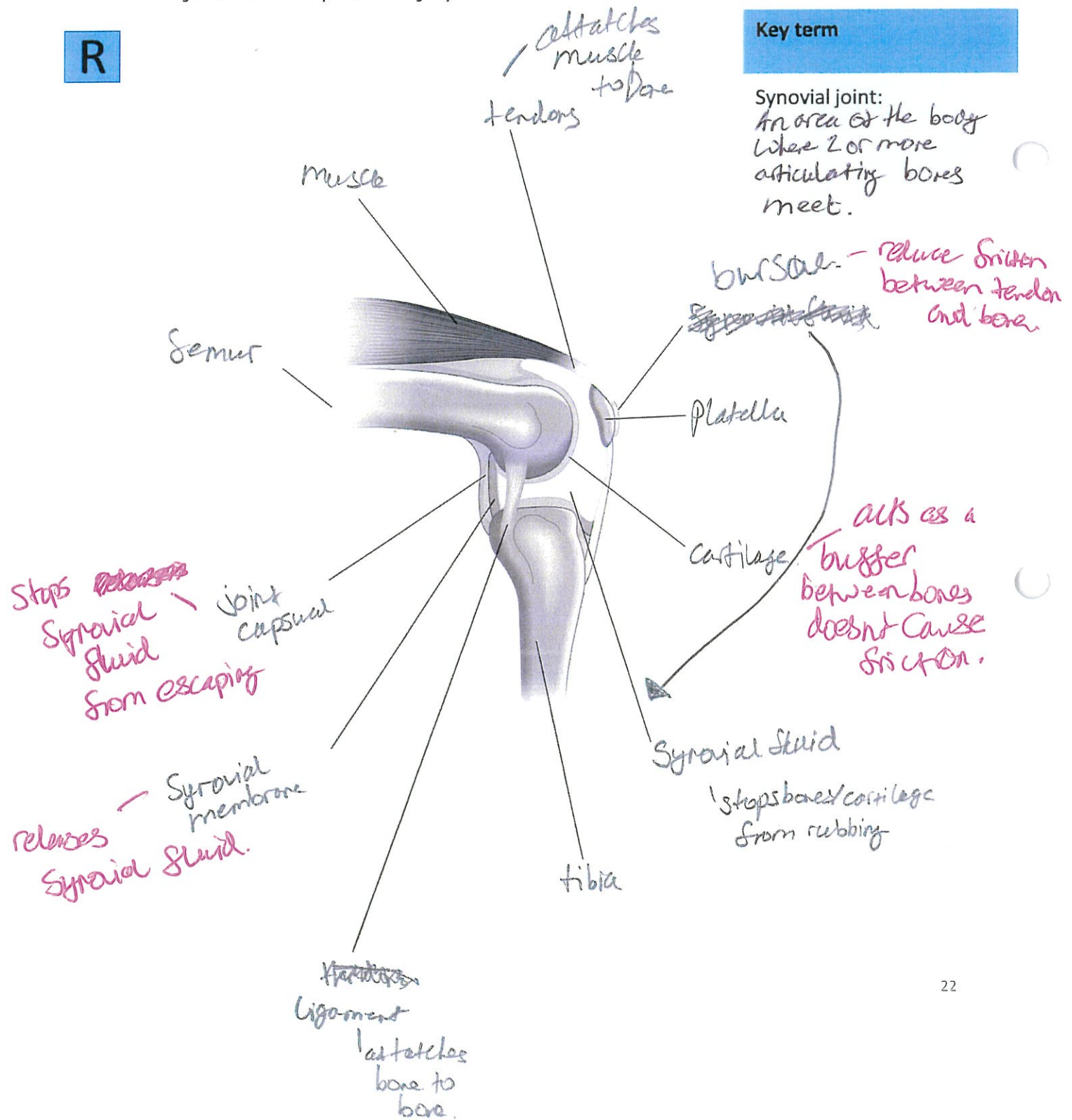
Synovial joints, or freely moveable joints, are the most common type of joint in the human body. They are found at the shoulder, elbow, hip, knee and ankle.

Label the diagram of the synovial joint at the knee, describing how each part of the joint works to prevent injury.

R

Key term

Synovial joint: An area of the body where 2 or more articulating bones meet.



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Types of synovial joints



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R

Ball and Socket Joint

- ✓ ball end of bone fits into socket of another.
- ✓ circumduction, flexion, extension, abduction adduction rotation.
- ✓

Examples

- ✓ Shoulder
- ✓ Hip.

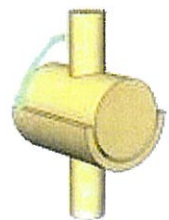


Hinge Joint

- ✓ flexion + extension
- ✓ where 2 articulating bones meet
- ✓ movement like movement of door hinge - flex and extend

Examples

- ✓ knee
- ✓ elbow
- ✓ ankle.



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Synovial Joints



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A

Describe the difference ^{between} the functions of cartilage and tendon in a synovial joint.

Tendons - muscle to bone, Cartilage - acts as a buffer between the bones.

V

Explain the importance of cartilage in a synovial joint for **two** different sports.

- half marathon.

1. Running - as the cartilage will stop the 2 bones: femur and tibia from rubbing each other (friction). The impact could cause severe damage with every step he takes without cartilage at the knee joint. So without the flexible tissue the knee joint will be severely damaged. (bones).
2. Basketball - as when running around with lots of impact movements and without the flexible tissue the amount of impact on your joints (knee) will damage them.

E

Evaluate and explain how different parts of the shoulder joint help it to move freely during a gymnastics floor routine.



She's abducting her arms. - the muscle will attach to the bone to make them move freely. The synovial fluid ~~without~~ with this they will be able to move their bones into those free positions. Tendons will help as they attach bone to bone making her move freely.

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Movement at synovial joints



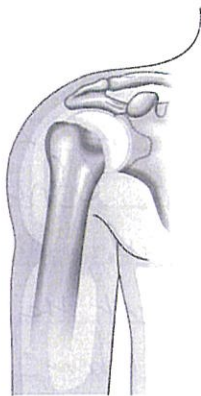
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For each diagram of a synovial joint below:

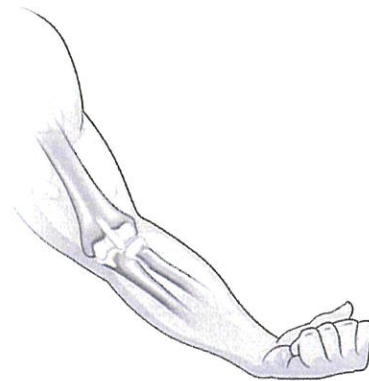


✓ **Exam tip**
Synovial joints are also known as freely moveable joints. The two terms are used interchangeably.

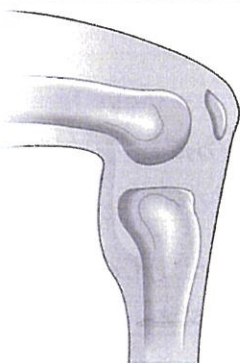
1. Identify the location of the joint
2. Identify the type of joint
3. Identify the movements that take place at the joint.



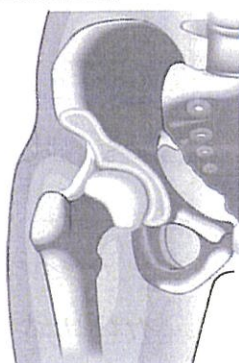
1. Shoulder joint
2. Ball & Socket joint
3. Flexion, extension, abduction, adduction, rotation.



1. Elbow joint
2. Hinge joint
3. Flexion, extension.



1. Knee joint
2. Hinge joint
3. Flexion, extension.



1. Hip joint
2. Ball & Socket joint
3. Flexion, extension, abduction, adduction, rotation.



1. Ankle joint
2. Hinge joint
3. Dorsiflexion, plantarflexion.

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Movement at synovial joints

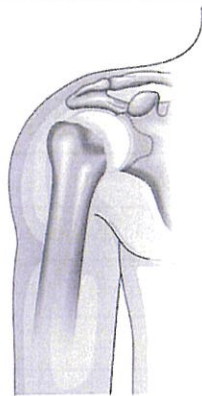


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For each diagram of a synovial joint below:

R

1. Identify the location of the joint
2. Identify the type of joint
3. Identify the movements that take place at the joint.



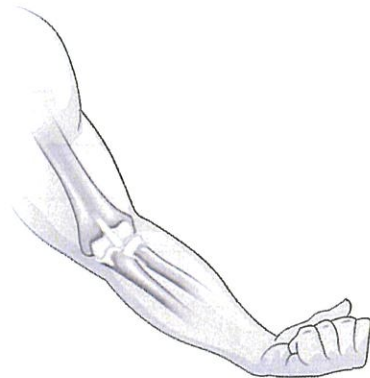
All in movement.

Circumduction.

Shoulder joint

abduction, adduction, rotation

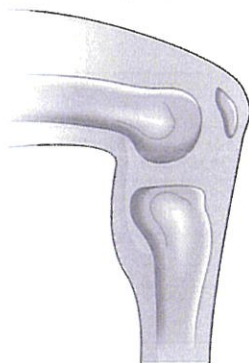
ball & socket



Elbow joint

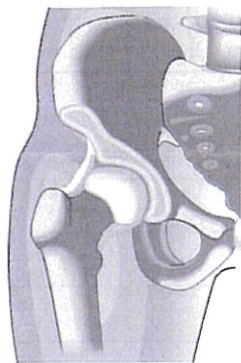
hinge

extension flexion



~~ball & socket~~ hinge knee joint

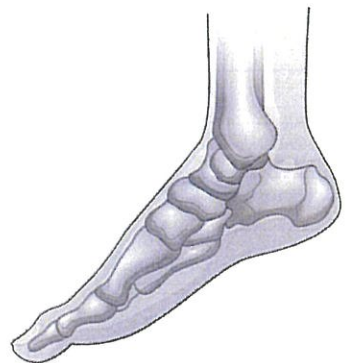
extension flexion



hip joint ball & socket.

rotation

ab. extension, add. flexion



Ankle joint.

~~ball & socket~~

~~extension~~ Flexion-extension

plantar flexion

dorsiflexion