

#### ACTIVITY 4

##### **Muscle 1**

Name of Muscle: Skeletal Muscle  
Description and Location: The skeletal muscle is often referred to as a bundle of cells called muscle fibres. The skeletal muscles are attached to the bones and are the main function for movement in our skeletons.

##### **Muscle 2**

Name of Muscle: Smooth Muscle  
Description and Location: The Smooth Muscle is located in some organs that are in the stomach and the walls of blood vessels.

##### **Muscle 3**

Name of Muscle: Cardiac Muscle  
Description and Location: The Cardiac Muscle is found in the walls of the heart. It is one of the three major types of muscles.

**Grade = Satisfactory**

#### ACTIVITY 7

Write a description of cross bridging. Include references to the following

- All or none theory
- Motor units
- CNS
- Structure of muscle

Muscles contract as a result of cross bridge formation this is between actin and myosin. The contractile proteins are called actin and myosin interacts with each other to cause contraction. Cross Bridge the attachment of myosin with actin within the muscle cell

**Grade = Not Satisfactory**

Please reference CNS, the Structure of a muscle and all or none theory in your answer.

#### ACTIVITY 8

Muscle fibres can be classified as either fast twitch or slow twitch

- a. Describe each twitch type

**Fast Twitch:** Fast twitch fibres are different to the slow twitch fibres because they are able to fire more rapidly. Fast twitch fibres are better for a sprinter because they can generate a lot of force

**Slow Twitch:** Slow twitch fibres use more oxygen to generate more fuel for a longer time. So the Slow twitch fibres help athletes run marathons for hours

- b. Provide an example of a specific sport where they are most used
- Sprinter
  - Marathons
  - Bike Riding
  - Running

## ACTIVITY 11

Consider the role of thermoregulation

**a. Provide a description of this term**

Thermoregulation is the regulation of the body temperature and keeps the body temperature within limits even in difficult conditions

**b. Outline the role it plays in exercise**

The human body temperature can change during the day. The core temperature during exercise can increase as the workout increases. It is so important to keep hydrated during a workout. Take time out to have some water.

**c. Describe what a person can do to ensure their body is prepared to undertake the stresses of exercise in relation to body temperature, as well as accounting of environmental conditions**

It is always a good idea to see your doctor before starting any form of exercise programme. Understand when your body is reaching the overheated stage and STOP REST and have some time out and drink some water.

When exercising outside the body temperature can increase a lot quicker due to the heat of the day. Think about the duration and intensity of the exercise, there can be a higher risk of injury and heat casualties (arrange workouts in the early morning)

**Grade = Satisfactory**

## ACTIVITY 13

**Why does oxygen demand increase when you are physically active.**

When you are working out your body is working harder than normal and the muscles are working harder. The oxygen is needed to help burn calories quicker. The increase in the heart rate and the blood runs through the muscles at a faster rate leaving less time for oxygen uptake.

## CASE STUDY 1

Name: Janice  
Age: 39 years old  
Exercise: Tennis three nights a week

### Information for Janice

Janice has seen a doctor for her condition, but before starting a new exercise programme it is good to have a conversation with Janice and her personal Trainer.

The personal Trainer would need to do some research as well.

Scoliosis is a medical condition for the abnormal curving of the spine. Most spines naturally curve but people with scoliosis have a spine that curves too much.

- Laying on the floor face down lift right arm and left leg up slow hold for 30 seconds then do the other side
- Sitting on the large ball and use the weights up and down slowly
- On all fours and lift the back up slowly then down again

- Tilted the waist around to each side

### ***Muscle Imbalanced***

Muscle Imbalances is the differences in muscle length or strength.

1. Utilize More Single Side Exercises
2. Add More Volume For Size Differences
3. Add More Weight For Strength Differences
4. Take Into Account What is Causing the Situation

Grade = Not Satisfactory

Please answer a 200 report answering ALL points in part a) and C) of the question:

a)

- What anatomical positioning would indicate these symptoms
- Why the factors indicated would make her muscles imbalanced

c) Explain how both the Golgi tendon reflex and the Stretch reflex will potentially assist Janice. Include a description of how the reflex arc works and the response it will have.

### ***Access Information***

[www.informationvine.com/ScoliosisExercises](http://www.informationvine.com/ScoliosisExercises)

[www.healthline.com/health/scoliosis](http://www.healthline.com/health/scoliosis)

[www.youtube.com.au](http://www.youtube.com.au)

[www.spine-deformity.org/home](http://www.spine-deformity.org/home).

### ***Allied Health Professionals***

- See your doctor
- Referral to a Specialist
- Exercise Sport Science Australia
- Rehabilitation Counseling association of Australasia
- Read the National Health Services Directory Introduction