



Year 11 to 12 BTEC SPORT Transition Work.

Firstly contact Mrs Zoldan (zoldanh@beck.uk.com), Mr Gillon (gillonc@beck.uk.com) and Mrs Burke (burkes@beck.uk.com) this will allow us to set you up on BTEC SPORT google classroom. We will be setting you examination style questions on here to practice applying the knowledge you will have gained in your research.

Also it will allow us to monitor that you are meeting the weekly deadlines and you can contact us if you need any help.

The course is split into 4 units, the first unit is a written examination on 'Anatomy and Physiology'. You will sit this examination in January 2021. Researching this unit will prepare you well for the paper.

The unit has been split into 5 topics. Each topic should take a week to complete. Please send the completed work to the appropriate teacher, so your progress can be monitored and feedback given.

Please complete your work using Word or other Microsoft applications.

Good luck

Week 1 Aim A – Mrs Burke

The effects of exercise and sports performance on the skeletal system

Watch the following YouTube clips:

Skeletal System Bones: <https://www.youtube.com/watch?v=LMZStgTd-Tw&list=PLxnIL5VlZsu4GIAYDxt2-7TPww7liUONW>

Joints: <https://www.youtube.com/watch?v=eSAqwZtTWhI>

Function: <https://www.youtube.com/watch?v=ItFutvTye8c>

Short Term Responses: <https://www.youtube.com/watch?v=w07r1e6U-54>

Long Term Adaptations: <https://www.youtube.com/watch?v=nhOY5xCVhpl>

Additional Factors: <https://www.youtube.com/watch?v=JOQHINPBuyQ>

There are many video clips on you tube that explain the skeletal system and the effects of sport on it!

Create notes/mind map that includes the following:

(Please use word or other Microsoft applications so that can be sent electronically.)

The notes need to be comprehensive, approximately a page per section.

- **Structure of skeletal system** – major bones, bone types, areas of skeleton and process of bone growth
- **Function of skeletal system**
- **Joints** – types, classification, structure of synovial joint and ranges of movement in particular for sporting actions
- **Responses of the skeletal system to a single sport or exercise session** (short term)
- **Adaptations of the skeletal system to exercise** (long term)
- **Additional factors affecting the skeletal system** – skeletal disease and age

Start Date Monday 27th April 2020 - Deadline Monday 4th May 2020 please send completed work to Mrs Burke (burkes@beck.uk.com)



Week 2 Aim B – Mr Gillon

The effects of exercise and sports performance on the muscular system

Watch the following YouTube clips:

Types of Muscles: <https://www.youtube.com/watch?v=YPVnIPeZKT0>

Major Muscles: <https://www.youtube.com/watch?v=utQK-NIL9t0>

Antagonistic Pairs: <https://www.youtube.com/watch?v=qg65ZlIK73A>

Types of Contraction: <https://www.youtube.com/watch?v=8TPKcZG00sw>

Muscle Fibre Types: https://www.youtube.com/watch?v=cES44_7eUY

Short and Long Term Responses: https://www.youtube.com/watch?v=G3L_KbsCDg0 and <https://www.youtube.com/watch?v=IM-zC4EVNsY>

Nervous Control: <https://www.youtube.com/watch?v=QItS-l2-pRg>

Additional Factors: <https://www.youtube.com/watch?v=JOQHINPBuyQ>

There are many video clips on you tube that explain the muscular system and the effects of sport on it!

Create notes/mind map that includes the following:

(Please use word or other Microsoft applications so that can be sent electronically.)

The notes need to be comprehensive, approximately a page per section.

- **Characteristics and functions of different types of muscles** – skeletal, smooth and cardiac
- **Major skeletal muscles of the muscular system**
- **Antagonistic muscle pairs** – Agonist, Antagonist, Synergist and Fixator.
- **Types of skeletal muscle contraction** – Isometric, Concentric, and Eccentric in sporting actions.
- **Fibre types** - type I, type IIa and type IIx.
- **Responses of the muscular system to a single sport or exercise session (short term)**
- **Adaptations of the muscular system to exercise (long term)**
- **Additional factors affecting the muscular system** – age and cramp

Start Date Monday 4th May 2020 - Deadline Monday 11th May 2020 please send completed work to

Mr Gillon (gillonc@beck.uk.com)



Week 3 Aim C - Mrs Zoldan

The effects of exercise and sports performance on the respiratory system

Watch the following YouTube clips:

Respiratory System structure: https://www.youtube.com/watch?v=RKe8gBvJ_M

Control of breathing: <https://www.youtube.com/watch?v=K92y0dy8GNI>

Mechanisms of breathing: <https://www.youtube.com/watch?v=UFfKpipB7xo>

Lung Volumes: <https://www.youtube.com/watch?v=N1fUpzIATxo>

Short Term Responses: <https://www.youtube.com/watch?v=dH9K738oOGI>

Long Term Adaptations: <https://www.youtube.com/watch?v=2JyropRjCkU>

There are many video clips on you tube that explain the respiratory system and the effects of sport on it!

Create notes/mind map that includes the following:

(Please use word or other Microsoft applications so that can be sent electronically.)

The notes need to be comprehensive, approximately a page per section.

- **Structure of the respiratory system** – label lungs, mouth, nose and muscles used in breathing
- **Function of respiratory system** – mechanism of breathing and gaseous exchange
- **Lung Volumes** – Tidal volume, Vital capacity, Residual volume, Total lung volume, Minute ventilation (VE).
- **Control of breathing** – neural and chemical
- **Responses of the respiratory system to a single sport or exercise session** (short term)
- **Adaptations of the respiratory system to exercise** (long term)
- **Additional factors affecting the respiratory system** – asthma and altitude/partial pressure

Start Date Monday 11th May 2020 - Deadline Monday 18th May 2020 please send completed work to Mrs Zoldan (zoldanh@beck.uk.com)



Week 4 Aim D – Mrs Burke

The effects of sport and exercise performance on the cardiovascular system

Watch the following YouTube clips:

Structure: <https://www.youtube.com/watch?v=K5vtafmTrNw>

Blood vessels: <https://www.youtube.com/watch?v=JzWhZMwlqCw>

Functions: <https://www.youtube.com/watch?v=Et5St6Qt2b0>

Nervous Control: <https://www.youtube.com/watch?v=YDxge7wn-G8>

Short Term Responses: <https://www.youtube.com/watch?v=ITA2ADs3g3A>

Long Term Adaptations: <https://www.youtube.com/watch?v=OLGy1a3w08s>

Additional Factors: <https://www.youtube.com/watch?v=J0QHINPBuyQ>

There are many video clips on you tube that explain the cardiovascular system and the effects of sport on it!

Create notes/mind map that includes the following:

(Please use word or other Microsoft applications so that can be sent electronically.)

The notes need to be comprehensive, approximately a page per section.

- **Structure of cardiovascular system** – heart, blood vessels and blood
- **Function of cardiovascular system**
- **Nervous control of the cardiac cycle** - Conduction process; Sinoatrial node (SAN), Atrioventricular node (AVN), Bundle of His, Purkinje fibres. Effect of the sympathetic and parasympathetic nervous system.
- **Responses of the cardiovascular system to a single sport or exercise session** (short term)
- **Adaptations of the cardiovascular system to exercise** (long term)
- **Additional factors affecting the cardiovascular system** – Sudden arrhythmic death syndrome (SADS), High blood pressure/low blood pressure and Hyperthermia/hypothermia.

Start Date Monday 18th May 2020 - Deadline Monday 25th May 2020 please send completed work to Mrs Burke (burkes@beck.uk.com)



Week 5 Aim E – Mr Gillon

The effects of exercise and sports performance on the energy systems

Watch the following YouTube clips:

Role of ATP: https://www.youtube.com/watch?v=S-TE_3iYBCk&list=PLcdQDUUQX_4vcifsRu-iOyqZsxtlOsWxy

ATP – PC System: https://www.youtube.com/watch?v=TBDSpOnzFAo&list=PLcdQDUUQX_4vcifsRu-iOyqZsxtlOsWxy&index=2

Lactate System: https://www.youtube.com/watch?v=21CMPAVT7Qs&list=PLcdQDUUQX_4vcifsRu-iOyqZsxtlOsWxy&index=3

Aerobic System: https://www.youtube.com/watch?v=8pISKZYtHnI&list=PLcdQDUUQX_4vcifsRu-iOyqZsxtlOsWxy&index=4

Energy Continuum:

https://www.youtube.com/watch?v=aYzxC5Gy8SQ&list=PLcdQDUUQX_4vcifsRu-iOyqZsxtlOsWxy&index=5

Diabetes: https://www.youtube.com/watch?v=e0XN_hjfQiA

There are many video clips on You Tube that explain The Energy Systems.

Create notes/mind map that includes the following:

(Please use word or other Microsoft applications so that can be sent electronically.)

The notes need to be comprehensive, approximately a page per section.

- **Role of ATP**
- **The ATP-PC (alactic) system in exercise and sports performance**
- **The lactate system in exercise and sports performance**
- **The aerobic system in exercise and sports performance**
- **Adaptations of the energy system to exercise**
- **Additional factors affecting the energy systems – diabetes and lack of children’s lactate system**

Start Date Monday 1st June 2020 - Deadline Monday 8th June 2020 please send completed work to

Mr Gillon (gillonc@beck.uk.com)