

January 2023

Dear Parent/Carer

I am writing to inform you of the upcoming process for the OCR National Sports Science course. The Sports Science written exam for sports injury RO41 took place on 9 January 2023 contributing to the final GCSE grade. Your son/daughter will have an opportunity to resit this exam in the summer of 2023 if necessary.

The three mandatory coursework units need to be completed by the final deadline of 27 March 2023. This is to allow time for collating coursework and moderation. The units of RO43 - The bodies response to exercise and RO42 - The principles of Training should have been completed and submitted already. If your son/daughter has not completed/submitted these units, they must be handed in imminently. The coursework unit, we will be completing post exam in January, will be RO46 - Sports Technology. This will allow a 10-week block to complete the final unit and make any amendments to previous units if necessary.

To submit coursework your son/daughter will need to email this to me on csandifer@kovessex.co.uk. The coursework needs to be titled with the unit code and the relevant learning objective. For instance: RO43 for a whole unit or RO43_LO1 for singular objectives.

Over the past year the OCR exam board have been highly scrutinising any plagiarism of student work. It is imperative that any work submitted by a student is their own. If any resources have been used (textbook, internet, pictures) they must be referenced by copying the URL web link and pasting to the relevant slide of where the information is included in the coursework.

The resources available for completing coursework units and exam revision are available on Firefly (please use the links below). Checklists of what to include in each coursework have also been attached below.

If you have any questions regarding above, please do not hesitate to contact me on csandifer@kovessex.co.uk.

Yours sincerely

Chris Sandifer
Teacher of Physical Education

OCR Sports Science Resource Pack

Resources

<https://kow.fireflycloud.net/pe/sport-science/r041---reducing-the-risk-of-injuries>

[https://kow.fireflycloud.net/pe/sport-science/r042-applying-principles-of-training-R043 - The Body's Response to Physical Activity — The Kings of Wessex \(fireflycloud.net\)](https://kow.fireflycloud.net/pe/sport-science/r042-applying-principles-of-training-R043 - The Body's Response to Physical Activity — The Kings of Wessex (fireflycloud.net))

<https://kow.fireflycloud.net/pe/sport-science/r043---the-bodys-response-to-physical-activity->

<https://kow.fireflycloud.net/pe/sport-science/r046---technologyGCSE Physical Education - OCR - BBC Bitesize>

Revision guide

[My Revision Notes: Cambridge National Level 1/2 Sport Science: Amazon.co.uk: Young, Sue, Burrows, Symond: 9781510478572: Books- £10.99 from Amazon](https://www.amazon.co.uk/dp/B0781510478572)

Checklists

R043

R043: The Bodies Response to Exercise			
LO1			
<u>Key Components of the Skeletal System</u>	<i>Started</i>	<i>Almost there</i>	<i>Done</i>
Have you labelled a diagram of the skeleton?			
Have you described where the bones are found in the body? E.g. the Femur is located in the upper leg			
Have you identified the 7 different joints and given examples of them in the body?			
<u>Key Components of the Muscular System</u>			
Have you labelled a diagram of the muscular system?			
Have you discussed how pairs of muscles work together to move the body?			
Have you defined each connective tissue?			
<i>Cartilage</i>			
<i>Ligaments</i>			
<i>Tendons</i>			
<u>Key Components of the Respiratory System (The Lungs)</u>			
Have you labelled a diagram of the lungs?			
Have you described the pathway of air into the lungs?			
Have you given definitions of each component of the lungs?			
<i>Trachea</i>			
<i>Oxygen</i>			
<i>Lungs</i>			
<i>Bronchi</i>			
<i>Bronchioles</i>			
<i>Alveoli</i>			
<u>Key Components of the Cardiovascular System (The Heart)</u>			

Have you labelled a diagram of the heart?			
Have you described the pathway of blood through the heart?			
Have you described how this process affects the muscles and causes movement (E.g. the role of oxygen)			
Have you identified the four components of the blood and outlined their function?			
Have you identified the location of the three main blood vessels in the body and explained their function in transporting the blood?			
The Body System's Responses to Exercise			
Have you explained the Skeletal System's role in movement?			
Have you shown understanding of the types of movement?			
<i>Flexion</i>			
<i>Extension</i>			
<i>Abduction</i>			
<i>Adduction</i>			
<i>Rotation</i>			
<i>Circumduction</i>			
Have you included an understanding of the role of the connective tissues in exercise?			
<i>Cartilage</i>			
<i>Ligaments</i>			
<i>Tendons</i>			
Have you explained the Muscular System's role in movement?			
Have you described the process of movement? (Muscle Contractions and how they work using sporting examples)			
<i>Isometric contractions</i>			
<i>Isotonic Contractions (Concentric and Eccentric)</i>			
Have you explained the Cardio-Respiratory System's (Heart and Lungs) role in movement?			
<i>Heart Rate</i>			
<i>Blood Pressure</i>			
<i>Vascular Shunt Mechanism</i>			
<i>Breathing</i>			
<i>Internal Respiration</i>			
<i>Aerobic and Anaerobic Respiration</i>			
Have you used sporting examples to help explain the above?			
LO2			
Muscular-skeletal and Cardio-respiratory system's Role in Health and Fitness	<i>Started</i>	<i>Almost there</i>	<i>Done</i>
Have you explained how participating in regular exercise benefits health/fitness discussing the below health conditions?			
<i>Heart Disease</i>			
<i>Stroke</i>			
<i>Cancer</i>			
<i>Osteoporosis</i>			
<i>Stress</i>			
<i>Obesity</i>			

For each of the above have you included the following: <ul style="list-style-type: none"> • What it is? • What could happen if you did not exercise? • How can exercise benefit? • Examples of exercise you can do to prevent it? 			
Have you also included how exercise benefits the below using sporting examples?			
<i>muscular strength</i>			
<i>muscular endurance</i>			
<i>muscular flexibility</i>			
LO3			
<u>short-term effects of physical activity on the Musculo-skeletal and cardio-respiratory systems</u>	<i>Started</i>	<i>Almost there</i>	<i>Done</i>
Have you discussed the below short-term responses to exercise?			
<i>Range of movement around joints</i>			
<i>Heart rate, stroke volume and cardiac output</i>			
<i>Breathing rate</i>			
<i>Body temperature</i>			
<i>Muscle fatigue</i>			
For each of the above have you included: <ul style="list-style-type: none"> • What are the changes? • Why? • How does this help the body exercise efficiently? 			
Have you identified ways to measure and record these short-term effects of exercise?			
You could design a PE lesson which would enable you to measure each of the changes listed above. It must include: <ul style="list-style-type: none"> • Warm up, main session and cool down • Equipment needed and how it would be used • Description of specific activities • Clear understanding shown of how to measure the above changes 			
Have you shown how you will record the data from your PE lesson?			
Have you defined objective data and give examples?			
Have you defined subjective data and give examples?			
L04			
<u>Have you discussed the below long-term adaptations to regular training?</u>	<i>Started</i>	<i>Almost there</i>	<i>Done</i>
<i>Changes in muscle size and strength</i>			
<i>Changes in <u>resting</u> heart rate</i>			
<i>Changes in <u>training</u> heart rate</i>			
<i>Changes in heart rate recovery</i>			
<i>Muscle fatigue</i>			
For each of the above have you included: <ul style="list-style-type: none"> • What are the changes? 			

<ul style="list-style-type: none"> • Why? • How does this help the body adapt to exercise? 			
Have you identified ways to measure & record these long-term effects of exercise?			
You could design a PE lesson which would enable you to measure each of the changes listed above. It must include: <ul style="list-style-type: none"> • Warm up, main session and cool down • Equipment needed and how it would be used • Description of specific activities • Clear understanding shown of how to measure the above changes 			
Have you shown how you will record the data from your PE lesson?			
Have you defined objective data and given examples?			
Have you defined subjective data and given examples?			
Have you ensured the above is different to the one you did for L03 as you are measuring different things?!			

RO42

R042: Applying Principles of Training Checklist			
LO1			
<u>Principles of Training</u>	<i>Started</i>	<i>Almost there</i>	<i>Done</i>
Have you described Specificity using examples and applied it to a sport?			
Have you described Progressive Overload (FITTA) using examples and applied it to a sport?			
Have you described Reversibility using examples and applied it to a sport?			
Have you described Moderation using examples and applied it to a sport?			
Have you described Variance using examples and applied it to a sport?			
LO2			
<u>Aerobic and Anaerobic Exercise</u>	<i>Started</i>	<i>Almost there</i>	<i>Done</i>
Have you described the differences between these two types of exercise using examples?			
<u>Components of Fitness</u>			
Have you defined each of the following Components of Fitness and identified a range of training methods that will target them?			
<i>Agility</i>			
<i>Speed</i>			
<i>Balance</i>			
<i>Flexibility</i>			
<i>Muscular Endurance</i>			
<i>Cardiovascular endurance</i>			
<i>Muscular Strength</i>			
<i>Power</i>			
<u>Training Methods</u>			

Have you explained each of the following training methods using examples and demonstrated how they improve specific components of fitness?	<i>Started</i>	<i>Almost there</i>	<i>Done</i>
<i>SAQ Training</i>			
<i>Continuous Training</i>			
<i>Interval Training</i>			
<i>Fartlek Training</i>			
<i>Resistance Training</i>			
<i>Circuit Training</i>			
<i>Plyometric Training</i>			
<i>Flexibility Training</i>			
<i>Balance Training</i>			
L03			
<u>Fitness Tests</u>	<i>Started</i>	<i>Almost there</i>	<i>Done</i>
Have you outlined the protocols for the following fitness tests?			
<i>Burpee and/or Squat test</i>			
<i>Vertical jump and/or standing long jump test</i>			
<i>Shuttle run and/or Illinois agility run test</i>			
<i>Standing stork test</i>			
<i>Sit and reach test</i>			
<i>1 min press-up and/or 1 min sit-up test</i>			
<i>Cooper run and/or Harvard step test</i>			
Have you completed these tests and recorded your results accurately?			
Have you compared your results to normative data and described what this means for your fitness levels?			
L04			
<u>Training Programme</u>	<i>Started</i>	<i>Almost there</i>	<i>Done</i>
Have you identified a weakness in your fitness for your training programme aim/goal and explained why you want/need to improve it? (Reference your fitness test results)			
Have you turned your training programme aim into a SMART goal?			
Have you chosen relevant training methods to meet your SMART goal and explained why they will be effective?			
Have you evaluated your training programme? Justified the design and delivery and recommended ideas for improvement?			

RO46

Task 1: How technology is used in sport

LO1

Show evidence for how technology has been used in sport and how this affects

- participation
(3 examples minimum)
- Performance
(3 examples minimum)
- Spectators
(3 examples minimum)

Task 2: The positive and negative effects of sports technology

LO2 and LO3

Evidence to show that technology that has been introduced into sport has had

- Positive effects
Explain why the introduction of technology has benefited the sport and has been a positive influence. Your reasoning must be backed up with relevant examples.
(three examples minimum)
- Negative effects
Explain why the introduction of technology into sport has had a negative impact on the sport. Make sure that you back your arguments up with relevant examples.
(three examples minimum)

Task 3: The impact of technology in sport

LO2 and LO3

Your report which evaluates the impact of technology in sport, should focus your report on **one** of the following titles:

1. a specific technology used in one specific sport
2. one piece of technology used and adapted across a range of sports
3. an organisation which has been and/or is at the forefront of using new technology.

LO4

- **Evaluation** of the technology in sport this means
 - A balanced argument Positives and negatives
 - At least three arguments
- **Describe** the use of technology being evaluated and consider the factors affecting its use **in detail**.
- **Discuss** the impact that this technology has had on sport.
- **Justify** your decision on whether the technology has benefited the sport hitting the aims and objectives which were originally set, or has it been adapted further for greater benefit.