



STARTER FOR 12

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Welcome to your starter for Year 12 booklet!

In the booklet you will find a number of tasks set by your subject teachers. These tasks are designed to give you an insight into the subjects you intend to study for A Level. They will also help you develop key skills ahead of the course, so you are in the best position to achieve your top grade.

Tasks should be completed for all subjects you intend to study in Y12. **All tasks are due for your first lesson back in September!**

If you are unsure if you are going to achieve the entry requirements for your chosen subjects there will be time after results to complete the tasks. If you find you have narrowly missed the entry criteria for subjects, the tasks may support you being considered by Heads of Department for a place on the course.

Enjoy!

Art & Design

As part of your preparation for your AS Art & Design course in September you should complete the following tasks over the summer holiday.



- Set up an interesting **Still Life** (see definition below)
- Place a powerful **light source** to one side (preferably a spot light or bright torch)
- "**PHOTOSHOOT**" - Take a series of photographs of your still life from different angles / zooming in & out.
- Your photographs should show a high contrast in tones ranging from very dark to very light
- Make sure you print your photographs onto good quality photo paper
- Complete *three* different **Tonal** studies of *three* different viewpoints, either working directly from the still life or from your photos. Work on A3 cartridge paper.
- Tonal drawing using 2B-6B pencils
- Black Biro – hatching / crosshatching / dot technique
- One other Tonal media of choice – water colour / oil pastels / chalk & charcoal (you may wish to work on water colour or textured paper for this piece)

Still Life: *an arrangement of mostly inanimate objects, typically commonplace objects which may be either natural (food, flowers, dead animals, plants, rocks, or shells) or man-made (drinking glasses, books, vases, pipes, etc).*



Bring this work to your first lesson in September

Biology

Dear New Biology Student,

Independent learning is a central part of being a student. It will challenge your motivation and dedication, while developing your organisational and time management skills. Being an independent learner means being an active learner, taking responsibility for your workload, commitments and deadlines, and when mastered it will be the key to success in your studies.

We will support you in becoming an independent learner as it is quite a transition from GCSE. This is the aim of this task. It is to be completed by the first day back in September.

Each student is to purchase and complete the Head Start to AS Biology CGP book (ISBN 978 1 78294 279 5) and RAG the Essential Maths for A Level Biology (ISBN 978 1 84762 323 2) CGP book. Both of these are available from KS3 prep room for £6 total. External students can arrange to purchase these books by emailing dmcquade@rickmansworth.herts.sch.uk to get our discounted price.

To RAG means to indicate your ability in each criteria: and then work on it to get it to the category above. Red means that you acknowledge you do not have this skill and will follow the worked example and then complete the activities on the page to get this to at least a Yellow. You may need to be even more proactive and seek additional support from peers, internet or teachers. Yellow means that you have an understanding of this skill and need to practise the skill to get it to a green. This is when then questions at the bottom of each skill are helpful and then self-assess using the answers at the back. Green means you are confident in this skill and could teach others. You only need to complete the activities when you feel that this skill needs work.

Bring two folders (A4 2-rings only) and two sets of 20 dividers to first lesson.

See you in September

The Biology Department

Business Studies

The following task is intended to get you thinking about some of the things you will be studying in the AS course. If you do not find these tasks at all interesting, you may have chosen the wrong subject. You must write/type your answers ready for the first lesson in September. Your ideas will be used in introductory discussions.



TASK: The way we purchase our goods and services has changed considerably in the last few years. The biggest change is the use of e-commerce and most recently m-commerce. This has created a vast number of opportunities and threats for different businesses. Some have utilised the changes to create a unique offering others may have made changes to their existing business model to embrace the opportunities. Yet, we all are led to believe that the growth of e-commerce will inevitably lead to the decline of the high street. You are going to investigate this.

This is NOT a comprehension exercise. You will need to THINK for yourself and do some research to arrive at the answers. If you find a term you do not understand it is vital you do not give up, but research the term until it makes more sense.

Your task is to answer the following questions, there are suggested links to help you, but you are encouraged to complete further research to support your answers:

1. What is e-commerce? Write a definition
2. What is m-commerce? Write a definition
3. How many sales over the Christmas 2015 period were online at John Lewis?

<https://www.youtube.com/watch?v=sAiynty5Q94>

4. How have John Lewis changed their model to use e-commerce to grow their business? What is unique about their new Birmingham store? How many people/teams are involved in the development of their e-commerce? Could a smaller retailer compete with their model?

<https://www.youtube.com/watch?v=Xw8bAqlqiNw> (this is an hour documentary)

5. Why is Frank and Oak moving from being on-line only to having a shop?

<https://www.youtube.com/watch?v=vutlirk9VNg> (first minute only)

6. For Domino's pizza 70% of deliveries came from on-line with 30% of this being from a mobile device. Yet, the chain is still focused on store growth. Why do you feel this may be the case?

7. **“To what extent is it inevitable that high street retailing will continue to decline as a result of continued growth of e-commerce (250 words)”**

This question should be completed as an essay, the title is intentionally broad to enable you to take the task in any direction you see fit.

See you in September!

Chemistry

See resources on the Sixth Form blog.

Computing

1. Go to <http://lazarus.freepascal.org> and download the version of Lazarus you need. If you use MS Windows it will be the Windows version. Choose the 32-bit version if in doubt.
2. Install it on your computer
3. Go to
tinyurl.com/alevelcomputingcourse
or
<http://alevel-computing.x10.mx>
(They are the same)
4. Go to the Pascal section and work through all of the first 15 programs up to '15. And Or'
5. In the Pascal section go to
'63. Programs to write'
and write all the programs for yourself up to
' 4.10 Addition Test'.
6. Bring the 'Addition Test' program with you on the first day. If this was too hard, bring the best program that you wrote.

Creative Writing

Write a piece of travel writing about a specific experience during your summer holiday.

The piece should be at least 500 words.

You should make carefully considered choices about the structure of your writing and the language to use.

Drama

If you were not able to make the Sixth Form Induction Days, please contact the Sixth Form office to arrange for a script to be collected or sent to you.

(Exam board is Edexcel)

Summer Home Learning task.

+ You are to create presentations / workshops on the following categories to present to the rest of the group when you return in September:

+ Practitioner and Playwright - Bertolt Brecht

+ The play: Woyzeck by George Buchner

+ The play: Equus by Peter Shaffer

+ Theatre company: Frantic Assembly and their techniques in practice

+ The play: '100' by Diene Petterle, Neil Monaghan & Christopher Heimann

+ You are also to read the play '100' in preparation for your first lesson in September

You are the teacher!

+ You must read up and research ***thoroughly*** on your selected category and this will take time. Trust me...

+ Your presentations must demonstrate evidence of depth, knowledge and understanding.

+ Online

+ Books

+ Websites

+ Production photos / reviews

+ Practical exercises

Good Luck,

The Drama Department

Economics

You may have heard that UK dairy farmers are facing tough times – the price that supermarkets pay for their milk has fallen, sometimes below the amount it costs the farmers to produce the milk.



- Read these two sources carefully and use them to answer the questions that follow.

<http://www.dailymail.co.uk/news/article-2791646/farmers-fury-89p-supermarket-milk-blockade-threat-price-four-pints-slashed.html>

<http://www.telegraph.co.uk/finance/commodities/11008732/UK-farmers-in-firing-line-as-global-dairy-giant-signals-milk-war.html>

This is NOT a comprehension exercise.

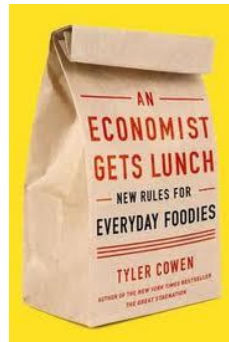
You will need to THINK for yourself and do some research to arrive at the answers.

If you find a term you do not understand it is vital you do not give up, but research the term until it makes more sense.

1. The Daily Mail stated the amount that Iceland sells milk for now and the price it used to sell milk for, as well as the price that supermarkets pay to farmers for milk.
Calculate:
 - (a) the percentage that Iceland cut its prices by
 - (b) the amount that Iceland pays for its milk from dairy farmers (assuming it pays the same as other supermarkets), expressed as a percentage of its selling price.
 - (c) explain what you believe Iceland does with the money it receives from its customers for milk, other than buying milk from the dairy farmers.
2. If dairy farmers continue to be paid by supermarkets at the rate quoted in the Daily Mail article, yet it also costs the farmers the amount stated in the article to produce milk, what might happen to the UK dairy industry?

(continued on next page)

3. With reference to the article in the Telegraph, discuss reasons other than the lower prices paid by UK supermarkets for some of the problems being faced by UK dairy farmers.
4. Do UK dairy farmers need help if they are to continue to produce milk in the UK? Please discuss what assistance would be helpful to UK dairy farmers, and which individuals or groups are in a position to offer this assistance.



English Literature

Read the following extract, which presents Aristotle's understanding of the term 'Tragedy'.

Q1. What is Aristotle saying here?

Q2. In light of the Literature you studied at GCSE, how does Aristotle's definition of Tragedy support your overall understanding of the term?

Aristotle's Definition of Tragedy.

"A tragedy is the imitation of an action that is serious and also, as having magnitude, complete in itself; in appropriate and pleasurable language;...in a dramatic rather than narrative form; with incidents arousing pity and fear, wherewith to accomplish a catharsis of these emotions."

1. "The imitation of an action that is *serious* and also, as having *magnitude, complete in itself*;"

This means that a good tragedy deals with one issue that is very "serious." You can't have a tragedy about something trivial like breaking a fingernail. "Magnitude" here means great importance. The issue has to be serious and very, very important. That's why a lot of tragedies deal with someone's death. "Complete in itself" means that the play must stick to the one issue; otherwise, the audience will get lost in the plot.

2. "In *appropriate and pleasurable language*:"

Ancient Greek tragedy had a chorus whose role was to comment on the action of the play. The chorus sometimes sang their part. Aristotle said that the language should be easy to listen to. It should have rhythm and also good harmony for the lines that were sung.

3. "In a *dramatic rather than narrative form*;"

To narrate a story is simply to tell the story, like telling a friend what happened over the weekend. In a play, the story must be dramatised or acted out.

(continued on next page)

4. “With incidents arousing pity and fear,”

In a tragedy, the events or episodes in the play should lead the audience to feel very sorry for the main character—the tragic hero. The audience should also feel afraid for the hero as he moves toward a destructive end.

5. “Wherewith to accomplish a *catharsis* of these emotions.”

As the play moves along, the events should build up the emotions of pity and fear. A catharsis is a purging, or cleansing of the emotions --a release of tension. In a tragedy, this is often a moment of revelation when the tragic hero “falls flat on his face,” and the audience can finally “explode.”

English Language and Literature

Language:

Bring in to your first lesson a broadsheet newspaper article annotated for literary devices.

Literature:

Follow the link below and read the essay on the Great Gatsby that is the first item from the Google search.

http://scholar.google.co.uk/scholar?q=the+great+gatsby+narrative&btnG=&hl=en&as_sdt=0%2C5

Thank you.

Film Studies

You will be required to make a two minute presentation on a film of your choice in the first week of lessons. Bring your presentation to the first lesson.

The presentation will require you to research and comment on the following areas:

- Genre
- Box office success
- How the critics responded
- The strengths of the film

You can use a PowerPoint presentation format and screenshots from the film, but not clips.

See you in September!

Geography

How is Britain changing?

Write a 1500 word essay that considers change in Britain, covering the ideas in both theme A and theme B.

A. The water and carbon cycle

1. Changes in the water cycle in Britain over time due to (A) natural variation (including storm events, seasonal changes) and (B) human impact (including Farming practices, Land use change and Water abstraction, Deforestation and Soil drainage)
2. Changes in the carbon cycle in Britain over time and impact these changes are having on: the land, the oceans, the atmosphere and climate. (Impacts may be human, physical, social, economic, environmental, political, etc)
3. Strategies that are employed to mitigate greenhouse gas emissions. Possibly including: Carbon Capture and Sequestration (CCS), Changing rural land use, Improved transport practices.
4. Use of examples from different places in Britain, to illustrate the point.

B. Changing Places

1. How has Britain changed over time – choose an area of the UK – local or a place you are interested in researching and consider **how** the place has changed as a result of human impact (and/or ideas in theme A impact) – then consider **why** the place has changed.
2. How has globalisation changed the UK? Factors to consider are
: **Social change** - migration – cultural and social changes
: **Economic change** – regeneration, deindustrialisation, gentrification, influence of TNCs and : : **Political change** - government policy influencing changes in areas
3. Use examples for different places in Britain to help you – case studies – can be local or national.

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Resources

<http://globecarboncycle.unh.edu/CarbonCycleBackground.pdf>

<http://www.metoffice.gov.uk/climate-guide/climate-change/impacts>

<http://nrfa.ceh.ac.uk/>

<http://www.imperial.ac.uk/carbon-capture-and-storage/>

<http://urbanregeneration.net/>

http://www.watfordobserver.co.uk/news/10355964.Charter_Place_regeneration_gathers_pace_as_intu_secures_lease/

<https://www.newham.gov.uk/Pages/Services/Regeneration-projects.aspx>

<http://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/articles/ethnicityandnationalidentityinenglandandwales/2012-12-11>

Format:

Students should answer this question through a 1,500 word essay which can include illustrations, maps or graphs. You MUST include a bibliography of sources such as websites you have used.

Other details: We will collect in your essays in the first Geography lesson in September.

German

Design a booklet in which you outline the key tenses and grammar points which were essential for success at GCSE.

Include at least:

Present tense
Perfect tense
Imperfect tense
Conditional tense
Modals
Subordinating conjunctions
Word order

Key opinion phrases and adjectives

This will form a key document for you as you embark on the AS course and serve as a vital reference document throughout the course as you learn and research new and more complex grammar points and structures.

Viel Spaß!

History

'Searching for rights and freedoms in the twentieth century'

In search of the American Dream: the USA 1917-1996

South Africa, 1948-1994: from apartheid state to 'rainbow nation'

You will study both the USA and South Africa in Year 12. General reading is advisable in order to provide a context for both units. To help with context, please see suggested clips and films below. These will help you to gather information regarding the political, economic, social and cultural landscape of both countries.

Suggested clips/resources available on line:	
<p>https://www.youtube.com/watch?v=aarFxsGUJSA&index=5&list=PLuL26fXZ8eTNLLnugg2BTyOZQ7HT-QZk4</p> <p>BBC (1995) <i>People's Century</i>. Several of the episodes concern America, including:</p> <p>Episode 5, <i>On the Line</i>, which looks at mass production and the Great Depression.</p> <p>Episode 6, <i>Great Escape</i>, which looks at Hollywood in the 1920s.</p> <p>Episode 7, <i>Breadline</i> deals with the Great Depression.</p> <p>Episodes 11, 12, 15 and 22 look at different aspects of the Cold War.</p> <p>Episode 16 looks at the mass media in the post war world.</p> <p>Episode 17 looks at the civil rights struggle.</p> <p>Episode 21 looks at the radicalisation of the struggle for black rights and the counterculture.</p> <p>Episode 22 considers women's rights.</p> <p>Episode 26 looks at Reaganism.</p>	<p>Truth and reconciliation commission: www.justice.gov.za/trc</p> <p>South Africa History online: www.sahistory.org.za</p> <p>ANC website: www.anc.org.za</p> <p>Digital Innovation South Africa: http://disa.ukzn.ac.za</p> <p>Aluka Digital library of resources from and about Africa: www.aluka.org</p>
Suggested films:	
<p><i>The Crowd</i> (1928)</p> <p><i>Gangs of New York</i> (2002)</p> <p><i>Little Women</i> (1994)</p> <p><i>12 Years a Slave</i> (2013)</p>	<p><i>Lincoln</i> (2012)</p> <p><i>Cold Mountain</i> (2003)</p> <p><i>Cry Freedom</i> (1987)</p> <p><i>Invictus</i> (2010)</p> <p><i>Mandela</i> (2014)</p>

To prepare for your first lessons you need to:

USA – Write a definition of 'Republicanism' and create a diagram to help you to explain how power in the American political system is balanced. Keywords should include: Federal government, Congress, Supreme Court, State and Local government. Create fact files for the following Presidents: Woodrow Wilson, Warren G Harding, Calvin Coolidge and Herbert Hoover.

South Africa – Write a definition of 'Apartheid' and create a summary diagram (e.g. a mind map or table) to help you explain what life was like in South Africa in 1948. You could organise your information under the headings of: politics, economics, society and culture. Within this, you could refer to race, political parties, townships, trade, Afrikaner culture, segregation, discrimination. Research and record the arrival of the Dutch and British to South Africa and why there was tension.

Mathematics

I am pleased that you are considering A Level Mathematics and I look forward to a successful partnership between you and the school that will hopefully result in a good qualification and an enjoyable time on the course. I am writing to issue guidance and clarification on a few points.

1. Summer Assignment

In order to bridge the gap between GCSE and AS maths and to keep students' brains active (!) we would like all students to work through some specific activities on the [MyMaths](#) website, including: Adding Algebraic Fractions; Quadratic simultaneous equations; Factorising Quadratics; Completing the Square & Surds.

Students should log on as normal and they will find the tasks waiting for them. A reminder that our main login is 'Rickmansworth'. The main password is 'ricky14'. If you do not find the tasks or you are new to our school, please email me (gjames@rickmansworth.herts.sch.uk) and I will ensure the tasks are assigned and provide you with your individual password. This will allow students to 'hit the ground running' in September.

2. Workload

We expect A level students to spend the same amount of time on private study as they spend in lessons – i.e. about 1 hour's homework per double lesson. Help is provided in the form of lunch-time support classes and teachers are always available outside of lessons to seek advice from. I would like to emphasise the importance of engaging in this level of private study from the start of the course. In the past, students who have not established this habit have paid dearly in the long run.

3. Autumn Test

Although the majority of students adapt well to the rigours of A level maths we do find a small number who have found their peak at GCSE and are unable to make further progress. In order to identify these students at an early stage we conduct an assessment in the first half term. Students falling below an acceptable standard may be asked to leave the course or to commit to a Study Contract with additional support.

4. Applied Module Textbook

As mentioned in the prospectus we require students to provide their own text for the applied module studied in Y12 (about £15 new or £6 if second hand through school). Students will be given more information about this in September and the module will typically start in November.

Have a restful and enjoyable summer and I look forward to working with you in September.

G James, Head of Maths

Music

As part of your preparation for the A Level Music course in September you should complete the following tasks over the summer holidays:

- Watch the documentary series hyperlinked below to begin developing your understanding of the History of Music. You should make notes on each era highlighting key points such as:
 - Dates
 - Composers
 - Changes in composition processes
 - Growth of instrumentation in the orchestra
 - Socio/cultural influences, including religion
- Look at the image of the Bach Chorale below and label the chords used, i.e. Ib, V7, IIc etc. Make note of any key changes by labelling the modulation and write the name of each cadence used.
 - If this is an unfamiliar area of study, research how to approach the task and try your best.
- Analyse Michael Tippett's Concerto for Double String Orchestra: Mvt. 1 and write a short essay outlining why the piece of music is stylistic of a Neo Classical genre. You should aim to cover 10 to 12 points. A copy of the score and revision notes has been hyperlinked for you to use.

Concerto for Double String Orchestra: Mvt. 1 Score

http://davenantperformingarts.org.uk/AjaxRequestHandler.ashx?Function=GetSecuredDOC&DOCUrl=App_Data/davenantperformingarts.org.uk/ClassPages/025/Documents_2013-14/6%20Tippett.pdf

Concerto for Double String Orchestra: Mvt. 1 Notes

http://www.davenantperformingarts.org.uk/AjaxRequestHandler.ashx?Function=GetSecuredDOC&DOCUrl=App_Data/davenantperformingarts.org.uk/ClassPages/025/Documents_2014-15/Edexcel%20Notes%20Tippett.pdf

Howard Goodall's 'Story of Music'

<https://www.youtube.com/watch?v=i0Y6NPahlDE> Episode 1

<https://www.youtube.com/watch?v=qMxE8wawVA> Episode 2

<https://www.youtube.com/watch?v=LW99I55Q9Y> Episode 3

<https://www.youtube.com/watch?v=MvzXcxyyhC0> Episode 4

<https://www.youtube.com/watch?v=UxzvVGIVZqE> Episode 5

<https://www.youtube.com/watch?v=iWwNZjvafo8> Episode 6

(continued on next page)

Chorale No. 14

J. S. Bach

Chorale

The musical score for Chorale No. 14 by J.S. Bach is presented in a grand staff format, consisting of a treble clef staff and a bass clef staff. The key signature is one sharp (F#), and the time signature is 4/4. The piece is divided into four measures. The first measure is in 4/4 time and features a simple harmonic accompaniment. The second measure changes to 6/4 time, with a more complex melodic line in the treble. The third measure returns to 4/4 time, showing a more active bass line. The fourth measure is also in 4/4 time and concludes with a final cadence. The score includes various musical notations such as notes, rests, and bar lines.

Photography

There are a number of galleries that students should visit over the summer holidays.

The V&A has a permanent photography exhibition that covers the historical development of photography. All students must see this exhibition and could even handle original prints in the Print Room (ask staff for details).

The Photographers' Gallery has a series of exhibitions, a bookshop and a sales room exhibiting prints they sell. This was the first gallery dedicated to photography in the UK and anyone studying photography in the London region should have visited it at some time.

The Tate Britain currently has an exhibition "PAINTING WITH LIGHT: ART AND PHOTOGRAPHY FROM THE PRE-RAPHAELITES TO THE MODERN AGE" until 25 Sep 2016. This is a very good exhibition showing the relationship between art and photography. If you are also studying Art and Design it will be of particular interest. Unless you are a member of the Tate it is, however, very expensive at £16 for a concessionary ticket.

The National Portrait Gallery has an exhibition of William Eggleston's work. He is a pioneering American photographer renowned for his vivid, poetic and mysterious images. Eggleston is celebrated for his experimental use of colour and his solo show at the Museum of Modern Art, New York, in 1976 is considered a pivotal moment in the recognition of colour photography as a contemporary art form.

We would expect students to visit at least three of these galleries and to write a short report on their visit, pointing out what they've learnt and giving an explanation of the images that had the greatest impact on them. The report must be illustrated with these images and quotes from the exhibition text.

(continued on next page)

Hints and tips: What to look for at a Photographic Exhibition

- What was the **intention** of the photographer's work?
- What **genres** of photography do they explore? Where were they taken?
- Consider the **scale** of the photographs. Why do you think it is effective printed to this size? Are they generally all one size?
- In what **order** is the work laid out? Is it chronological?
- Read the descriptions of the photographs. What **paper** has been used in the printing process? *Gelatin silver print, Fibre based print...*? You can research later.
- How many images are in a set of photographs? How can you tell that they are a 'set' of photographs?
- How are the photographs framed / presented? Can you explain why the presentation suits the photographs?
- What **camera(s)** and **equipment** have the photographer(s) used?
- Was the photographer a part of a **movement**, formally or informally, or did they work **independently**?
- Are there any original books, articles, sketchbooks, equipment or drawings in **display cases**? If so, what do they display and why? Take notes.

When you get back to the department, find out what the photographic library holds on the photographer. You may be surprised to see how much primary (original) material the library has.

Physical Education

(The PE work is set out over the next **8 pages**)

Year 12 Summer Work: Anatomy and Physiology

Part of the Anatomy and Physiology section of the AS Level PE paper is to understand joint types, movements that occur at these joints and the muscles involved. You will need to be able to apply this information to answer the following questions which are taken from previous AS past papers.

Using the resources provided (muscle man and information sheet) complete the following hand-out.

- ➔ Fill in the empty boxes with the correct information
- ➔ You may have to do extra research to help you

Anatomy and Physiology

1



Fig. 1

- (a) Fig. 1 shows an athlete performing a sit up. In order to perform the sit up the athlete must flex the spine to lift the torso off the floor.

Use your anatomical and physiological knowledge to complete the table below.

Joint	Joint Type	Movement	Agonist	Antagonist
Spine		Flexion		

- 1 (a) Fig. 1 shows a player performing a basketball lay-up shot.



Fig. 1

Use your anatomical and physiological knowledge to complete the table below for the player's **right** knee.

Joint	Joint Type	Movement	Agonist	Antagonist	Type of Contraction	Predominant muscle fibre involved
Knee		Extension				

- 1 (a) Fig. 1 shows an athlete performing a bicep curl. Use your anatomical and physiological knowledge to complete the table below for the athlete's elbow during the **upward** phase of the bicep curl.



Fig. 1

Joint	Joint Type	Movement	Agonist	Antagonist
Elbow			Biceps Brachii	

- 1 (a) Fig. 1 shows a gymnast holding a position on the rings. Use your anatomical and physiological knowledge to complete the table below for the hip joint.



Fig. 1

Joint	Joint Type	Movement	Agonist	Antagonist
Hip				Gluteus Maximus

1 (a) Fig. 1 shows an athlete performing an upright row.

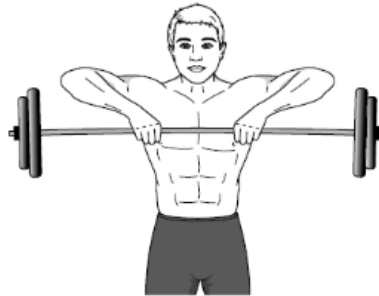


Fig. 1

(i) Complete the table below for the athlete's shoulder joint whilst the bar is being raised. [4]

Joint	Joint Type	Movement	Agonist	Antagonist	Type of Muscular Contraction
Shoulder		Abduction			

1 (a) Fig. 1 shows a person using a resistance machine to increase leg strength.

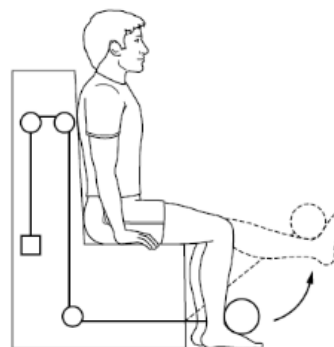


Fig. 1

Complete the table below for the knee joint moving in the direction of the arrow.

Joint	Synovial Joint Type	Movement	Agonist	Antagonist
Knee				

[4]

Anatomy and Physiology - The Muscular System

Types of Joints:

- Fibrous – joints allow no movement and the bones are held together by fibrous, connective tissue, e.g. the cranium
- Cartilaginous – joints allow slight movement and the bones are separated by cartilage, e.g. the vertebrae
- Synovial – joints allow movement in one or more directions

Synovial Joints:

- Ball-and-socket joint – hip and shoulder
- Hinge joint – ankle, knee and elbow
- Pivot joint – radio-ulna
- Saddle joint – thumb
- Condylloid joint – wrist
- Gliding joint – between vertebrae in the spine

Movement Terminology:

Key Terms:

- **Flexion** – a decrease in the angle that occurs around a joint
- **Extension** – an increase in the angle that occurs around a joint
- **Horizontal Flexion** – lifting the arm up and across the body
- **Horizontal Extension** – lowering the arm down and across the body
- **Abduction** – movement away from the midline of the body
- **Adduction** – movement towards the midline of the body
- **Rotation** – movement of a bone around its axis
- **Circumduction** – the lower end of the bone moves around in a circle
- **Lateral Flexion** – bending sideways
- **Plantar Flexion** – bending the foot downwards away from tibia (pointing toes)
- **Palmar Flexion** – bending hand towards the inside of the forearm
- **Dorsiflexion** – bending the foot upwards towards tibia or bending hand backwards
- **Pronation** – facing the palm of the hand downwards
- **Supination** – facing the palm of the hand upwards

Types of Muscular Contraction:

Concentric

Concentric contractions are those which cause the muscle to shorten as it contracts. An example is bending the elbow from straight to fully flexed, causing a concentric contraction of the Biceps Brachii muscle. Concentric contractions are the most common type of muscle contraction and occur frequently in daily and sporting activities.

Eccentric

Eccentric contractions are the opposite of concentric and occur when the muscle lengthens as it contracts. This is less common and usually involves the control or deceleration of a movement being initiated by the eccentric muscles agonist.

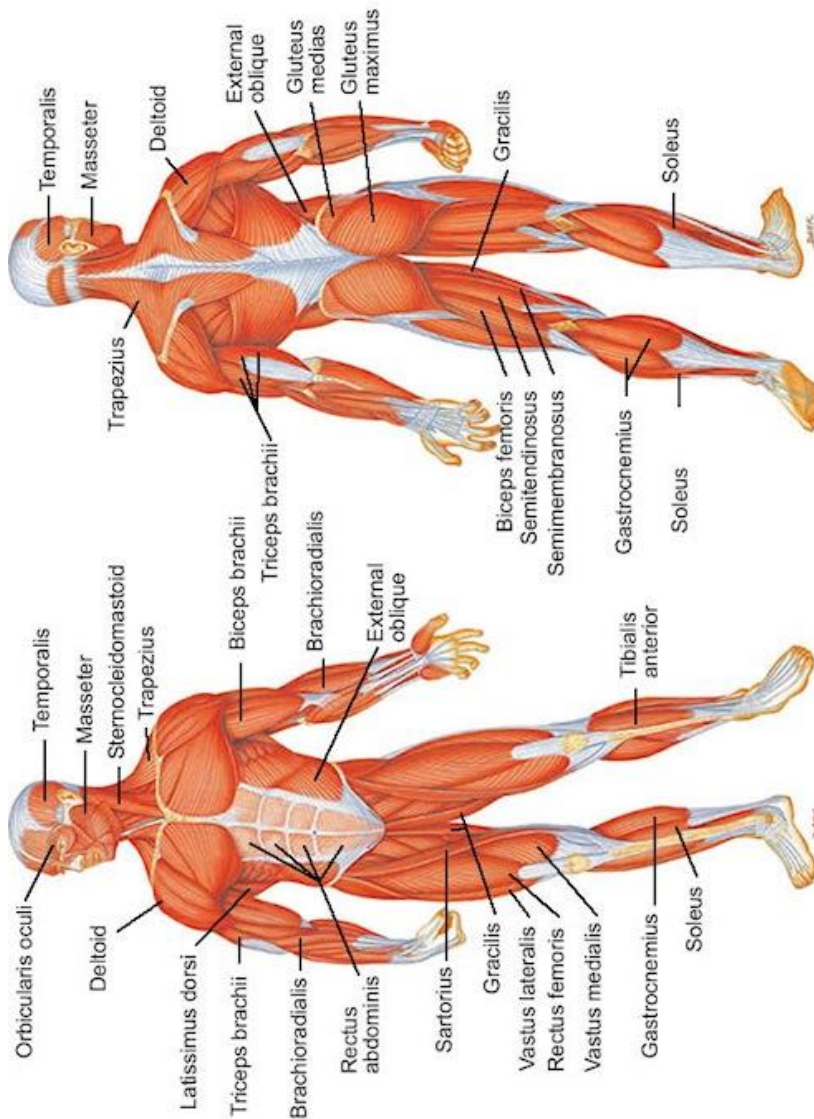
For example, when kicking a football, the Quadriceps muscle contracts concentrically to straighten the knee and the Hamstrings contract eccentrically to decelerate the motion of the lower limb. This type of contraction puts a lot of strain through the muscle and is commonly involved in muscle injuries.

Isometric Contractions

Isometric contractions occur when there is no change in the length of the contracting muscle. This occurs when carrying an object in front of you as the weight of the object is pulling your arms down but your muscles are contracting to hold the object at the same level. Another example is when you grip something, such as a tennis racket. There is no movement in the joints of the hand, but the muscles are contracting to provide a force sufficient enough to keep a steady hold on the racket.

Functions of Skeletal Muscle:

- Agonist – the muscle that shortens under tension to produce movement
- Antagonist – the muscle that relaxes or lengthens to allow the agonist to shorten
- Synergist/Fixator – the muscle increases in tension but no movement occurs.



Acquiring Movement Skills

Skill vs Ability

When you return to school in September, you must be able to answer the following questions:

1. What does a skilful sporting performance look like?
2. What are the main characteristics of a skilful performance?
3. What is the difference between skill and ability?

In no more than 200 words, you must pick a famous sportsperson. You must describe his or her sporting abilities and why when they perform, they are skilful.

To help you, you can log on to the VLE and find the Skill Acquisition section within PE.



Practical PE

As part of your course, you will be assessed in one sport.

Look on the VLE:

Physical Education - Key Stage 5 - Skill Acquisition – AS Practical Information

Read the specification and in September, you should have an idea of the activity you wish to be assessed on.

Physics

See resources on the Sixth Form blog.

Psychology

Psychology Summer Task

- 1) Have a look at the reading list on the next page and pick one or two to read over the summer. The only book you have to buy is the **textbook**.
- 2) Complete the **summer task** by researching the approaches in Psychology. Complete the sheet for each approach and use the web links to help you to answer the questions.



AS Psychology Reading List

*Textbook: **Psychology for A-level Year 1 and AS** by Jean-Marc Lawton and Eleanor Willard, ISBN 978-1-4718-3488-2*

Books that would be useful but not essential:

***Made to Stick** by Chip and Dan Heath*

***The Blue Suitcase** by Marianne Wheelaghan*

***Classic Case Studies in Psychology** by Geoff Rolls*

***The Quiet Room: Journey Out of the Torment of Madness** by Lori Schil*

***59 Seconds** by Richard Wiseman*

***The Man Who Mistook His Wife for a Hat** by Oliver Sacks*

Fictional Books: Lots of brilliant books by Torey Hayden

Behavioural

- ⇒ <http://www.nobelprize.org/educational/medicine/pavlov/readmore.html>
- ⇒ <http://www.gerardkeegan.co.uk/resource/behaviourist.htm>
- ⇒ <http://www.simplypsychology.org/classical-conditioning.html>
- ⇒ <http://www.simplypsychology.org/operant-conditioning.html>
- ⇒ <http://www.simplypsychology.org/behavioral-therapy.html>
- ⇒ <http://www.simplypsychology.org/bobo-doll.html>
- ⇒ http://www.psychlotron.org.uk/newResources/approaches/AS_AQB_approaches_BehaviourismBasics.pdf
- ⇒ http://www.psychlotron.org.uk/resources/perspectives/behaviourist/ANY_behaviourism_watsonpavlov.pdf
- ⇒ http://www.psychlotron.org.uk/resources/perspectives/behaviourist/ANY_behaviourism_skinner.pdf
- ⇒ http://www.psychlotron.org.uk/newResources/approaches/AS_AQB_approaches_SLTBasics.pdf
- ⇒ <http://www.youtube.com/watch?v=hhqumfpxuzl>

Biological

- ⇒ <http://www.gerardkeegan.co.uk/resource/biological.htm>
- ⇒ <http://www.simplypsychology.org/biological-psychology.html>
- ⇒ <http://www.bbc.co.uk/iplayer/console/b017551t>
- ⇒ <http://www.simplypsychology.org/medical-model.html>
- ⇒ http://www.psychlotron.org.uk/newResources/approaches/AS_AQB_approaches_BiopsychologyBasics.pdf
- ⇒ http://www.psychlotron.org.uk/resources/perspectives/biological/A2_ANY_perspectives_bioGenetic.pdf
- ⇒ <http://www.psychlotron.org.uk/podcasts.html>
- ⇒ <http://www.psychlotron.org.uk/newResources/bioStress.html>

Approaches

Cognitive

- ⇒ <http://richannel.org/christmas-lectures/2011/meet-your-brain>
- ⇒ http://www.ted.com/talks/beau_lotto_optical_illusions_show_how_we_see.html
- ⇒ <http://www.gerardkeegan.co.uk/resource/cognitive.htm>
- ⇒ <http://www.simplypsychology.org/memory.html>
- ⇒ <http://www.simplypsychology.org/vygotsky.html>
- ⇒ <http://www.simplypsychology.org/asch-conformity.html>
- ⇒ <http://www.bbc.co.uk/radio/player/p00f8mzr>
- ⇒ <http://www.simplypsychology.org/cognitive-therapy.html>
- ⇒ http://www.psychlotron.org.uk/newResources/approaches/AS_AQB_approaches_CognitiveBasics.pdf

Psychodynamics

- ⇒ <http://www.gerardkeegan.co.uk/resource/mindmaps/psychoanalytic.htm>
- ⇒ <http://www.simplypsychology.org/defense-mechanisms.html>
- ⇒ <http://www.simplypsychology.org/psychoanalysis.html>
- ⇒ http://www.psychlotron.org.uk/newResources/approaches/AS_AQB_approaches_PsychodynamicBasics.pdf
- ⇒ http://www.psychlotron.org.uk/resources/perspectives/psychodynamic/A2_ANY_freudunconscious.pdf

Assumptions

What are the main ideas that underpin the approach? (Describe the process of operant, classical and vicarious conditioning.)

Who are the key psychologists? (Write a biography for Watson and Skinner.)

Bio of Key Psychologists

Behavioural Approach

Key studies

What research evidence supports this approach? (Describe the procedures and findings of The Little Albert case study, Skinner's Box and Pavlov's dogs.)

Does any of the theories of this approach have an application in the real world? E.g. explaining mental illness? Draw similarities and differences between this approach and another one.

Evaluation

Assumptions

What are the main ideas that underpin the approach? (Describe the computer analogy.)

*Who are the key psychologists?
(Write a biography of Piaget,
Kohlberg and Loftus)*

Bio of Key Psychologists

Cognitive Approach

Key studies

What research evidence supports this approach? (Outline the procedures and findings of Peterson and Peterson (1959) Duration of Short Term Memory, Piaget and Inhelder (1956) The Three Mountains Task, Loftus and Palmer (1974) Car Crash Study.)

*Does any of the theories of this approach have an application in the real world? E.g. explaining mental illness?
Draw similarities and differences between this approach and another one.*

Evaluation

Assumptions

What are the main ideas that underpin the approach? (Describe the genetic explanation of abnormality, brain structure and how it affects behaviour.)

*Who are the key psychologists?
(Describe the biography of Irving Gottesman)*

Bio of Key Psychologists

Key studies

What research evidence supports this approach? (Outline the Findings and procedures of Phineas Gage, and Gottesman and Shields genetics and schizophrenia study.)

Biological Approach

*Does any of the theories of this approach have a application in the real world? E.g. explaining mental illness?
Draw similarities and differences between this approach and another one.*

Evaluation

Assumptions

What are the main ideas that underpin the approach? (Describe the ID, Ego and Superego, the role of the unconscious and consciousness.)

*Who are the key psychologists?
Who has been the most influential for this approach? What is their background?*

Bio of Key

Psychodynamic Approach

Key studies

What research evidence supports this approach? (Outline the procedures and findings of Little Hans case study.)

*Does any of the theories of this approach have an application in the real world? E.g. explaining mental illness?
Draw similarities and differences between this approach and another one.*

Evaluatio

Philosophy and Ethics

Please note that the articles referred to in this sheet can be found on the Sixth Form Blog. Go to <https://rickysixth.wordpress.com/> and search for 'Philosophy and Ethics Induction Day materials'.

Year 12 Philosophy starter:

This year you will be studying the topics you see attached to this pack. Over the holidays (and in preparation for our first lesson), I need you to find out between 5 and 10 relevant (sensible) facts about each one of our topics. Below are some suggested questions to answer:

Ancient Greek influences on philosophy of religion

1. Who was Plato?
2. What are his ideas about reality and the world of the Forms?
3. What is the Allegory of the Cave?
4. How did Aristotle respond to Plato's theory?

Judaeo-Christian influences on philosophy of religion

1. Define the omni words... omnipotence, omniscience, omni benevolence and omnipresence; the concept of 'creatio ex nihilo'.

Breakdown of arguments for the existence of God: Write a 50 word summary of the following arguments. Make sure you use words you understand!

The Teleological argument,
The cosmological argument
Religion and science
The moral argument
The ontological argument
The problem of evil

Year 12 Ethics starter:

Define the following as concisely as possible. You should aim for a paragraph for each ethical theory.

Challenge: *Can you find key theorists associated with each ethical theory.*

1. Absolute and relative morality
2. Absolute and objective.
3. Relativist and subjective
4. Deontological and teleological.
5. Utilitarianism.
6. Natural law.
7. Kantian ethics (hypothetical and categorical imperative)

Once you have written a paragraph for each ethical theory, read at least one ethics article as these are the topics you will be applying ethical theory to. One of these articles must be printed and key information highlighted/ annotated.