Wanstead High School

Education with Character

Summer Assignment Work and Preparation for Sixth Form 2020

ABEUNT STUDIA IN MORES

Dear Student,

Please refer to the subjects that you have opted for at Post-16 and the Summer Assignment work.
This is aimed at helping you to make a successful transition and be fully ready for September.

Wishing you a great summer.

Kind regards
Sixth Form Team

Contents

Art & Design (Fine Art)

Produce an initial set of 4 preparatory studies on the theme of the Urban Environment. Suggested ideas include observational drawings of your house, buildings, decayed buildings, derelict buildings – in a range of different media e.g. pencil, biro, paint etc.

Biology

A trip to London Zoo is recommended, but not essential to complete this task.
Write 500 words on; "Explain how zoos and safari parks contribute to conservation of endangered species"

The essay must include;

1. What an endangered species is?
2. The reasons for species becoming endangered?
3. In situ conservation.
4. Ex situ conservation.
5. The role of the zoo in conservation projects.
6. All references must be fully detailed in a bibliography at the end of your essay.
7. You must use at least 4 different sources; all work must be in your own words.
8. What an endangered species is?
9. The reasons for species becoming endangered?
10. In situ conservation.
11. Ex situ conservation.
12. The role of the zoo in conservation projects.
13. All references must be fully detailed in a bibliography at the end of your essay.
14. You must use at least 4 different sources; all work must be in your own words.

Sources www.zsl.org/conservation
www.wwf.org.uk/core/wildlife/endangeredspecies.asp

Chemistry

Research Hess' law Calorimetry. Electronic structures s,p,d,f, Periodicity and trends in the periodic table. Show examples, calculations, diagrams, explain the concepts in your own words.

Classics

Research the Trojan War. Write a 500 word summary explaining:

1. Who was involved
2. Why it started
3. How it ended

Computer Science

Research what a Bubble Sort is and write an explanation of this.
Download Python from Python.org (free download) and code a Bubble Sort program in Python. Bring in your notes and a copy of your program in September.

Drama

Please read:
The Year of the King - Antony Sher

Economics

In order to achieve the highest grade possible in Economics it is crucial that students can link economic theory to real life examples. In Economics we do this by keeping a scrap book of annotated articles.
Task:

- Purchase a scrap book
- Find two conflicting articles on BREXIT. One article must focus on the positive impact that BREXIT is likely to have on the UK Economy, and the other article must focus on the negative impact BREXIT is likely to have on the UK Economy.
- Ensure both articles are from suitable sources (e.g. DO NOT USE WIKIPEDIA or SOCIAL MEDIA)
- Highlight any key economic terms you do not understand and annotate them with the correct definitions
- Answer the following question in your scrap book (Use PEE). To what extent do you think BREXIT will negatively impact the UK Economy? Justify your answer.

English Literature

Read as widely as possible from the wider reading list attached at the end of this booklet. You should aim to read at least 3 novels from the list over the summer. See **Appendix 1** at the end.

French

Keep an eye and ear out for the latest films in French. Independent cinemas like Curzon and Picturehouse are good places to start. You could also try to catch the latest exhibition by a French artist at one of the many galleries in London. Sometimes you don't even have to go too far…BBC Four, Film 4 and other movie channels on satellite TV often have foreign language films for you to enjoy.
Why not visit the Institut français in South Kensington? There is a cinema, bookshop and media centre there and plenty of French-speaking people!

Geography

Produce a news article (1,000 words), with suitable headline, on a recent geographical news story.

Within your article you should include:

- A relevant map, graph or photograph
- Background and locational information
- Relevant supporting data and evidence
- Relevant supporting quotes
- A review of the "impacts" or "consequences"

Ideal topics could include:

- Natural hazards (volcanic eruptions, earthquakes, hurricanes, tornados, severe flooding)
- Policy change or negotiations about climate change, habitat destruction or pollution
- Coastal areas (pressures, management, coping with rising sea levels and more extreme weather conditions)
- Population issues (international migration, internal migration, natural increase, meeting the needs of an expanding population)
- Food supply issues (coping with climatic events, growing demand, malnutrition and famine, impacts of modern farming methods)
- Globalisation (world trade, role of TNCs, supply and demand, impact of changing exchange rates)
- Changing urban environments (coping with cities going into decline, coping with the expansion of cities, meeting the need for housing, quality of life)

Government & Politics

Write up 100 word summaries of 6 news stories which have a political theme. At least 3 must be focused on events in the UK. In summaries you must:

- Explain the story
- Explain why it interested you
- Explain why the story is important
- Give your own opinion on the issues
  Extension: Attend one political event like a rally or event held by a charity or pressure group.

History

The USSR, 1917-1991:

Research the following leaders of the USSR and make a political profile of each one: Lenin, Stalin, Khrushchev, Brezhnev and Gorbachev

Make a timeline of key events relating to the USSR, 1917-1991

Start some background reading on the History of the USSR. The following is highly recommended to purchase: The Penguin History of Modern Russia-Robert Service

Mao's China: 1946-1976:

Make a timeline of key events in Mao's' China, 1949-1976

Start some background reading on Mao's China. Recommended books include:

Mao: A Very Short Introduction-Delia Davin (highly recommended to purchase)

Mao: The Unknown Story – Jung Chang and Jon Halliday

Wild Swans – Jung Chang

The Bonesetter's Daughter – Amy Tan

Maths

You should recap and extend your understanding of the following GCSE topics:

- Algebra, Quadratic equations, graphs, trigonometry, vectors, circle theorems, functions, iteration
- Use technology like Geogebra, desmos… to understand nature of different graphs and their transformations.

Additional Resources:

Work through the book 'preparation for AS/A level maths' produced by Alpha workbooks ISBN 1903406439

Alternatively, if you can't get a copy of the above, try out 'Headstart to AS maths' published by CGP ISBN 1841469939 or "Bridging GCSE and A Level Maths" by Mark Rowland ISBN Number 9780007410231

Media Studies

British Film presentation

Watch one British film of your choice. Research the following areas and produce a detailed report. It must be word processed, attractively presented and include

- Title
- Genre
- Narrative
- Themes
- Director
- Producer
- Stars
- Production company
- Distribution company
- Budget
- Production details
- Special effects
- Box office
- Critical reception
- Your opinion

Music

If you haven't already taken grade V music theory or higher, buy the ABRSM music theory workbooks and work through them.

Find some apps to build aural skills (there are lots of free ones in the app store and on Google play, for example)

Listen to some of the set works that we will be studying:

Mozart: Piano Concerto No. 23 in A, K.488, 3rd movement

Frank Sinatra: Classic Sinatra 1953–1960 – (i) I've got the world on a string, (ii) They can't take that away from me, (iii) I've got you under my skin, (iv) Come fly with me

Develop some initial ideas for your composition (in the first year you can set yourself a brief of your choice)

Continue to practise your main instrument and think about what you will include in your performance recital.

Music Technology

Listen to a wide variety of popular music, including some in genres that perhaps you don't normally listen to. Start reading online publications such as soundonsound.com, musictech.net and musicradar.com.
In particular try to read as much as you can on audio compressors, effects and synthesisers.
Musictechstudent.co.uk is another excellent online resource to explore. There are some parts of it that require a subscription, but the free content is still useful. If it is possible to get a subscription it is tailor made for the course that we run. (Edexcel A-level in Music Technology)

Photography

'London'- people talk about, see it on TV and in the movies.
London is more than just a place you hear about. It has a vibe, a personality, and diversity. It's like no other place in the world. It takes something special to survive there. But what does 'London' mean to you? Go to a part of London with your camera, a part that speaks to you like no other. You're no longer taking 'snaps' on holiday or of friends. You're an artist capturing the essence of the city. Take at least 100 photos. Be ruthless, edit the images down to 10 of the absolute best and present them as a piece of art. Bring this to your first lesson.

Physics

Please see the task attached as **Appendix 2** at the end.

Psychology

Psychology is the scientific study of the human mind and human behaviour. As such, psychologists conduct research and use their findings to come up with theories to predict human behaviour.
Over the summer you need to do some reading and find a psychological study that interests you and then describe the study using the following headings:
Researcher and Date
Aims (what were the researchers investigating?)
Participants (who did they do their research on?)
Method (what did they do to investigate it?)
Results (what did they find?)
Conclusions (What did they conclude about people's mind/behaviour)
Also explain in a few sentences why you chose this study, what interested you about it?
Please be ready to present your research to the class when you return.

Good places to find interesting studies are in your local library (have a look in some Year 1 A Level textbooks (new specification) or on the internet, if you Google "Famous psychology experiments" You might need to look on different websites or in different books to find out all the information.

Religion and Philosophy

Please read at least one of these books to help prepare you for next year:

1. **Sophie's World – Jostein Gaarder**
2. **The Republic – Plato**
3. **Practical Ethics – Peter Singer**
4. **God is Not Great – Christopher Hitchens**
5. **The God Delusion – Richard Dawkins**

Sociology

Join Google Classroom if you have not already done so. Open a web browser and go to: http://Classroom.google.com and sign in. Your login will be your school computer username @elearning.wansteadhigh.co.uk (eg: j.smith@elearning.wansteadhigh.co.uk) and your password will either be your usual school network password, or the default 'Education01'. Click 'Join Class' and use the code srkjj9. If you will be new to the school, your temporary login is year122017@elearning.wansteadhigh.co.uk and password is 'Welcome12'.

Task 1: Research the five main ways of seeing the world that we explore in Sociology. These are: Functionalism, Feminism, Marxism, Postmodernism, Social Action theory. Produce a paragraph to summarise the key concepts of each perspective, i.e. how they view society. You can use the resources added to the Google Classroom to help you as well your own research.
Task 2: Identify an event or situation that has happened over summer holidays which has been reported in the media. Explain why this event or scenario has happened according to each of the four sociological perspectives. You may wish to collate your ideas using a table (example on Google Classroom). Once you have identified the event/situation and explained it using the 4 perspectives, Produce a visual poster on this content. Make sure that you provide some contextual information about the event/situation as well as how the different perspectives would explain it. Ensure that it is as eye-catching and interesting as possible, as these will be used as part of a display.

Task 1: Research the five main ways of seeing the world that we explore in Sociology. These are: Functionalism, Feminism, Marxism, Postmodernism, Social Action theory. Produce a paragraph to summarise the key concepts of each perspective, i.e. how they view society.

Task 2: Identify an event or situation that has happened over summer holidays which has been reported in the media. Explain how each of the four sociological perspectives would explain it. You may wish to collate your ideas using a table.

Spanish

Keep an eye and ear out for the latest films in Spanish. Independent cinemas like Curzon and Picturehouse are good places to start. You could also try to catch the latest exhibition by a Spanish artist at one of the many galleries in London. Sometimes you don't even have to go too far…BBC Four, Film 4 and other movie channels on satellite TV often have foreign language films for you to enjoy.

Why not visit the Instituto Cervantes in Belgravia (Sloane Square or Victoria station)? It offers a comprehensive programme of cultural and arts activities showcasing the best in literature, film, performing arts, visual arts and thought from Spain and Latin America.

Appendix 1:

Reading List for A-Level English Literature

18th Century Literature
Moll Flanders- Daniel Defoe

19th Century Literature
Wuthering Heights - Emily Bronte
Villette - Charlotte Bronte
Middlemarch - George Eliot
The Mill on the Floss - George Eliot
The Portrait of Dorian Gray - Oscar Wilde
Tess of the D'Urbervilles - Thomas Hardy
Jude the Obscure - Thomas Hardy
Mansfield Park - Jane Austen
Persuasion - Jane Austen
Pride and Prejudice - Jane Austen
Emma - Jane Austen
Vanity Fair - William Thackeray
The Scarlet Letter - Nathaniel Hawthorne
The Moonstone - Wilkie Collins
The Woman in White - Wilkie Collins

20th Century Literature
What A Carve Up! - Jonathan Coe
American Pastoral - Philip Roth
The Rings of Saturn - W.G. Sebald
Mrs Dalloway - Virginia Woolf
To the Lighthouse - Virginia Woolf
Orlando - Virginia Woolf
The Remains of the Day - Kazuo Ishiguro
The Passion of the New Eve - Angela Carter
Wise Children - Angela Carter
The Hours - Michael Cunningham
Beloved - Toni Morrison
Empire of the Sun - J.G. Ballard
Trumpet - Jackie Kay
Giovanni's Room - James Baldwin
The Age of Innocence - Edith Wharton
The Secret History - Donna Tartt
Tender is the Night - F. Scott Fitzgerald
The Handmaid's Tale - Margaret Atwood
The Bell Jar - Sylvia Plath

Kindred - Octavia Butler
Lady Chatterley's Lover - D.H. Lawrence
Women in Love - D.H Lawrence
The Rainbow - D.H. Lawrence
The Virgin Suicides - Jeffrey Eugenides
Lolita- Vladimir Nabokov
The Prime of Miss Jean Brodie - Muriel Spark
The Golden Notebook - Doris Lessing
Oranges are not the Only Fruit - Jeanette Winterson

21st Century Literature

Everything is Illuminated - Jonathan Safron Foer
Austerlitz - W.G. Sebald
Brooklyn - Colm Toibin
Brick Lane - Monica Ali
The Corrections - Jonathan Franzen
The Line of Beauty - Alan Hollinghurst
The Reluctant Fundamentalist - Mohsin Hamid
White Teeth - Zadie Smith
The Sense of an Ending - Julian Barnes
The Blind Assassin - Margaret Atwood
The Yacoubian Building - Alaa Al Aswani
Wolf Hall - Hilary Mantel

Appendix 2:

Physics Summer Homework: Simple Pendulum Experiment

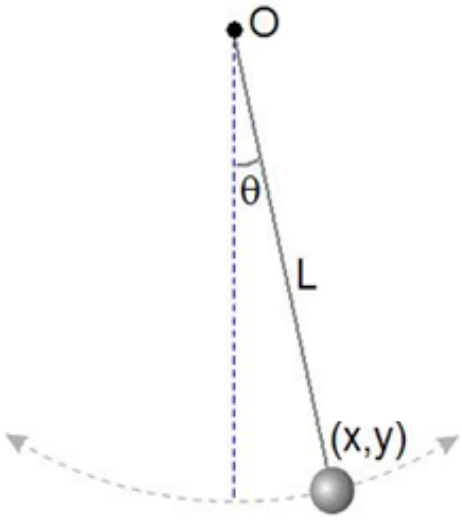
Aim:

The objective of this experiment is to use everyday objects to study the motion of the simple pendulum so that we can measure the acceleration due to gravity 'g'. We should also find that if we make a simple plot, we end up with a non-linear relationship but with some rearrangement we will end up with a straight line through the origin.

You may refer to this site: http://www.myphysicslab.com/pendulum1.html or use PHeT simulations file:///N:/pendulum-lab_en.html
This simulation shows a simple pendulum operating under gravity.

Theory:

A simple pendulum consists of a point mass '*M*', suspended from a fixed point using string of length *'L'*. When the simple pendulum is set in motion, it moves back and forth periodically. All simple pendulums have the same period regardless of their starting angle and mass. The period T for a simple pendulum depends on a number of things including length 'L' of the string and the value of the gravitational acceleration 'g'.



$T = 2\pi\sqrt{(L/g)}$ Equation (1)

If we square both sides:

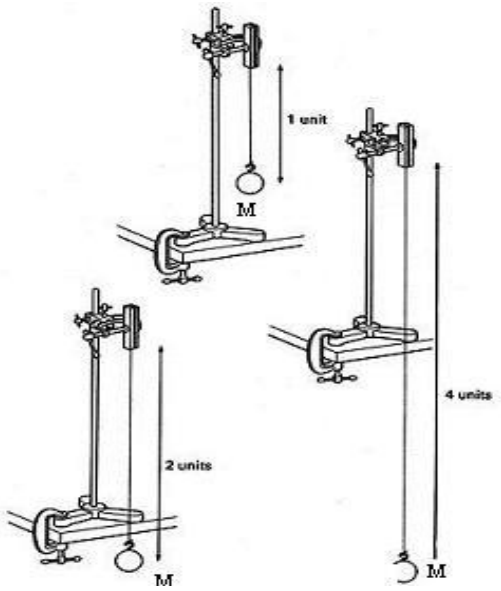
$T^2 = 4\pi^2 \frac{L}{g}$ Equation (2)

The period 'T' is a measure of one oscillation. When the experiment is being carried out, one must set the pendulum in motion until it completes 30 to and fro oscillations. Then you can measure the period 'T' for one oscillation which is just the time taken for 30 oscillations divided by 30:

T = time for 30 oscillations / 30 Equation (3)

Apparatus:

The apparatus for conducting the simple pendulum experiment consists of a string, mass, clamp, ruler and stopwatch.



MAKE SURE TO VIDEO YOUR EXPERIMENT!

Method:

1. Measure the length of the string from the top of the string to the centre of the ball. This will be the length '*L*' of the pendulum in metres. Write it down in the results table.

2. Record the time (in seconds) it takes for one pendulum to swing 30 complete to and fro oscillations. Precision should be taken while taking the time and you may need help with this. Then divide the time by 30 to get the time period for one oscillation.

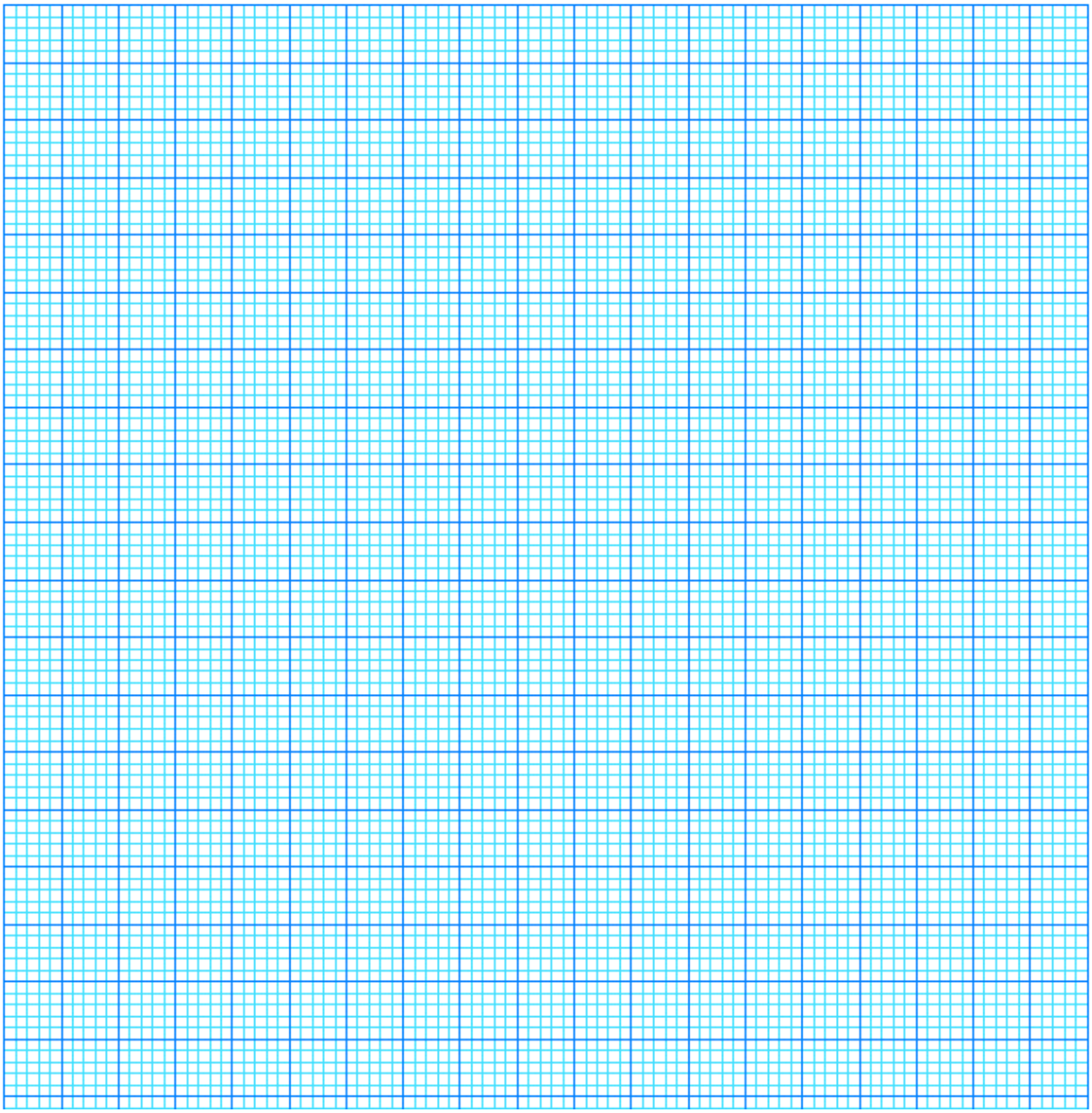
3. Repeat the experiment, aiming to make a total of eight measurements using different values for length 'L'. Write the results in the table.

Results:

Measurement	***L (m)***	***M (kg)***	***Time for 30 oscillation (s)***	***Period T (s)***	***T^2 (s^2)***
1					
2					
3					
4					
5					
6					
7					
8					

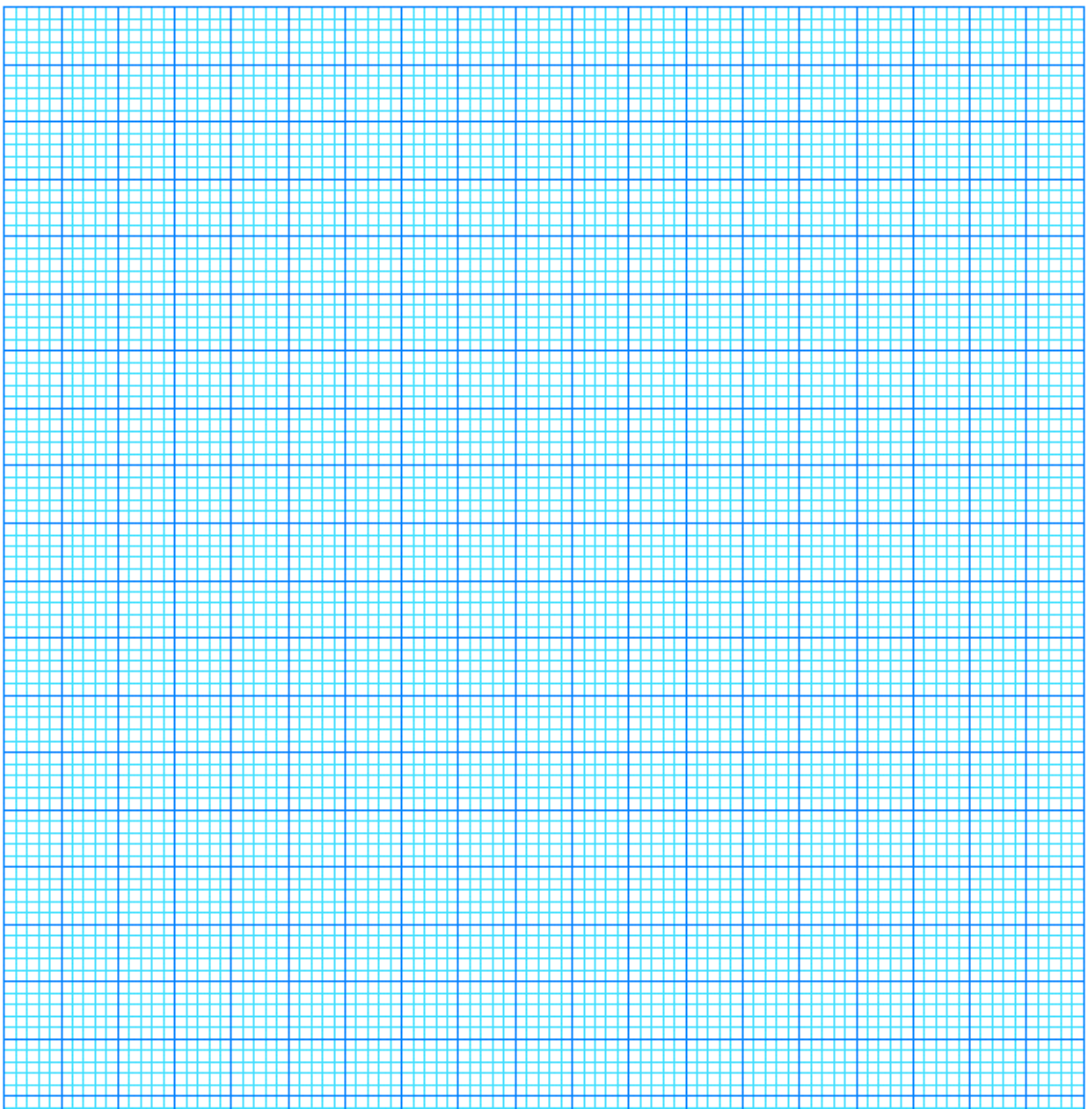
Task 1

Now use your results and the graph paper below to plot T against L.
Draw the best fit smooth line. What do you notice?



Task 2

Now use your results and the graph paper below to plot T^2 against L.
Draw the best fit smooth line. What do you notice?
You should get a straight line through the origin.



The gradient of the graph drawn above will equal $4\pi^2/g$.

By working out the gradient, rearrange this to calculate a value for g.

Value of g =_____ms^{-2}

Questions:

1) How does your value of g compare with the accepted value of 9.81 ms^{-2}? Can you explain any difference?

2) Does air resistance have a part to play? Make sure to provide an explanation.

3) If this experiment was conducted on the moon where the gravitational acceleration is one-sixth that of the Earth, what would the effect be on the period?

4) What conclusions can be drawn from the results obtained?

Uncertainties:

5) There is always some uncertainty involved when an experiment is carried out. What are the errors associated with this experiment? Consider different typed of errors such as systematic and random errors.

6) Can the validity of this experiment be improved?

7) Plot errors bars on the graph drawn in question 4.

8) Finally, write down the value of g found from the graph and make sure to include the error associated with working out this value.

Value of g =_____ ± _____ms^{-2}

Extension Work

What would the effect be if the length was fixed and the mass was varied? Can this be explained using equation (1)? Repeat the experiment but this time keep the length of the string fixed and vary the mass.