مدرسة القديسة مريم الكاثوليكية الثانوية – دبي

ST. MARY'S CATHOLIC HIGH SCHOOL, DUBAI

Lesson Plan

Subject	**Physics**
Class/ Section	**Yr 9 (A to F)**
Week	**Week 5 : 26th September to 30th September, 2021**
Work send to students by	**Google classroom**
Total number of lessons per week	**3**
Unit/Topic	**Stored Energies, Renewable & Non-renewable Resources**
Key Vocabulary	energy resources, decommission, carbon neutral
Lesson 1,2,3 - Live Zoom lesson along with face to face instruction for students present on a particular day **Work will be assigned in google classroom which will be matched to the students' ability.** **Assessment Criteria/ Essential questions:** **Resources:**	**Lesson 1: Stored Energies** **Specific Learning objectives:** • Apply the knowledge of conservation of energy in a moving pendulum, roller coaster, bouncing ball etc. **Specific Intended Learning Outcomes:** • Work out the conservation of energy problems. • Use GPE = KE for numerical calculations • Describe the concepts that decrease in gravitational potential energy equals the increase in kinetic energy with few examples. **Tasks:** 1. Watch the video of a moving pendulum and describe where the energy originally came from to set the pendulum swinging, and how the energy stored in the pendulum changes while it is swinging. 2. Explain the various energy conservation takes place when a player through the ball into the air. 3. Apply the principle of conservation of energy to **a** variety of situations involving GPE, KE, and other forms. 4. Complete the energy conservation problems. **Support:** Help the students to solve the problems in the ppt. **Stretch :** Ask students to find out and explain how and why energy is stored in flywheels and in pumped storage power stations. Edexcel GCSE (9-1) Physics Textbook Ppt on the topic

Lesson 2 & 3: Renewable & Non-renewable Resources

Specific Learning objectives:

- Describe the main energy sources available for use on Earth (including fossil fuels, nuclear fuel, wind, hydro-electricity, the tides and the Sun), and compare the ways in which both renewable and non-renewable sources are used.
- Explain patterns and trends in the use of energy resources.

Specific Intended Learning Outcomes:

- Identify the main energy sources and distinguish between renewable and non-renewable energy resources.
- Understand why some energy resources are more reliable than others.
- Describe the environmental impact arising from the use of different energy resources.
- Explain patterns and trends in the use of energy resources.

Tasks :

Lesson 2:

1. List the non-renewable energy resources in use today.
2. Describe the advantages and disadvantages of non-renewable energy resources.
3. Compare the advantages and disadvantages of non-renewable energy resources.
4. Complete the text book questions

Lesson 3:

1. List the renewable energy resources in use today.
2. Describe the source of energy for different renewable resources.
3. Explain why we cannot use only renewable energy resources.
4. Complete the text book questions.

Assessment Criteria/ Essential questions:

Support: To draw up a table to summarize the different renewable resources discussed and what limits their availability.

Stretch: Ask students to find out more about tidal stream turbines and compare and contrast them to wind turbines in terms of size, possible locations and potential generating capacity.

Extend: Research Work : Floating Solar power plant & Its benefits

Resources:

Edexcel GCSE (9-1) Physics Textbook

Interactive power point from Board works

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Lesson plan

Subject	**Physics**
Class/ Section	**Year 10**
Week	**Week 5 : 26th September to 30th September, 2021**
Work send to students by	**Google classroom**
Total number of lessons per week	**4**
Unit/Topic	**SP 6 – Radioactivity** **SP 6 g – Half- life** **SP 6 h - Using radioactivity** **SP 6i - Dangers of radioactivity**
Key Vocabulary	Irradiated, sterilised, tracers, smoke alarms, mutation, contamination.
Lessons 1,2,3 and 4 –Live Zoom lesson along with face to face instruction for students present on a particular day **Work will be assigned in Google classroom which will be matched to the students' ability.**	**Lesson 1** **Specific Learning objectives** P6.27 Use the concept of half-life to carry out simple calculations on the decay of a radioactive isotope, including graphical representations. **Specific Intended Learning Outcomes** • Use the concept of half-life to carry out simple calculations on the decay of a radioactive isotope, including graphical representations. • Solve exam style questions. **Tasks:** 1. recall the concept half- life 2. Teacher posts the exam style questions in GC. 3. Students apply the concept half life and solve the questions. **Assessment Criteria/Essential questions** **Support:** Help the students to solve the exam style questions **Stretch:** Ask students to solve Extra challenge questions. **Extend**: Asks the students how can carbon 14 be used to determine the age of fossils?

Resources	Edexcel GCSE (9-1) students book Interactive power point
	Lesson 2 and 3 **SP6h- Using radioactivity** **Specific Learning objectives** P6.28 Describe uses of radioactivity **Specific Intended Learning Outcomes** • Describe how radioactivity is used in smoke alarms. • Describe how radioactivity is used in irradiating food. • Describe how radioactivity is used in sterilising equipment. • Describe how radioactivity is used in tracing and thickness gauging. • Realise that radioactivity is used in cancer diagnosis and treatment. **Lesson 2** **Tasks:** 1. Revising the properties of alpha, beta and gamma radiations. 2. Teacher displays the diagrams of uses of radiation in ppt slides. (Checking thickness, radioactive detecting and smoke alarms) 4. Use the interactive power point to describe how radioactivity is used in each situation mentioned above. 6. Research work is given as home work Research on Describe how radioactivity is used in irradiating food. Describe how radioactivity is used in sterilising equipment **Lesson 3** **Tasks** 1. Students revisit the concept by answering text book questions. 2. Worksheet and exam style question will be posted in GC. 3. Students will apply the concept and solve the question. **Assessment Criteria/Essential questions** **Support**: help the students to understand the exam style questions. **Stretch**: Ask students to answer question E1 in the Student Book. **Extend**: Describe how radio activity is used in diagnosing and treating cancer
Resources	Edexcel GCSE (9-1) students book Interactive power point Worksheet.
	Lesson 4 **SP 6 i – Dangers of radioactivity** **Specific Learning objectives** P6.29 Describe the dangers of ionising radiation in terms of tissue damage and possible mutations and relate this to the precautions needed. P6.30 Explain how the dangers of ionising radiation depend on

	half-life and relate these to the precautions needed. P6.31 Explain the precautions taken to ensure the safety of people exposed to radiation, including limiting the dose for patients and the risks to medical personnel. P6.32 Describe the differences between contamination and irradiation effects and compare the hazards associated with these two. **Specific Intended Learning Outcomes** • Describe the hazards of ionising radiation in terms of tissue damage and possible mutations. • Explain how the dangers of ionising radiation depend on the half-life. • Explain the precautions taken to reduce the risks from radiation and ensure the safety of patients exposed to radiation, and link these to the half-lives of the sources used. • Explain the precautions taken to reduce the risks from radiation and protect people who work with radiation. • Describe the differences between contamination and irradiation effects and compare the hazards associated with these two. **Tasks:** 1. Ask students to apply their learning from earlier topics by asking questions such as: What would happen if you swallowed an alpha source? What if there were an alpha source a metre away from you? Would gamma radiation be dangerous inside/outside your body? Is background radiation dangerous? 2. Use the active teach video to understand the dangers of radiation. 3. Pose the video in between and asks the students the following questions. What are the effects of ionising radiation on the human body? Explain the precautions that should be taken by people working with radioactive source. Describe the difference between contamination and irradiation **Assessment Criteria/Essential questions** **Support:** video will be displayed to understand the dangers of radioactivity. **Stretch:** Ask students to research on Compare and contrast the terms contamination and irradiation. **Extend**: Find out and explain why plutonium has to be made, rather than mined, and suggest what has to happen inside the reactor to form plutonium from uranium.
Resources	Edexcel GCSE (9-1) students book Interactive power point Worksheet

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Lesson Plan

Subject	**Physics**
Class/ Section	**Year 11 A-F**
Week	**Week 5 -26th September to 30th September**
Work send to students by	**Google classroom**
Total number of lessons per week	**5**
Unit/Topic	**Electricity**
Key Vocabulary	**Charge, Coulomb, potential difference, convectional current**
Specific Learning objectives and **Specific Intended Learning Outcomes.** **Tasks**	**Week 5 – Lesson 1 SP 11a. Electric Circuit (Carry forward from last week)** **Specific Learning objectives** Draw and use electric circuit diagrams representing them with the conventions of positive and negative terminals **Specific Intended Learning Outcomes.** Describe the basic structure of an atom (positions, relative masses and relative charges of protons, neutrons and electrons) Explain why metals are good conductors of electricity and plastic, wood.. are poor conductors Recognise the circuit symbols for a range of common electrical components Draw diagrams for circuits containing common electrical components, using conventions for positive and negative terminals. **Tasks** 1. Answer text book questions 1 and 2 to recall the structure of an atom 2. List the components needed for a simple circuit to work.

	3. Watch the animation of the lattice structure of copper and explain why metals are good conductors. 4. Draw a simple circuit and show the direction of electron flow and convectional current.
Assessment Criteria/ Essential questions	**<u>Assessment Criteria/ Essential questions</u>** **Support :** Identify the symbols of electrical components and draw a simple circuit using a cell, bulb and a switch. **Stretch**: a What is an electric current? b Compare conventional current with electron flow. **Extend:** A metal conducts electricity but an insulator like wood does not. Describe what is different about the structure of a metal that enables it to conduct electricity.
Resources	**<u>Resources</u>** Edexcel GCSE (9-1) students book Interactive power point from Board works A power point to display learning objectives, tasks and images Worksheet SP 10 a(differentiated)
	Week 5 Lesson 2
<u>Specific Learning objectives and</u>	**<u>Specific Learning objectives</u>** • Explain that an electric current is the rate of flow of charge and the current in metals is a flow of electrons. • Recall that an ammeter is connected in series with a component to measure the current, in amps in the component. • Recall and use the equation: $Q = I \times t$
<u>Specific Intended Learning Outcomes.</u>	**<u>Specific Intended Learning Outcomes.</u>** • Explain the link between electric current and electric charge • Describe how to measure current • Understand that the total amount of current stays the same on its journey around the circuit • Apply the equation to calculate the charge that flows, the current or the time the current flows. ($Q = I \times t$)
<u>Tasks</u>	**<u>Tasks</u>** 1. Define 1 coulomb. 2. Make a simple circuit using phet simulation • Connect an ammeter to measure the current. • Draw the circuit diagram in the notebook. • Connect the ammeter in different positions and

	understand that total amount of current stays the same 3. Calculate current/ charge /time using the formula Q=It
Assessment Criteria/ Essential questions	**Assessment Criteria/ Essential questions** **Support :** Solve problems using the formula Q=It Equation triangles can help you rearrange the equations to solve problems. **Stretch :** The current in a circuit is doubled and it is switched on for three times as long. Explain the change in the amount of charge that flows in the circuit. **Extend :** A charger is used to charge a mobile phone battery for 6 hours. The output current to the phone from the charger is 0.9 A. Calculate the total charge stored in a battery .
Resources :	**Resources :** Edexcel GCSE (9-1) students book Interactive power point from Board works A power point to display learning objectives, tasks and images Worksheet SP 10 c(differentiated) Phet Simulation
	Week 5 Lesson 3 Potential difference
Specific Learning objectives and	**Specific Learning objectives** • Recall that a voltmeter is connected in parallel with a component to measure the potential difference (voltage) in volts, across it. • Explain that potential difference (voltage) is the energy transferred per unit charge passed and hence that the volt is a joule per coulomb. • Recall and use the equation: $E = Q \times V$
Specific Intended Learning Outcomes.	**Specific Intended Learning Outcomes.** • Define the term 'potential difference' • Describe how to measure voltage • Explain the link between the potential difference (voltage) across a a battery or a component, the charge passing through it and the amount of energy transferred. • Define the unit of potential difference is the volt and explain it in terms of units of energy and charge • Apply the equation to calculate the energy transferred, thee charge that flows or the potential difference. (E = Q × V)
Tasks	**Tasks** 1. Use the image B (pg. 142) in the text book to answer questions 3 and 4 2. Make a simple circuit using phet simulation

Assessment Criteria/ Essential questions **Resources**	• Connect volt meter to measure the voltage across the bulb • Draw the circuit diagram in the notebook. 3. Use the image B (pg. 145) in the text book to explain how energy is transferred in a circuit 4. Calculate energy/ voltage/ charge using the formula E=VQ **Assessment Criteria/ Essential questions** Apply the equation E= QV **Support :** Equation triangles can help you rearrange the equations to solve problems. **Stretch :** Explain what happens to the charge flowing in a circuit when the cell is replaced by a cell with double the potential difference. **Extend :** A charger is used to charge a mobile phone battery for 6 hours. The output current to the phone from the charger is 0.9 A at a potential difference of 5 V. a Calculate how much energy is transferred to the phone. b Describe what happens to this energy. **Resources :** Edexcel GCSE (9-1) students book Interactive power point from Board works A power point to display learning objectives, tasks and images Worksheet SP 10 c(differentiated) Phet Simulation
Specific Learning objectives and **Specific Intended Learning Outcomes.** **Tasks**	**Week 5 Lesson 4 and 5 Series and parallel circuit** **Specific Learning objectives** • Describe the differences between series and parallel circuits. • Recall that current is conserved at a junction in a circuit. **Specific Intended Learning Outcomes.** • Describe and explain the difference between the brightness of identical lamps in series and parallel circuits • Describe and explain the effects of different numbers of identical lamps, cells and switches in series and parallel circuits. • Describe the behaviour of current at a junction • Be able to determine the current in a series or parallel circuit. • Be able to determine the voltage across bulbs in a series or parallel circuit. **Tasks** 1. Construct a series and parallel circuit using 3 bulbs

	• Check if one lamp breaks , what happens to othe bulbs • Check how can we use swich in the circuits to control the bulbs • Add more bulbs / cells in the circuit and check how does it affect the brightness of the lamps • Use ammeters / voltmeters to measure current and voltage across each lamps 2. Draw a series and parallel circuit in the notebook 3. Tabulate the differences between series and parallel circuits 4. Calculate current or voltage in different circuit diagrams
<u>Assessment Criteria/ Essential questions</u>	**<u>Assessment Criteria/ Essential questions</u>** What happened to the total current as more lamps were added in • series? • Parallel? What happened to the potential difference across each lamp as the number of lamps was increased in • Series circuit? • Parallel circuit? **Support:** Use phet simulation to answer the above question **Stretch:** Use different circuit diagram to calculate missing values **Extend :** Three identical 1.5 V cells can be connected in parallel or series to make a battery. Compare and contrast the effect on the total potential difference and the time the battery will last when the cells are connected in parallel or in series
Resources	**<u>Resources :</u>** Edexcel GCSE (9-1) students book Interactive power point from Board works A power point to display learning objectives, tasks and images Worksheet SP 10 b (differentiated) Phet Simulation

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Lesson Plan

Subject	**Physics**
Class/ Section	**Yr 12 – Batch 1 and 2**
Week	**26th September to 30th September , 2021**
Work send to students by	**Google classroom**
Total number of lessons per week	**3**
Unit/Topic	**Electrical quantities**
Key Vocabulary	**Resistivity**
	Lesson 1and 2: Factors affecting resistance **Specific Learning objectives:** ● explain how to measure resistivity experimentally ● make calculations of resistance using resistivity. ● Investigate and use the relationship $R = \rho l/A$ **Specific Intended Learning Outcomes:** ● Use the formula $R=\rho l/A$ to relate the resistivity, resistance, and dimensions of a resistor, ● Diagrammatically represent, in terms of the motion of free electrons, the effects of varying the length, cross-sectional area, and resistivity of a resistor on its resistance ● Predict the graph of resistance against length resistance against 1/area and hence determine the resistivity of the material from the graph. ● Describe experiments to measure resistivity of a material ● Describe how the resistivity of metals is affected by temperature **Tasks:** 1. Recall the factors affecting resistance 2. Plan and Design an experiment to determine the resistivity of a material i) with wires of different diameters.

Assessment Criteria/ Essential questions:	ii) with wires of different lengths. Identify Dependant, independent, control variables 3. Use the data collected from the group activity in previous lesson experiment to determine the resistivity of a material with wires of i)different lengths ii) different diameters;. 4. Realise how to use the equation R = $\frac{\rho l}{A}$ to plot a st.line graph between the data collected and calculate resistivity from the gradient. **Support:** Use the data collected in the previous lesson to plot an excel graph between Resistance and length to calculate resistivity. **Stretch :** Use the data collected in the previous lesson to plot an excel graph between Resistance and 1/ d^2 and calculate resistivity **Extend –** Identify • How to obtain a straight line graph using the data collected. • How to use the data to calculate resistivity from the gradient
Resources:	Edexcel AS/A level Physics 1 Textbook Interactive power point from Board works
	Lesson 3: Variable resistor **Specific Learning objectives:** ○ Use of variable resistors in circuits **Specific Intended Learning Outcomes:** ○ Realise that the variable resistor can be used to control the current in a circuit ○ Identify that variable resistor can be used to provide continuously changing potential difference **Tasks:** 1. Discuss how a variable resistor can be connected in a circuit and some applications of it 2. Describe how a variable resistor can be used to control current in the circuit 3. Explain the use of variable resistor in controlling voltage in a circuit **Support** – provide help in drawing a circuit diagram **Stretch -**.Draw a circuit diagram to demonstrate the use of variable resistor as rheostat and potentiometer **Extend :** Compare the two circuits and identify the more useful circuit **Resources:** Edexcel AS/A level Physics 1 Textbook Interactive power point from Board works

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Lesson Plan

Subject	**Physics**
Class/ Section	**Yr 12 – Batch A/B**
Week	**Week 5 -26th September to 30th September**
Work send to students by	**Google classroom**
Total number of lessons per week	**3**
Unit/Topic	**2.12 Motion Graphs**
Key Vocabulary	Displacement–time graph, Velocity–time graph
Lessons 1,2,3 –Live Zoom lesson along with face to face instruction for students present on a particular day **Work will be assigned in Google classroom which will be matched to the students ability.**	**Lesson 1: (carried over)** **Specific Learning objectives:** • Analyse the variation of the gradients in curved graphs • Interpret the area under curved graphs **Specific Intended Learning Outcomes:** • Calculate the rate of change of a curved graph by drawing a suitable tangent at the point. • Estimate the area under a curved graph. • Given a displacement–time graph, students plot the velocity–time graph for the same object **Tasks** 1. Illustrates how to draw and use a tangent to determine rate of change of non uniform variation. Use a ppt. 2. Discuss the importance of using large triangles for calculating gradient. 3. Use a curved graph to illustrate how to divide curved areas into smaller strips to find the total area or to count the squares with appropriate scales 4. Use graph grids to transform between d-t ,v-t and a-t graphs **Assessment Criteria/ Essential questions:** ***Support:*** *EXTRA* Worksheet Questions – sent

	Stretch: **Qn # 6,8** **Extend: Qn#9** Students should practise calculations from graphs, Worksheet Questions will be assigned in GC.
Resources:	Edexcel AS/A level Physics 1 Textbook Interactive power point from Doodle learn. worksheet file, Online animations and ppt
Assessment Criteria/ Essential questions	**Lesson 3,4:** **Specific Learning objectives:** 1. Discuss how displacement, velocity and acceleration graphs for a bouncing ball can be drawn. **Specific Intended Learning Outcomes:** Construct displacement –time graphs for a bouncing ball Identify the corresponding variations in velocity and acceleration –time graphs respectively **Tasks:** Lesson 3 1.Watch a video /simulation of bouncing ball 2.Teacher displays the multi flash picture of a bouncing ball and asks students to construct a d-t graph for the same 3.Challenge the students to construct a v-t and a-t graphs in the same grid . Lesson 4 1.complete the worksheet file questions 11 and 12 2.AFL on motion graphs 3.Feedback given to students. **Assessment Criteria/ Essential questions:** ***Support:*** Student Book – Page 18-20. Read worked out examples and grasp the problem solving techniques ***Stretch:*** Q # 11-12 **Extend:** worksheet question # assessment **Resources:** Edexcel AS/A level Physics 1 Textbook Interactive power point

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ST. MARY'S CATHOLIC HIGH SCHOOL, DUBAI

Lesson Plan

Subject	**Physics**
Class/ Section	**Yr 13 – Batch A/B**
Week	**Week 5 : 26th September to 30th September, 2021**
Work send to students by	**Google classroom**
Total number of lessons per week	**3**
Unit/Topic	**Circular Motion**
Key Vocabulary	centripetal acceleration and centripetal force ,Banking ,Tangential speed
Lesson 1,2,3 **Live Zoom lesson along with face to face instruction for students present on a particular day** **Work will be assigned in google classroom which will be matched to the students' ability.**	**Lesson 1** **Specific Learning objectives:** • Apply the principles of circular motion to Horizontal and vertical circular motion of objects in amusement park rides **Specific Intended Learning Outcomes:** Plan an experiment to investigate circular motion Identify the variables to be controlled and how to control **Task:** 1. Students are given a list of objects and the identify how to use them to investigate the circular motion. 2. Write a plan of the experiment and discuss the variables to be controlled 3.Peer assess the work **Assessment Criteria/ Essential questions:** **Support:** Develop idea that circular motion needs continual change in direction – centripetal acceleration – towards centre of circle. This is provided by a centripetal force e.g. tension **Stretch:** Rubber Bung Experiment – see worksheet: how does tension affect the orbital time? **Extended:** some students could discuss the variation of the radius or mass of bung and predict the effect **Resources:** Edexcel A level Physics 2 Textbook Interactive power point from Doodle • Use a Youtube video of a hammer thrower (try "Hammer Throw" – Sergei Litvinov is a good example) • Rubber Bung Experiment worksheets

	Lesson 2 & 3: **Specific Learning objectives:** • Apply the principles of circular motion to Horizontal and vertical circular motion of objects in amusement park rides **Specific Intended Learning Outcomes:** Recap and reinforce the objectives covered in the unit Define angular velocity, centripetal acceleration and force. Apply the principles of circular motion to i) orbital motion of electrons and planets ii)Horizontal and vertical circular motion of objects tied to a string, amusement park rides, banking of curved roads, aircrafts etc. **Tasks:** Complete the worksheet questions Peer assess the work Use breakout sessions to collaborate and discuss the challenging parts of the question **Assessment Criteria/ Essential questions:** Revision AFL is conducted on Quantum Mechanics topics **Support:** scaffolding to questions in worksheet file is given for support. **Stretch:** Complete the higher level questions in the worksheet . **Extension:** Complete the extension level questions **Resources:** Edexcel A level Physics 2 Textbook Worksheet file-circular motion Google forms AFL

مدرسة القديسة مريم الكاثوليكية الثانوية – دبي

ST. MARY'S CATHOLIC HIGH SCHOOL, DUBAI

Lesson Plan 2021-22

Subject	**Physics**
Class/ Section	**Yr 13 – Batch 1 and 2**
Week	**Week 5 : 26th Sept – 30th September, 2021**
Work send to students by	**Google classroom**
Total number of lessons per week	**3**
Unit/Topic	**7.1 Electric Fields**

Key Vocabulary	electric force, radial and uniform field, field strength, electric potential
Lesson 1,2,3 - Live Zoom lesson along with face to face instruction for students present on a particular day **Work will be assigned in google classroom which will be matched to the students' ability.** **Assessment Criteria/ Essential questions:**	**Lesson 1 – 2 - Electric fields** **Specific Learning objectives:** • Reinforce the concepts studied in the unit - electric fields • To answer the exam - style questions based on the concept of electric field. • Apply the knowledge to solve problems involving calculation of electric force, field strength, electric potential. **Specific Intended Learning Outcomes:** • Make calculations of the electrostatic force between charged particles. • Understand the difference between uniform and radial electric field • Select and use E= V/d for the magnitude of the uniform electric field strength and E = kq/r2 for radial field. • Recognise that the potential drops uniformly with distance and hence predict the graph of potential against distance. • Draw field lines between parallel plates and radial fields. • Explore the concept of electric potential **Tasks:** 1. Complete the worksheet questions 2. Peer assess the work 3. Use breakout sessions to collaborate and discuss the challenging parts of the question. **Support** – Scaffolding to questions in worksheet file is given for support.. **Stretch** - Complete the higher level questions in the worksheet **Extend –** Complete the extension level questions **AFL –** 15 marks test on electric fields topics **Homework:** Solve exam-style questions from textbook – pg 46-47
Resources:	Edexcel A level Physics 2 Textbook Interactive power point from Board works, ppt – electric fields
Unit/Topic	**Lesson 3** **7.2 Capacitors**
Key Vocabulary	Capacitance, charge stored, Farad

	Specific Learning objectives: • Describe how capacitors can be used in a circuit to store charge • Use the equation for capacitance C = Q/V **Specific Intended Learning Outcomes:** • Define capacitance. • Define farad • Express farad in terms of base units. • Select and use the equation Q = VC. **Tasks:** 1. Starter : Display/video of some electrical toys powered by a capacitor. Use one to demonstrate that the capacitor can act as an energy store but this store is generally much smaller than a chemical store. 2. Introduce the concept of a capacitor as consisting of two conducting plates separated by a small gap. Note that the plates effectively act as a charge storage device and, as there is a potential difference between the plates, an energy storage device. 3. Discuss the relationship between *Q* and *V* for a capacitor in order to define capacitance and the farad. 4. Introduce the concept of capacitance as the ratio of the charge stored to the potential difference between the plates of a capacitor and the equation C=Q/V.
Assessment Criteria/ Essential questions:	***Support:*** Express farad in terms of base units. ***Stretch:*** Do questions 1-2 from the textbook - page 51 **Extend:** Plan an experiment to investigate the relationship between *Q* and *V* for a capacitor in order to define capacitance and the farad.
Resources:	Edexcel A level Physics 2 Textbook Interactive power point from Board works, ppt – capacitors