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|  | **Bass High School**  **Assessment Task 2** |
| **YEAR 8 SCIENCE** |
| **Task Type**  **Task Title** | **FIRST-HAND INVESTIGATION DEPTH STUDY**  Light and its Effects on Plant Growth |
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| **Task Weighting** | ***Knowledge and Understanding 10%***  ***Working Scientifically 30%*** |
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| **Date Due** | **19 October 2020; Monday Week 2 󠇯** |
| **Submission Instructions** | Your finished report is to be handed to your Science Teacher in class on or before the due date. |
| **Support** | As scheduled by your Science Teacher in class.  Attend the homework centre and seek assistance. |

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| **Task:**  You are to undertake a research project in Science. This is a mandatory part of the Stage 4 Science syllabus. You may undertake the project as a group but must **submit your own completed report**.  **Introduction:**  • The scientific method is a way to ask and answer scientific questions by making  observations and doing experiments.  • The steps of the scientific method are to:   * Choose a problem or idea and write an **Inquiry Question**. * Conduct a background research (main component of knowledge and understanding) * Construct and test a hypothesis by doing an experiment(s) * Analyse your data * Communicate Your Results * Draw a Conclusion   • It is important for your experiment to be a **“fair test”**. A "fair test" occurs when you  change only **one** variable and keep all other conditions the same. Your results must be:   * valid [measure what you intend to] and * must be reliable [be repeated and an average value recorded]. |

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| ***Name:……………………………………………………….. Year 8………….*** |

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| **In this task you are required to:**   * **conduct** a virtual experiment to investigate what colours of the light spectrum cause the most plant growth by following the given procedure. * **record** all information needed for your report, eg. height of plants, colour of light, number of days experiment was done, type of plants tested | |
| **INSTRUCTIONS**  **Go to the following website:** [**https://bit.ly/1bePtGt.**](https://bit.ly/1bePtGt)  **This URL will take you to the following website**  [**http://www.glencoe.com/sites/common\_assets/science/virtual\_labs/LS12/LS12.html**](http://www.glencoe.com/sites/common_assets/science/virtual_labs/LS12/LS12.html)  **Follow the instructions on the website to complete your investigation** |

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| ***Outcomes being assessed:***  *SC5-4WS - develops questions or hypotheses to be investigated scientifically*  *SC5-5WS - produces a plan to investigate identified questions, hypotheses or problems,*  *individually and collaboratively*  *SC5-6WS - undertakes first-hand investigations to collect valid and reliable data and*  *information, individually and collaboratively*  *SC5-7WS - processes, analyses and evaluates data from first-hand investigations and*  *secondary sources to develop evidence-based arguments and conclusions*  *SC5-8WS -applies scientific understanding and critical thinking skills to suggest possible*  *solutions to identified problems*  *SC5-9WS - presents science ideas and evidence for a particular purpose and to a specific*  *audience, using appropriate scientific language, conventions and representations* |

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| ***Plagiarism Student confirmation***  *In placing a tick in the space provided you are indicating that this is all your own work.*  *This is all my own work. I have not plagiarised the work of others.*  ***Student Signature:*** *…………………………………………………* |

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| **Students who are absent**  Failure to satisfactorily complete this task by the due date or if absent on the day, will require you to submit a medical certificate to the Science Head Teacher for review of your situation or a mark of zero will be awarded. |

Use the following Template to write your final Report, preferably as a Word document using font size 12 or 14.

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| **REPORT FORMAT & MARKING CRITERIA** |

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| **Heading** | **Knowledge & Understanding Outcomes** | **Marks** | | |
| **Title** | *Appropriate Title for this investigation* | 0 | 1 |  |
| **Inquiry Question** | *What are you going to investigate? [Stated as a question.]* | 0 | 1 | 2 |
| **Introduction** | *Defines “photosynthesis” & states the reactants and products* | 0 | 1 | 2 |
| *Describes where plants get their energy for photosynthesis*  *Explains where and how plants trap sunlight* | 0 | 1 | 2 |
| *Clarifies the colours of light needed for photosynthesis* | 0 | 1 |  |
| *Describes the effect these colours will have on plant growth* | 0 | 1 |  |
| ***TOTAL: Knowledge & Understanding*** | | ***/8*** | | |

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| **Heading** | **Working Scientifically Outcomes** | **Marks** | | |
| **Aim** | *The purpose of your investigation – starts with “****To****…..”* | *0* | *1* |  |
| **Hypothesis** | *An ‘educated guess’ and explains why* | *0* | *1* | *2* |
| **Variables** | *Independent variable – what you changed [the “cause”]* | *0* | *1* |  |
| *Dependent variable – what you measured [the “effect”]* | *0* | *1* |  |
| *Controlled variables – list* ***TWO*** *that were kept constant* | *0* | *1* | *2* |
| **Results** | *Uses an appropriate Results Table to present data* | *0* | *1* |  |
| *Writes correct headings and units for measurements* | *0* | *1* | *2* |
| *Evidence of reliability in measurements [More than 1 trial]* | *0* | *1* |  |
| *Calculates averages – must be included in the Results Table* | *0* | *1* |  |
| **Analysis** | *Plots* ***Independent*** *and* ***Dependent*** *variables on correct axes* | *0* | *1* |  |
| *Accurately* ***scales*** *the axes {as needed]* | *0* | *1* | *2* |
| *Accurately* ***labels*** *the ‘x’ and ‘y’ axes [as needed]* | *0* | *1* | *2* |
| *Constructs an accurate graph using the “best fit” trend* | *0* | *1* |  |
| **Discussion** | *Explains the relationship between the variables investigated* | 0 | 1 | 2 |
| *Describes the trend indicated by the graph* | 0 | 1 |  |
| *Explains if* ***Hypothesis*** *is supported or not* | 0 | 1 | 2 |
| *Discusses at least* ***TWO*** *sources of error in this investigation* | 0 | 1 | 2 |
| *Suggests* ***TWO*** *ways to improve this investigation* | 0 | 1 | 2 |
| **Conclusion** | *Writes a short summary of your investigation* | 0 | 1 |  |
| **Bibliography** | *Cites at least* ***TWO*** *reliable websites as references* | 0 | 1 | 2 |
| **Journal** | *Dated entries describing progress of the investigation* | 0 | 1 | 2 |
| ***TOTAL: Working Scientifically*** | | ***/32*** | | |