



Task Number	3	Task Name	Nature of Light Presentation
Course	Physics	Faculty	Science
Teacher	Mr Yates	Head Teacher	Mr Yates
Issue date	Friday 22 nd March 2024	Due date	Tuesday 4 th June 2024
Focus (Topic)	History of Light	Task Weighting	20%

Outcomes

A student:

PH 12-3 - conducts investigations to collect valid and reliable primary and secondary data and information

PH 12-4 - selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media

PH 12-5 - analyses and evaluates primary and secondary data and information

PH 12-6 - solves scientific problems using primary and secondary data, critical thinking skills and scientific processes

PH 12-14 - describes and analyses evidence for the properties of light and evaluates the implications of this evidence for modern theories of physics in the contemporary world

Task description

Students are to conduct their own research into the contribution of particular scientists (Maxwell, Newton, Huygens, Planck and Einstein) to our understanding on the nature of light. Using the information they gather, students must compose a response that evaluates the contribution of each scientist and the impact that the contribution has made to our daily lives. Students should access a wide variety of sources to conduct a thorough analysis of each scientist's contribution. This will enable a more robust evaluation. The format of the response is at the student's discretion. They should check with the teacher to ensure that it is suitable for the task and accessible to mark.

Marking Guidelines

CRITERIA	MARK/GRADE
<p>An OUTSTANDING performing student will produce work that:</p> <ul style="list-style-type: none"> • demonstrates an extensive knowledge and understanding of scientific concepts, including complex and abstract ideas • communicates scientific understanding succinctly, logically, and consistently using correct and precise scientific terms and application of nomenclature in a variety of formats and wide range of contexts • designs and plans investigations to obtain accurate, reliable, valid and relevant primary and secondary data, evaluating risks, mitigating where applicable, and making modifications in response to new evidence • selects, processes, and interprets accurate, reliable, valid, and relevant qualitative and quantitative, primary or secondary data, and represents it using a range of scientific formats to derive trends, show patterns and relationships, explain phenomena, and make predictions • designs solutions to scientific problems, questions, or hypotheses using selected accurate, reliable, valid, and relevant primary and secondary data, and scientific evidence, by applying processes, modelling and formats • applies knowledge and information to unfamiliar situations to propose comprehensive solutions or explanations for scientific issues or scenarios 	A
<p>A HIGH performing student will produce work that:</p> <ul style="list-style-type: none"> • demonstrates thorough knowledge and understanding of scientific concepts, including complex and abstract ideas • communicates scientific understanding, logically, and effectively using correct scientific terms and application of nomenclature in a variety of formats and wide range of contexts • designs and plans investigations to obtain accurate, reliable, valid and relevant primary and secondary data, evaluating risks, mitigating where applicable, and making some modifications in response to new evidence • selects, processes, and interprets accurate, reliable, valid, and relevant qualitative and quantitative, primary or secondary data, and represents it using a range of scientific formats to derive trends, show patterns and relationships • designs solutions to scientific problems, questions, or hypotheses using selected accurate, reliable, and valid primary and secondary data, and scientific evidence, by applying processes, and formats • applies knowledge and information to unfamiliar situations to propose explanations for scientific issues or scenarios 	B
<p>A SOUND performing student will produce work that:</p> <ul style="list-style-type: none"> • demonstrates sound knowledge and understanding of scientific concepts • communicates scientific understanding effectively using scientific terms and application of nomenclature • designs and plans investigations to obtain primary and secondary data and evaluates risks • processes and interprets primary and secondary data, and represents it using a range of scientific formats • identifies scientific problems, questions, or hypotheses and applies processes, and formats to primary or secondary data • applies knowledge and information relevant to scientific issues or scenarios 	C
<p>A BASIC performing student will produce work that:</p> <ul style="list-style-type: none"> • demonstrates basic knowledge and understanding of scientific concepts • communicates scientific understanding using basic scientific terms and application of nomenclature • implements scientific processes to obtain primary and secondary data and identifies risks • processes primary or secondary data, and represents it using scientific formats • responds to scientific problems, questions, or hypotheses recalls scientific knowledge and information 	D
<p>A LIMITED performing student will produced work that:</p> <ul style="list-style-type: none"> • demonstrates limited knowledge and understanding of scientific concepts • communicates scientific understanding using limited scientific terms • partially outlines investigations to obtain data and information • provides simple descriptions of scientific phenomena • recalls basic scientific knowledge and information 	E
<ul style="list-style-type: none"> • Late submission – no misadventure • Assessment not submitted 	Parental notification