

 <p>Liceo Scientifico e Classico Ettore Majorana Desio</p>	PROGRAMMA SVOLTO	MD 01 05 r0 Del 1 settembre 2018 Pagina 1 di 1
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a.s.	2022- 2023	Prof.	<u>M.Erba</u>
classe	<u>3aa</u>	materia	<u>Fisica</u>

Libri di testo	Physics for Cambridge IGCSE Coursebook Sang D., Follows M., Tarpey S. Cambridge University Press
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Programma svolto
<p><u>Argomenti preliminari:</u> Nozioni preliminari, cinematica, dinamica. Introduzione alla metodologia CLIL CLIL.</p> <p><u>Programma Cambridge (in inglese)</u> Command Words. Definition of speed, average speed, acceleration. Distance–time graph and speed–time graphs. Free fall with/without air resistance. Difference between weight and mass. Definition of gravitational field strength. Define density as mass per unit volume with reverse formulas. Experimental measurement of volume and density of irregular bodies. Determine whether an object floats based on density data. Define forces as vector quantities. Elastic force, spring constant. Equation $F=ma$. Circular motion. Solid friction, friction drag on an object moving through a liquid/gas. Turning effect of forces. Definition of moment of a force. Principle of moments, equilibrium, centre of gravity Define momentum as mass \times velocity, define impulse as force \times time for which force acts. Relationship between force and momentum change. Define different types of energy: kinetic, gravitational potential, chemical, elastic (strain), nuclear, electrostatic and internal (thermal). Conservation of energy with simple examples. Definition of work of a force. Energy sources. Energy from the Sun. Efficiency definition. Power definition with reverse formulas. Pressure definition. Pressure change beneath the surface of a fluid. States of matter. Kinetic particle model of matter. Relationship between the motion of particles and temperature. Absolute zero. Conversion of temperatures between kelvin and degrees Celsius. Ideal gas law. Thermal expansion of solids, liquids and gases. Specific heat capacity. Melting, boiling and evaporation. Transfer of thermal energy: conduction, convection, radiation. General properties of waves. Equation for wave speed $v = f \lambda$. Reflection, refraction and diffraction of waves.</p>

Data	Firma del docente
8-6-2023	
Firme di due studenti della classe	