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| **Year:** | **10** | **Unit:**  | **PHYSICS - Motion** |
| **Subject:** | **Science** | **Assessment:**  | **Exam** |
| **LG** | **LEARNING GOALS and SUCCESS CRITERIA** | **Where is this in my notebook?** |
| **1**5 Lessons | **SC1**  | I can **define** average speed, distance, time, velocity, displacement, vectors.  |  |
| **SC2** | I can **convert** between units of distance, time, and speed. |  |
| **SC3** | I can **calculate** distance, time or speed using a formula. |  |
| **SC4** | I can **draw** and **describe** the motion of objects in distance versus time graphs. |  |
| **SC5** | I can **explain** the difference between displacement and distance. |  |
| **SC6** | I can correctly **interpret** vector diagrams on displacement (distance v direction) graphs. |  |
| **SC7** | I can **calculate** velocity using a formula and transpose a formula to calculate displacement and/or time. |  |
| **LG1** | ***I understand how to use correct scientific terms to describe and calculate the simple motion of objects.*** |  |
| **2**2 Lessons | **SC8** | I can **define** and **describe** the acceleration of an object using the terms speed/\*velocity and time. |  |
| **SC9** | I can **calculate** acceleration, initial speed/velocity, final speed/velocity, time and distance using a formula using gathered data. |  |
| **SC10** | I can **draw** and **describe** the motion of an object in speed v time graphs.  |  |
| **LG2** | ***I understand how to use correct scientific terms to describe and calculate the acceleration of objects.*** |  |
| **3**1 Lesson | **SC11** | I can **explain** Newton’s first law of motion. |  |
| **SC12** | I can **apply** arrows to represent applied forces in diagrams of real life situations. |  |
| **SC13** | I can **explain** Newton’s 1st law and represent the law in a diagram to explain the motion of objects. |  |
| **LG3** | ***I understand the concept of INERTIA to predict the motion of objects (Newtons 1st law).*** |  |
| **4**2 Lessons | **SC14** | I can **state** Newton’s 2nd law of motion. |  |
| **SC15** | I can **draw** arrows to represent forces of balanced and unbalanced forces in diagrams. |  |
| **SC16** | I can **calculate** the force applied to objects using Newton’s 2nd law. |  |
| **SC17** | I can **apply** a formula to calculate mass or acceleration. |  |
| **SC18** | I can **apply** multi step calculations involving speed/velocity, distance, time, force and acceleration |  |
| **LG4** | ***I understand the concept of applied balanced and unbalanced forces to predict the acceleration of objects (Newtons 2nd law)*** |  |
| **5**1 Lesson | **SC19** | I can **explain** Newtons 3rd law of motion. |  |
| **SC20** | I can **draw** diagrams using arrows to represent action and reaction forces. |  |
| **SC21** | I can **explain** action and reaction forces to explain the motion of objects in real-life scenarios. |  |
| **LG5** | ***I understand the concept of action and reaction to explain real-life effect of applying******force (Newtons 3rd law).*** |  |
| **6**1 Lesson | **SC22** | I can **define** Kinetic energy (KE). |  |
| **SC23** | I can **calculate** the Kinetic energy, mass or speed/velocity using a formula. |  |
| **SC24** | I can **apply** a formula triangle to calculate mass or speed/velocity given the kinetic energy of an object. |  |
| **LG6** | ***I understand the concept of Kinetic energy to describe and explain the motion of objects*.** |  |
| **7**2 Lessons | **SC25** | I can **define** Gravitational Potential Energy (GPE). |  |
| **SC26** | I can **calculate** GPE given mass, acceleration due to gravity, and height using a formula. |  |
| **SC27** | I can **explain** that the law of conservation of energy explains that total energy is maintained in energy transfer and transformation and explain this in terms of energy efficiency. |  |
| **SC28** | I can **apply** the law of conservation of energy to describe the energy changes of falling objects (GPE and KE conversions) and use formulas to calculate energy or speeds of falling objects at various heights. |  |
| **LG7** | ***I understand the concept of Gravitational Potential Energy AND energy transformations to describe and predict the motion of objects.*** |  |