Lesson plan/note for week 6 ending, 17th February, 2023

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| Term | 2nd term |
| Week | Week 7 and 8 |
| Date | 14th/16th February, 2023 |
| Class | JSS 1 |
| Subject | Basic Science |
| Topic | Forces: Types of Non- contact forces |
| Sub-topic | Calculations on gravitational force |
| Period | 3rd/4th |
| Time | 9:30-10:10am/ 10:30-11:10 am |
| Duration | 40 minutes each |
| Number in class | Eighteen |
| Average age | 11 years |
| Sex | Mixed |
| Specific Objectives | By the end of the lesson, the students should be able to:  1.Mention the types of non-contact forces.  2.Explain the types of non-contact forces mentioned.  3.Express gravitational force mathematically  4.Solve calculations on gravitational force |
| Rationale | To enable students know the various types of non-contact forces and also solve calculations on gravitational force. |
| Previous Knowledge | Students have learnt the types of contact forces. |
| Instructional resources | Picture from textbook |
| Reference Materials | I. Excellence in Basic Science and Technology for JSS 3 by Olushola Felix Bello et al. |

Lesson Development

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| Steps | Teacher’s Activities | Students’ Activities | Learning Points |
| Introduction | Teacher asks students to mention the types of contact forces they have learnt | Students mentioned s the types of contact forces | To arouse students' interest |
| Step I | Teacher mentions the types of non- contact forces thus:  1.Gravitational force  2.Magnetic force  3.Electrical force | Students listen to teacher | To keep students focus on the lesson |
| Step II | Teacher explains the types of non- contact forces to students | Students pay attention and ask questions where necessary | To keep students focus on the lesson |
| Step III | Teacher gives the mathematical expression of gravitational force as: Gf=mgh and explains the terms given. | Students listen to teacher | To keep them focus on the lesson |
| Step IV | Teacher writes question on gravitational force and guides students to solve the question | Students participate in the class activity | To encourage critical thinking |
| Board Summary | Types of Non- contact Forces  1.Gravitational force  2.Magnetic force  3.Electrical force    >Gravitational force: Gravitational force is the force with which earth, moon or other large objects attracts other objects towards itself.  >Magnetic force: This is the attractive or repulsive force that is exerted between the poles of a magnet.  >Electrical force: It is a force produced by electric currents. This force exists between all charged particles.  Calculations on Gravitational Force  A boulder rests at the top of a cliff at position X. The boulder is not moving but it has potential energy due to gravity. If it is pushed over a cliff, it will end up at Y, because of gravity acting on it. We can write the equation:  Gf=mgh  Where;  Gf= Gravitational force(Gravitational potential energy)  m= mass of the object  g=acceleration due to gravity, which is 9.8 meters/seconds/seconds ( 9.8m/s^2)  h=height.  Assume the mass of the boulder to be 100 kilograms, and the height (from X to Y) it can fall is 12 meters, calculate the gravitational force.  Solution  Gf=mgh  Mass= 100kg  g=9.8m/s^2  h=12m  Gf=mgh  =100×9.8×12  =11,760  Gf=11,760 Joules | Students copy the note from the board | To serve as reference point to students. |
| Evaluation | Teacher asks students the following questions:  1.Mention three types of non-contact forces.  2.Explain the types of non- contact forces mentioned.  3.Give the mathematical expression of gravitational force.  Calculate the gravitational force of an object of height 10 meters. (g=9.8m/s^2) | Students respond to teacher’s questions, solve the calculation and submit for marking. | To ascertain students’ understanding of the lesson. |
| Conclusion | Teacher assesses students books and make corrections where necessary | Students take correction | To ensure a better understanding. |
| Assignment | 1.Calculate the gravitational force of an object of mass 10kg, falling from a height of 10 meters (g=9.8m/s^2)  2.What is the gravitational force of an object of mass 15kg falling from a height of 3meters (g=10m/s^2) | Students write down the assignment in their note book | To engage scholars at home. |