

LESSON PLAN (CONSOLIDATED)

SUBJECT: SCIENCE

GRADE: VIII

Chapter Number and Title of Chapter	CHAPTER 11, FORCE AND PRESSURE
No. of Periods	Total: 6 periods (approx. 40 min each)
Learning Objectives	▪ To understand the idea of force and its effects ▪ To learn about various types of forces ▪ To understand difference between contact and non contact forces ▪ To learn about the force of friction and its effects ▪ To understand the concept of pressure and its relation with area ▪ To learn about example of pressure in everyday life ▪ To study the effect of atmospheric pressure ▪ To learn about pressure exerted by liquids
Teaching Aids / Resources	Textbook , examples of familiar situations involving motion, a heavy object, table, rubber ball, ruler, plastic bottle, water, other reference books, multimedia (videos downloaded from internet), magnets, empty bottle, water, ppt, blackboard
Previous Knowledge/ Curiosity Questions	• What do you do to make a football move? • How does a goal keeper stop a ball? • What happens when you press a ball? • What happens when you stretch a rubber band? • What happens when you hit a ball with bat? • How are you able to pick up a bucket of water? • How an apple falls from the tree towards earth? • What happens when you bring iron nail near to a magnet? • What happens when you fill a balloon with water? • Does a balloon burst when we fill excess water in it?
Announcement of topic	Students will not be able to answer the last question and teacher will announce that today we will study about Force and then pressure.
Teaching Methodology/ Strategy	Transaction would proceed in the following manner- Suggestive Methodologies: ➤ Interaction through quiz, PPT, videos, group discussions ➤ Demonstration through activities • Brain Storming – • Why the box don't move when equal force is applied

	from opposite sides? • What do you mean by magnitude of force? • What happens when you apply force on dough with hands? • Can you pick up your book without touching it? • Why a car stops when brake is applied? • Why a magnetic sticker sticks to the door of the refrigerator? • Why liquid comes out from all the sides of container at equal distance? Active learning- Active interaction of students with teacher through activities, Mind map, audio visual aids, research, project making will be there. Group learning- Students will have group discussions, Report making in pairs, Team quiz, experimenting. Questioning- Students will be asked different questions relating to concept of pressure exerted by liquids. Guided practice followed by Independent Practice- NCERT questions to be discussed in the classroom.
Content Obligatory Vocabulary (Keywords)	Pull, push, force, contact force, muscular force, friction, electrostatic force, gravitational force, gravity, magnetic force, non-contact force, pressure, atmospheric pressure, state of motion, shape, liquids
Learning Concepts/ Teaching Points	➤ Force and its types ➤ State of motion or rest of an object ➤ Effect of forces on state of motion ➤ Pressure exerted by liquids and gases ➤ Relation between pressure and area ➤ Atmospheric pressure and its effects
Hard Spots/ Focus Spots	➤ Identification of magnetic force and electrostatic force. ➤ Numerical based on calculation of total force in same direction and opposite direction. ➤ the relationship between pressure and area. ➤ liquid exerts pressure on sides.

Experiential Content	- Students will experience force through activities like rolling the ball on ground and stopping it, stretching the rubber band, pressing the rubber ball, hitting a ball with bat. - Activities to explain types of forces, pressure exerted by liquids will be performed and explained with help of ppt. - Students will be shown practically the magnetic force, electrostatic force through activities. - Students will see that air exerts pressure on inner wall of the balloon. - Activities related to the following topics will be performed: Liquids exert pressure on all sides of the container. Liquids exert equal pressure on all sides of the container.
Subject Enrichment Activities for Internal Assessment	- Make a list of the impact of forces applied in five different daily life situations while doing some work in project file. - Collect information about electrostatic force and magnetic force and make a project file of three to four pages. - Make a project file giving four different situations where pressure is helpful and four different situations where pressure can be harmful. - Find out any five uses of pressure exerted by liquids and write in your project file. Also paste the related pictures depicting this pressure.
Recapitulation :	➤ What two things describe a force completely? ➤ Give one example where force changes: - Shape - Size - Direction ➤ speed What is the name of the force with which the earth pulls us? ➤ What is the name of the force that attracts iron and nickel objects? ➤ Define pressure and atmospheric pressure. ➤ Why the tail of a nail is pointed? ➤ Give one situation where you apply muscular force? ➤ Is the direction of motion and friction same? ➤ What is magnetic force? ➤ Give one example of electrostatic force. ➤ What is pressure? ➤ What is the relation between pressure and area on which force is applied?

	➤ What is atmospheric pressure?
Assignment:	➤ Give five examples each of a push and a pull respectively. ➤ Write a short note on Gravitational force. Give atleast three examples where gravitational force is applied. ➤ Why a rubber sucker sticks to the surface when we press it on a smooth surface? Why shoulder bags are provided with broad straps? ➤ A boy observed that his hands become warm when rubbed with each other. Explain which type of force is the boy applying while rubbing his hands. ➤ Write any two situations where area is increased to reduce pressure. ➤ Write an activity to prove that liquid exerts equal pressure on all the sides of the container.