

CLASS – VIII
LESSON PLAN
CHAPTER- FORCE AND PRESSURE

Unit	Physics (Chapter 11: Force and Pressure)
Class Transaction	Total periods required:6 (approx. 40 min each)
Pre-requisite for the course	This lesson requires Basic knowledge of force. Basic knowledge of the terms Force, pressure and friction which students had already learnt in class VI ,VII
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objectives	Given the content (chapter) the students will be able to classify different type of forces. Students would be able to identify the difference between contact and non-contact force. They would also be able to understand the relation between pressure and area with 90 % accuracy.
	DOL- D1, D2, D3, D4
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> What is force What are the effects of force What is pressure <u>Skills & Competencies-</u> Students would be able to • Critically analyse the relation between force and pressure. • Appreciate the importance of force and pressure. Collaboratively • Design Creative methods to bring a positive change in the life style by increasing force by applying less pressure. Built character amongst themselves by discussing /communicating the importance of force in their daily life. Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic. Attitudes and beliefs- <i>Students will be able to</i> Develop citizenship by visualizing and observing day to day phenomena and present it in form of a skit to sensitize others
Transaction Methodology (The teacher can	Transaction would proceed in the following manner- Active learning- <i>Frayer Model</i> on force. (Critical thinking)

use the mentioned techniques, wherever applicable, and can use any other too.)	Group learning- The class will be divided in the group of 5 students. <i>Circle the Sage</i>- The question will be asked by the teacher about the type of contact and non-contact force who knows the answer will stand at the various corners of the room. (Communication, Collaboration) Differentiation- The students in a group of 10 will be demonstrating the effect of pressure. (Character, Citizenship) Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about the contact and non-contact force and will ask these questions during discussions. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. Introduction of the topic- PPT and Digital Content would be shared Facilitation of content The facilitator will enable the learners to understand the fundamental concept of force and pressure He will compare and contrast the different kinds of forces Approaches The facilitator should apply some or all of the approaches while administering the teaching learning process • Didactic approach • Summarizing approach • Feedback approach Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning,
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	• Lab Activities <i>Guided practice to be followed by Independent Practice-</i> NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book Reference Books CBSE Exemplar
Self-Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....3 marks It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.
Assessments	4 UNIT TESTS25 Mark each=100 Marks HALF YEARLY EXAMINATION 80+20 (internal)=100 Marks ANNUAL EXAMINATION 80+20(internal)=100 Marks By administering pen paper test, we assess creativity and critical thinking. INTERNAL ASSESSMENT 20 Marks in each Term • Subject Enrichment Activity 10 Marks With the help of subject enrichment activities we assess communication, collaboration, character building and citizenship (Demonstration and implementation of on force and pressure in our daily life). The students in a group of 5 will be demonstrating the activity. • Note Book Submission 10 Marks
Addressing Classroom Diversity	It's a different classroom today: As the kids are from different socio-economic background, So are their needs, demands and aspirations. Today all kinds of students including the gifted, the average and the differently able are mainstreamed into one class. So the teaching learning process must be devised in such that can cater to the needs and aspirations of

	students of abilities . The following techniques can be used for different groups: <i>For the gifted:</i> • Preparing a debate • Making PPT • Designing an exhibit • Writing a report • Preparing a talk • Encouragement for referring other resources <i>For the average/slow learners:</i> • Making a Chart/diagram/poster/ flashcards • Buddy system help to be provided • Provide grade-up classes <i>For differently able:</i> • Ignore grammatical inaccuracy • Call parents at regular intervals • Provide grade-up classes
Marks	The weightage would be given by CBSE.
	Q 1 Differentiate between the contact force and non-contact force Q 2 In a tug-of-war, the members of team A pull with force of 100 N, 120 N, 135 N. Team B pulls with force of 130 N, 105 N, 120 N. What is the resultant force? Q 3 Why is frictional force is said to be a contact force? Q 4 A force of 800 N exerts a pressure of 40 N/m². What area is it acting on? Q 5 Porters place a round piece of cloth on their heads when they have to carry a heavy load. Q 6 Describe an activity to show that liquid exerts pressure on the bottom of its container.

Unit	Day 1 (Force and Net Force)
Class Transaction	approx. 40 min
Pre-requisite for the course	This lesson requires Basic knowledge of force. Basic knowledge of the terms Force, pressure and friction which students had already learnt in class VI ,VII
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objectives	Given the content (chapter) the students will be able to classify different type of forces. Students would be able to define force. They would also be able to solve numerical based on resultant force with 90 % accuracy.
	DOL- D1, D3, D4
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to - Recall push or pull (Identify action as push or pull on various examples from day to day life) - Define force through video - Classify the force into balanced/unbalanced force. - Solve numerical based on resultant force Students' responses will be listed on the blackboard by using the KWL chart KWL- <i>What you Know, What you will Learn, What you have learned.</i> <i>Students will be able to</i> Identify action as push or pull on various examples from day to day life (20 Minutes) Students will be divided into two groups and they play a tug of war by changing the number of players. <u>Skills & Competencies-</u> Students would be able to Critically analyse the balance and unbalanced force. - Appreciate the importance of resultant force in Collaboration - Built character amongst themselves by discussing /communicating in <i>understanding the resultant force</i>. Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic. Attitudes and beliefs- <i>Students will be able to</i>

	Develop citizenship in playing tug of war by understanding their role and duties.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Active learning- <i>CAF (consider all factors)</i> on resultant force. (Critical thinking) Differentiation- The students in a group of 10 will be demonstrating the Net force (Character, Citizenship) Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about the contact and non-contact force and will ask these questions during discussions. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book Reference Books CBSE Exemplar
Self-Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity

	HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....3 marks It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 2 (Effects of Force)
Class Transaction	approx. 40 min each
Pre-requisite for the course	This lesson requires Basic knowledge of force. Basic knowledge of the terms Force, pressure and friction which students had already learnt in class VI ,VII
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objectives	Given the content (chapter) the students will be able to classify different type of forces. Students would be able to interpret the effect of force. They would also be able to draw conclusion about the increase or decrease in the speed of the object with 95 % accuracy.
	DOL- D2, D3,
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to • Interpret the effect of force. • Draw conclusion under what condition force increases /decreases the speed <u>Skills & Competencies-</u> Students would be able to • Critically analyse the effect of force. • In Collaboration they will draw conclusion about the cause of increase or decrease in speed • Built character amongst themselves by discussing /communicating in <i>understanding the effect of force.</i> Answer

	knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Active learning- <i>5 Why's for gathering information which help in deeper understanding of topic. (Critical thinking)</i> Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about the contact and non-contact force and will ask these questions during discussions. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book Reference Books CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity

	HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....3 marks It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 3 (contact and non-contact force)
Class Transaction	approx. 40 min each
Pre-requisite for the course	This lesson requires Basic knowledge of force. Basic knowledge of the terms Force, pressure and friction which students had already learnt in class VI ,VII
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objectives	Given the content (chapter) the students will be able to classify different type of forces. They would also be able to compare and contrast different type of forces. with 90 % accuracy.
	DOL- D1, D2,
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to • Define contact and non-contact force. • Compare and contrast contact and non- contact force. <u>Skills & Competencies-</u> Students would be able to • Critically analyse the contact and non-contact force. • In Collaboration they will be able to compare and contrast the various forces • Built character amongst themselves by discussing /communicating in <i>understanding the effect of force</i>. Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.

Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Active learning- Activity 11.3 – Take a rubber ball and place it on the level surface, now gently push the ball, note if there is increase or decrease in speed change in direction of an object. Record and analyze your observations. (Critical thinking) Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about the contact and non-contact force and will ask these questions during discussions. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book Reference Books CBSE Exemplar
Self-Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity

	HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....3 marks It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 4 (magnetic force)
Class Transaction	approx. 40 min each
Pre-requisite for the course	This lesson requires Basic knowledge of force. Basic knowledge of the terms Force, pressure and friction which students had already learnt in class VI ,VII
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objectives	Given the content (chapter) the students will be able to define magnetic force forces. They would also be able interpret that it is a non-contact force. with 95 % accuracy.
	DOL- D2, D3
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to - Define magnetic force. - Like poles repel and unlike poles attract. <u>Skills & Competencies-</u> Students would be able to Critically analyse the magnetic force. In Collaboration they will be able to interpret that it is a non-contact force. - Built character amongst themselves by discussing /communicating in <i>understanding the magnetic force</i>. Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction	Transaction would proceed in the following manner-

Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Active learning- Activity 11.6(Group Activity) – Take a pair of bar magnet and place the longer side of one magnet over three round shaped pencils, now bring the other end of magnet bring close to it. Record and analyze the observations. (Critical thinking) Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about the contact and non-contact force and will ask these questions during discussions. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book Reference Books CBSE Exemplar
Self-Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan:

	<i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....3 marks It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 5 (Pressure exerted by liquid)
Class Transaction	approx. 40 min each
Pre-requisite for the course	This lesson requires Basic knowledge of force. Basic knowledge of the terms Force, pressure and friction which students had already learnt in class VI, VII
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objectives	Given the content (chapter) the students will be able to define pressure. They would also be able interpret that liquid exert pressure at the base. with 97 % accuracy.
	DOL- D1, D3, D4
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to • Define pressure. • Conclude that liquid exert pressure at the base. <u>Skills & Competencies-</u> Students would be able to • Critically analyse pressure. • In Collaboration they will be able conclude that liquid exert pressure at the base. • Built character amongst themselves by discussing /communicating in <i>understanding the pressure</i>. Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction Methodology	Transaction would proceed in the following manner- Active learning- Activity 11.8 – Take a glass tube and a rubber band.

(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Stretch the rubber sheet tightly over one end of the pipe. Hold the pipe keeping it in vertical position, keep on adding the water in pipe and record the stretching of rubber balloon. (Critical thinking) Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about the contact and non-contact force and will ask these questions during discussions. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book Reference Books CBSE Exemplar
Self-Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5

	Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....3 marks It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.
Unit	Day 6 (Numerical based on pressure)
Class Transaction	approx. 40 min each
Pre-requisite for the course	This lesson requires Basic knowledge of force. Basic knowledge of the terms Force, pressure and friction which students had already learnt in class VI, VII
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objectives	Given the content (chapter) the students will be able to define pressure. They would also be able interpret that liquid exert pressure at the base. with 97 % accuracy.
	DOL- D2, D3
Learning Outcomes	Knowledge- Students will know and understand Students will be able to • Define pressure. • Conclude that liquid exert pressure at the base. Skills & Competencies- Students would be able to • Critically analyses of pressure. • In Collaboration they will be able conclude that liquid exert pressure at the base. • Built character amongst themselves by discussing /communicating in understanding the pressure. Answer knowledge, understanding, application and diagrammatic skill-based questions based on the topic.
Transaction Methodology	Transaction would proceed in the following manner- Active learning- Activity 11.11 – Take rubber sucker. Press it hard on a

(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	smooth surface. Does it stick to the surface, now try to pull it out of surface (Critical thinking)? Brain Storming-The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities Guided practice to be followed by Independent Practice- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book Reference Books CBSE Exemplar
Self-Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: Assessment Parameters: The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity)3 marks It is also advised that the students come to the class with proper

	background knowledge of the topic under discussion. They can refer to the resources stated above.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.