Class VIII

Science

Learning Outcomes	*Sources/Resources*	*Week-wise Suggestive Activities (to be guided by parents with the help of teachers)*
The learners • differentiates different petroleum products • classifies materials as exhaustible and inexhaustible natural resources. • relates processes and phenomenon related to formation of petroleum • explains processes and phenomenon, related to refining of petroleum • draws labelled diagram/ flow charts related to formation of petroleum and its refining . • discusses and appreciates stories of scientific discoveries such as discovery of Coal. • constructs models using materials from surroundings and explains their working, • applies learning of scientific concepts in day to-day life, e.g., uses of various petroleum products • discusses and appreciates stories of scientific discoveries • makes efforts to protect environment, e.g., using resources judiciously; suggesting ways to cope with environmental hazards . • exhibits creativity in designing, planning, making use of available resources, etc.	**Chapter 5: Coal and Petroleum** • Exhaustible and inexhaustible natural resources • Coal • Petroleum • Natural gas Students, Teachers and Parents may use the suggestedmaterials. *Live discussion on: Ye Kitabe kya Kehana Chahti hai* • https://www. youtube. com/ watch?v =A0VWuz 6zRes • E-Resources developed by NCERT, which are available on NROER and also attached as QR Code in textbooks of NCERT. • Live telecast of various science concepts at Swayam Prabha Channel (https://www. youtube.com/ channel/ UCT0s92 hGjqLX6p7 qY9BBrSA) • Laboratory Manual in Science for Classes VI-VIII http://www. ncert. nic. in/exemplar/ labmanu als.html	**Week 5** **Theme- Material** • Exhaustible and inexhaustible natural resources • Coal **Task 1** • Prepare a poster depicting types of natural resources (exhaustible and inexhaustible) • Discuss in the group created by your teacher about the availability of resources and their utilisation by human beings **Task 2** • Narrate story of coal either through text or pictorial presentation or audio piece and share in group created by your teacher. (Hint: The story should cover its formation and its useful products) **Week 6** **Theme- Material** • Petroleum • Natural gas **Task 1** • Write a comic script on conversation of different petroleum products with each other. **Task 2** • Have discussion on the role of human being in conservation of natural resources on the group created by your teacher.

• exhibits values of honesty, objectivity,cooperation, freedom from fear and prejudices	• Exemplar Problems in Science for Class VIII http://www.ncert.nic.in/exemplar/index.html#view3 • Coal and Petroleum http://ncert.nic.in/ncerts/l/heep 105.pdf • Learning Outcomes at Elementary Stage http://www.ncert.nic.in/publica tion/Miscellaneo us/pdf_files/tilops 101.pdf	
The learner • differentiates combustible and non combustible substances, different zones of flame • classifies materials as combustible and non combustible substances • conducts simple investigations to seek answers to queries, e.g., What are the conditions required for combustion, observe different zones of flame. • relates processes and phenomenon with causes, e.g., ignition temperature of fuels, Forest Fire, etc. • explains processes and phenomenon, such as how is fire controlled . • draws labelled diagram of structure of flame, activities, etc. • constructs models using materials from surroundings and explains their working such as fire extinguisher	**Weeks 7 and 8** **Chapter 6** Combustion and Flame • What is Combustion • Types of Combustion • How do we control Fire • Structure of Flame • What is Fuel • Types of Fuel • Fuel Efficiency Students, Teachers and Parents may use the following materials: • E-Resources developed by NCERT, which are available on NROER and also attached as QR Code in textbooks of NCERT.	**Week 7** **Theme- Material** Combustion and Flame • What is Combustion • Types of Combustion • How do we control Fire • Structure of Flame **Task 1** • Make a list of substances from your household which are combustible and non-combustible. **Task 2** • Burn a candle in front of you under supervision of an elder and Listen to the audio at given link. Try to observe various zones of a flame as explained in the song. candles flame— https://nroer.gov.in/55ab34ff81fccb4f1d806025/file/59f023ed16b51c59f65dfa15 • Draw a labeled diagram of the structure of a flame **Task 3** Make a model of fire extinguisher by using household substances.

• applies learning of scientific concepts in day to-day life such as use of fire extinguisher, control on fire caused due to different reasons • makes efforts to protect environment, e.g., using resources judiciously;; suggesting ways to cope with environmental hazards, etc. • exhibits creativity in designing, planning, making use of available resources, etc. • exhibits values of honesty, objectivity, cooperation, freedom from fear and prejudices	• Live telecast of various science concepts at Swayam Prabha Channel (https://www.yo utube.com/ ch annel/ UCT0s92 h GjqLX6p7 qY9 BBrSA) • Laboratory Manual in Science for Classes VI-VIII http://www.ncert. nic.in/ exemplar/ labmanuals.html • Exemplar Problems in Science for Class VIII http://www.ncert. nic.in/exemplar/ index.html#view3 ✓ Combustion and Flame http:// ncert.nic.in/ ncerts/1/heep106. pdf • Learning Outcomes at Elementary Stage http://www. ncert.nic.in/publ ication/ Miscellan eous /pdf_files/ti lops101. pdf	**Week 8** **Theme- Material** • What is Fuel? • Types of Fuel • Fuel Efficiency **Task 1** • Identify different types of fuels that you observe in your surrounding and depict them through poster making with their uses. **Task 2** • Have a debate on fuel efficiency and choice of fuel for a particular use with your classmates on group created by your teacher. **Task 3** • Write an article/poem/story on harmful effects of burning of fuels and ways to control to cope with environmental hazards.
The learners • differentiates between contact and non-contact forces etc. • conducts simple investigations to seek answers to queries, e.g. Do liquids exert equal pressure at the same depth? What is the effect of surface area on pressure? Etc. • draws diagrams showing different effects of force	**Chapter— Force and Pressure** • Force, • Types of force • Effrects of force • Pressure • Pressure exerted by liquids and Gases • Atmospheric pressure	**Week 9** **Theme: Moving Things, People and Ideas** • Read Chapter 11 of the NCERT science text book for Class VIII, if the physical book is not available with you, you can read/download digital book from ePathshala or NCERT website. http://ncert.nic.in/textbook/ textbook.htm?hesc1=11-18 • Recall some situations from your everyday experiences, in which you change the position or speed of any object. Record those situations in a table as shown in Table 11.1 of NCERT science textbook.

• applies learning of scientific concepts in day-to-day life, e.g., using sharp knife for cutting easily, increasing area to reduce pressure, etc. • exhibits creativity in designing, planning, making use of available resources, etc. for carrying out different suggested activities at home. • constructs model to show that liquids exert equal pressure at equal heights. • exhibits values of honesty, objectivity, cooperation, freedom from fear and prejudices, etc., such as, reporting the findings honestly, supporting other friends in need, etc.	Chapter 11 of the NCERT Science Textbook for Class VIII http://ncert.nic.in/textbook/textbook.htm?hesc1=11-18 • Laboratory Manual in Science for Classes VI-VIII http://www.ncert.nic.in/exemplar/labmanuals.html • E-Resources developed by NCERT, which are available on NROER and also attached as QR Code in textbooks of NCERT. Exemplar Problems in Science for Class VIII, Chapter 11 http://ncert.nic.in/ncerts/l/heep111.pdf Link to find out the Answers to the Questions http://ncert.nic.in/ncerts/l/heep1an.pdf	**Identify** • different actions as Push or Pull. You will observe that actions required for such changes can always be grouped as push or pull. In science it is termed as force. • Can you push or pull any object without there being any physical contact between you and the object? Think! Discuss with your friends/family members also. You can see the video given in the link to find a way for it. https://nroer.gov.in/55ab3 4ff81fccb4f1d806025/file/58870565472d4a1fef8106cc • Perform Activity 11.2 of NCERT Science textbook to undersand about the net force. In place of friends request your family members to participate in the activity. For more detail of the activity visit Activity 37 of Laboratory Manual Science at the Upper Primary Stage from the link given below http://ncert.nic.in/ncerts/l/fhelm205.pdf Answer the questions given at the end of the activity. • To understand more about it play with interactive simulation given in the link below— https://phet.colorado.edu/sims/html/forces-and-motion-basics/latest/forces-and-motion-basics_en.html (Source:PhET Interactive Simulations University of Colorado Boulder https://phet.colorado.edu) • Discuss with your friends/family members about effects of applying force on different objects. For example, Change in state of motion or change in shape of objects. Collect the examples of different situations in which force produces different effect. • Make a poster showing different effects of force.

Week 10

- Perform Activities 11.6 and 11.7 to understand more about non-contact forces.

  Note: if you do not have bar magnets with you, use the magnets from broken toys or speakers, etc., and modify the activity as per the availability of materials.

- Try to cut a potato with a knife from its blunt side or try to cut it with the help of available scale or anything with a thick edge. Now try to cut it with a knife from its sharp edge.(Do this in guidance of elders.)

  Write your inferences from the activity done above. Try to relate it with area of blunt edge/sharp edge.

  Discuss your inferences with your friends who have also done this activity at their homes.

- Perform Activities 11.8, 11.9 and 11.10 to understand about pressure exerted by liquids and gases. If materials required for performing these activities are not available with youyou can search on internet to understand more about it. (every where links should not be provided because we want our children to become independent learners).

- To understand more about the pressure exerted by liquids perform Activity 38 of Laboratory Manual Science for Upper Primary Stage from the link given below

  http://ncert.nic.in/ncerts/l/fhelm205.pdf

  Answer the questions given at the end of the activity.

- Discuss with your friends/ family members about different applications in our daily lives where understanding the relation between pressure and area has helped us in doing the things easily.

Visit the following link to understand more about it

https://nroer.gov.in/5645d28d81fccb60f166681d/file/58870532472d4a1fef8106aa

- Discuss with your friends/teacher about the magnitude of pressure applied by atmosphere and also why we do not feel it?

The learner • classifies materials based on properties or characteristics, e.g., kharif and rabi crops. • relates processes and phenomenon with causes, e.g., types of soil and crop grown. • draws labelled diagram/ flow charts, e.g., types of agricultural tools, methods of irrigation. • applies learning of scientific concepts in day-to-day life, e.g., increasing crop production by using organic manuare, organic farming. • discusses and appreciates stories of scientific discoveries e.g., green revolution in India. • makes efforts to protect environment, e.g., using resources judiciously; making controlled use of fertilisers and pesticides. • exhibits creativity in designing, planning, making use of availableresources. • exhibits values of honesty, objectivity, cooperation, freedom from fear and prejudices.	• Class VIII Science Textbook developed by NCERT/State Textbook. • E-Resources developed by NCERT, which are available on NROER and also attached as QR Code in textbooks of NCERT. • Live telecast of various science concepts at Swayam Prabha Channel (https://www. youtube.com / channel /UCT0s 92hGjqL X6p7qY9B BrSA) • Laboratory Manual in Science for Classes VI-VIII http://www. ncert. nic.in /exemplar/ labmanual s.html • Exemplar Problems in Science for Class VIII http://www. ncert. nic.in /exemplar/ index .html# view3 • Crop Production and Management http://ncert.nic. in/textbook/ textbook.htm? hesc1=1-18	***Note*** • Since everyone is supposed to stay at home, therefore all the communications with friends and teachers should be done through call or chat. Students may take pictures or videos of their circuits/devices and can share with their friends and teachers. **WEEK 11** **Theme: Food** • Students can read the chapter carefully from the textbookand also watch the given link https://diksha.gov.in /playcollection/do_3126589512 84654080119?contentTy pe=Text Book&contentId=do_31266822 7131 10528013275 After watching the above link students will be able to— ✓ differentiate types of crops ✓ season on which crop grown ✓ kharif crop cultivation with examples ✓ rabi crop cultivation with examples ✓ identify major crops grown in India ✓ procedure of storage of grains ✓ specify traditional methods ✓ modern methods • https://nroer.gov.in/55ab34f f81 fccb4f1d806025/page/569a00c1 81fccb15fb21a150 ✓ By watching this link, student can understand the Traditional Irrigation Ladle method • https://nroer.gov.in/55ab34ff81f ccb4f1d806025/page/59 09675e16 b51c0f58b5df2d ✓ https://nroer.gov. in/55ab34ff81fccb4f1d806025/ https://nroer.gov.in/55ab34ff81 fccb4f1d806025/page/56d6b51c 81fccb52c0e72a44 Image showing satpula for irrigation • https://en.wikipedia.org/wiki/ Drip_irrigation Students can understand the process of drip irrigation.

	• Learning Outcomes at Elementary Stage http://www. ncert. nic.in /publication/ Miscellaneous /pdf_ files /tilops101 .pdf **Chapter 1** Crop Production and Management ✓ Agricultural Practices ✓ Basic Practices of Crop Production	**WEEK 12** • http://epathshala.nic.in/QR/ books/8Science/Word_Search_ Crop_Production_Management_ ROW%203.pdf ✓ Students can search the words related to agriculture in the above link. • http://ncert.nic.in/ncerts/1/ heep101.pdf ✓ Students can solve the above given questions and discuss with peers, teachers and parents. • https://nroer.gov. in/55ab34ff81fccb4f1d806025/ page/585b5b5f472d4af21c54d96d ✓ After watching this video students will be able to explain green revolution in India. ✓ Father of Green revolution. ✓ They can also discuss with their parents, peers and teacher and gather more information about green revolution. • https://nroer.gov.in/55ab 34ff81fccb4f1d806025/ page/58a416 4a472d4a68b7952eef (the model 'robotic farming' that has been demonstrated in this video has multi-purpose work) ✓ The students can watch the link and try to make their own model, after the lockdown is over. ✓ https://nroer.gov. in/55ab34ff81fcc b4f1d806025/ page/58355a8f16b5 1c4587 b7a9c3 (What will the future of agriculture look like?) ✓ Students can watch the video and understand the future of agriculture. ✓ Effect of climate change agriculture. ✓ https://nroer.gov. in/55ab34ff81fccb4f1d80 6025/page/5835757e16 b51c4587b7aad3 ✓ A field trip into India's rice bowl to see how science is empowering farmers to fight Bacterial Leaf Blight. ✓ Student can understand rice crop and methods of pests control.