# Lesson Plan - Pollution

**Subject**: Science **Chapter**: Pollution **Topic**: (Air/Water/Soil) Pollution

**Objective**: This lesson plan will enable students to explore various types of pollution, investigate the possible reasons for the same, analyze the natural resources that are affected and also connect them with their real-life scenarios and situation. It will also provide an opportunity for students to create or design solution models to avoid or reduce pollution levels.

**Student Activity**;

One of the greatest problems that the world is facing today is of environmental pollution. It must be taken seriously, as it has a negative effect on natural elements that are absolutely needed for life to exist on Earth, such as soil, water and air. Your task is to select a specific type of pollution and investigate the reasons responsible for that pollution along with exploring the pollutants & their sources and finally design a solution model to reduce the selected pollution.

Instructions:

Step 1: Explore the internet to learn about pollution and its different types, If you already know about it then go to step 2

Step 2: Select a particular type of pollution (Air, Water, Soil, Noise) and then ask for the respective instruction sheet from the teachers.

Pollution Type: **Air Pollution**:

Step 3: Explore how air quality is measured

Step 4: Create a spreadsheet to compare the air quality of your place with 5-6 major Indian cities using a chart.

Step 5: Identify the city whose air quality is very bad and also find out reasons for the same.

Step 6: Make a list of at least 6 major air pollutants.

Step 7: Find out the sources of those pollutants, and capture images/video of sources that may be around your local area.

Step 8: Identify the effect on human health & environment associated with those pollutants.

Step 9: Find out ways or suggest new ideas that can reduce the air pollution level.

Step 10: Create a project using a spreadsheet or multimedia application with an embedded spreadsheet to present your findings. Wherever possible use suitable pictures/videos which are either copyright free or taken by yourself. Also mention sources for all the data, pictures and videos used in the project.

Pollution Type: **Water Pollution**:

Step 3: When will you say that the water is polluted? Discuss in your group, you can also do an internet search.

Step 4: Find out major causes of water pollution, major pollutants and its sources.

Step 5: If you see any source of water pollution around your locality then you can also use some of those pictures / videos.

Step 6: Explore the effect of water pollution on human health and environment.

Step 7: Explore how the quality of water is checked for drinking purpose?

Step 8: Collect samples of water from 4-5 different places which you generally visit and use TDS meter & PH meter to test the quality of water.

Step 9: Put all the readings in a table and determine if it is suitable to drink or not.

Step 10: Suggest some measures to reduce water pollution levels in your city.

Step 11: Create a project using a multimedia application to present your findings. Wherever possible use suitable pictures / videos which are either copyright free or taken by yourself. Also mention sources for all the data, pictures and videos used in the project.

Pollution Type: **Soil Pollution**:

Step 3: When will you say that the soil is polluted? Discuss in your group, you can also do an internet search.

Step 4: Find out the causes of soil pollution, major pollutants and its sources.

Step 5: If you see any cause of soil pollution around your locality then you can also use some of those pictures / videos. Also investigate the cause for that soil pollution.

Step 6: Explore the effect of soil pollution on human health and environment.

Step 7: Explore how the quality of soil can be checked for plantation purposes?

Step 8: Collect samples of soil from 4-5 different places which you generally visit and use soil PH meter to test the acidity or alkalinity of the soil.

Step 9: Put all the readings in a table and determine if it is suitable to grow plants or not.

Step 10: Suggest solution measures to counter soil pollution.

Step 11: Create a project using a multimedia application to present your findings. Wherever possible use suitable pictures / videos which are either copyright free or taken by yourself. Also mention sources for all the data, pictures and videos used in the project.

Pollution Type: **Sound Pollution**:

Step 3: How will differentiate between Sound and sound pollution, is there any unit to measure it? Discuss in your group, you can also do an internet search.

Step 4: Find out the causes of sound pollution,

Step 5: If you find any source of sound pollution around your locality then you can also use some of those recordings / videos.

Step 6: Explore the effect of sound pollution on human health and environment.

Step 7: Find out how the sound measured and solve the problem in Step 8

Step 8: Problem Statement- The Education Officer is about to visit your school next week but while visiting he has to attend an online meeting and you have been given charge to make sure that he is in the room which is quiet enough for the meeting.

Step 9: Go to every classroom and use the decibel meter app to measure the intensity of sound.

Step 9: Put the data in a spreadsheet for (Low, High and Average) intensity of sound and create a chart to compare the intensities and to find out the quietest and most noisy classroom.

Step 10: You may also have noticed sound pollution at various public places, you can suggest measures to reduce / control it.

Step 11: Create a project using a multimedia application to present your findings and also embed your spreadsheet. Wherever possible use suitable pictures / recordings/ videos which are either copyright free or taken by yourself. Also mention sources for all the data, pictures, recordings and videos used in the project.