

Children National Conference on Environment

To give voice to the ideas and opinions of young children on environmental issues the National Council of Educational Research and Training (NCERT) is organizing a week long "Children National Conference on Environment." This conference is aimed to act as a forum for dialogue, participation and discussion. This will provide an opportunity for children to put forward their views and share their experiences.

The theme of the National Conference to be organized in February 2010 is **"Global Climate Change and the process of Global Warming: Let's think and act locally and globally."** The discussion will be centred around five sub themes identified as: Water, Atmosphere, Biodiversity, Energy, and Transport.

Ten entries from the participants of the National Conference will be selected and suitably awarded. They may further be required to represent India in the **"Children and Youth International Conference for the Environment – Let's Take Care of the Planet"**, to be held in Brazil in June 2010, for which a week long pre-departure orientation programme will be organized. NIOS is also a partner in coordinating the Activity by sending its students to participate in this National and International Activity. Therefore NIOS invites its student to participate in this activity.

All the Accredited Agencies / Accredited Vocational Agencies / Accredited Agencies are requested to send the entries of their participating students (as per the programme details) to their Regional Centers or directly to NIOS Head Office from 11th October to 7th November 2009. The details about Who and How to participate in the programme and Activities can be seen below.

Anita Priyadarshini

Director Academics

Guidelines

Children National Conference on Environment

Introduction

We are living today with the most relevant possible crisis in human history; a social-environmental planetary crisis. Global environmental changes is a resultant of human action and as part of the universal network each one of us is responsible for what happens to this network. It is therefore our duty to assume individual and collective responsibilities towards this stark reality. No doubt one single individual can make a difference but building a network and connecting collectively will empower ourselves to bring about a visible change in the right direction. The voices of many will surely be heard far and wide. Assuming collective responsibilities will go a long way in building a sustainable community where people care about personal relationships with nature and the places they live, a community which learns, thinks and acts to build the present and the future with creativity, freedom and respect for diversity.

To give voice to the ideas and opinions of young children on environmental issues the National Council of Educational Research and Training (NCERT) is organizing a week long "Children National Conference on Environment." This conference is aimed to act as a forum for dialogue, participation and discussion. This will provide an opportunity for children to put forward their views and share their experiences. This conference will be a platform where the opinion of children, who have a major role to play in building a sustainable nation, will be well valued and respected. During the conference a Charter of Responsibilities will also be drawn where individual and collective responsibilities will be recognized and each one becomes responsible within their own limit towards the environment.

The theme of the National Conference to be organized in February 2010 is **"Global Climate Change and the process of Global Warming: Let's think and act locally and globally."** The discussion will be centred around five sub themes

identified as: Water, Atmosphere, Biodiversity, Energy, and Transport. We know that the environment cannot simply be reduced or focused based only on worries regarding *ecology* – an area of biological sciences – or with nature, because it is completely reorganized and surrounded by social, cultural, human life. Nature can be considered a condition which is necessary to sustain life, and it can be transformed in areas of action in which we need to make political, practical, and ethical decisions. Thus, the proposed topic of *Climate Change and Global Warming* as the basis of discussion, need to be studied completely, with a focus given to each of its different dimensions: ecological, historical, geographical, social, cultural, economical, and technological; therefore bringing to the schools of the nation a discussion regarding alternative strategies to organize and co-exist in a society based on an ethic that prioritizes the construction of sustainable, just, and equal societies.

Ten entries from the participants of the National Conference will be selected and suitably awarded. They may further be required to represent India in the **“Children and Youth International Conference for the Environment – *Let’s Take Care of the Planet*”**, to be held in Brazil in June 2010, for which a week long pre-departure orientation programme will be organized.

Who can participate?

Children aged between **12 to 14** years i.e., born between **June 1996 and June 1998** can participate in this conference. They should be studying in Class VI, VII or VIII.

How to participate?

Any school with an actively functioning Eco-Club can send in their entries and participate in the conference. The process to take part in the National Conference will begin at the school level conference where there will be presentations and discussions on the proposed locally relevant topics identified based on the sub-themes provided (It may be noted here that the projects should involve working in the school or community level) by different groups. It is up to the school whether it puts on a large scale or a small scale

conference. The school may select the most appropriate delegate (**only one per school**) and forward the entry to the concerned organizations viz. CBSE/KVS/NVS/NIOS/TERI/State (district) officials as is relevant. These organizations after screening of entries received from schools may conduct a conference at their level for the best twenty five entries. These organizations after the conference may forward **ten** entries to NCERT for consideration for participation in the National Conference. Care must be taken to ensure equal representation in terms of gender/rural-urban/region.

Following criteria may be followed in the conferences while selecting the delegate:

- Keen interest in the area of environment
- Spirit of leadership
- Outstanding proposal/project
- Clarity in presentation and expression

Note: It is advised that schools may select a substitute in emergency cases where the delegate will not be able to participate.

How to conduct the school conference?

The groups, after completing their respective local level research projects, will present their findings in the conference. Simultaneously, there will be discussions on queries raised by the panelists or other students in the audience. If the school desires they can involve parents and other community members in the conference.

It is advisable to appoint few rapporteurs as there will be many presentations on various sub-themes. The duty of the rapporteurs must be to write down and report the opinions and suggestions that may come up. All ideas expressed during the discussions must be respected and written down.

The panelist may select a delegate from any of the group based on the presentations and discussions that followed.

In addition to the above activity the school must select the most popular and locally relevant sub-theme that arose during the conference and formulate a pact. The pact should enlist the responsibilities of the school as a whole towards the environment. Once the pact or Charter of Responsibilities is drawn it should be followed by an exercise to convert these responsibilities into future action plans for the school. The plan must have a concrete schedule for the activities which will include the 'where', 'how' and 'when' of it. It is hoped that every school will positively carry out the activities as charted and the plan does not remain in paper. The delegate who represents the school in the National Conference will be required to present the Charter and the plans of action.

Example: The responsibility to conserve energy may convert into a simple action plan to switch off the lights and fans in the classrooms during the recess or after the class is over. It can also be the whole school pledging to adopt the 5R's of Reduce, Reuse, Recycle, Refuse and Refrain wherever applicable. The pact to keep the surrounding green may translate into the children planting saplings of trees in around the school premises.

How to go about the project?

It is emphasized that the school must take up projects which are locally relevant based on the sub themes suggested. **The projects must be preferably taken up as a joint action research activity involving both the school and the local community.** A new project can be taken up or some on going projects of the school can be revived as well. Case studies of successful projects carried out in the past will also be entertained. A group of children can work on one project under the assistance of a teacher. Once the projects are completed the findings must be compiled in to a report. The school after the completion of projects can then organize the school level conference, where there will be discussions and deliberations on the various projects. The presentations of the projects should be supplemented by posters which ideally should be of the size **29 X41 cm**. These posters which can be a collage, flowchart, or pictorial representation must highlight the process of development of the project from its inception to completion. If possible video shoots, photographs, power point presentation, drawings and miniature models can also be made on the project. It is

advisable that the school authorities may take photographs of the proceedings of the conference which should accompany the write-ups.

Some suggestions under which the sub themes can be studied are:

Water: Rain Water Harvesting, Underground water recharging, Potable water and its effective Use, Best practices to reduce water wastage, Conservation of water bodies (ponds, lakes, rivers, wetlands).

Atmosphere: Ways to reduce air pollution, Reduction of Green House Gases production, Ways to protect Ozone Layer.

Biodiversity: Ways to overcome deforestation, Conservation of local flora and fauna/Exotic species/Wildlife/Medicinal Plants/Endemic species, Mitigation of man-animal conflict.

Energy: Best practices for conservation of energy, Alternative sources of energy/ Non Conventional sources of energy, Judicious use of fossil fuels.

Agriculture: Reduction of food wastage, Food Security, Innovative practices in agriculture, Composting, Vermicomposting, Green Manures, Bio-pesticides, Organic Farming.

Transport: Car Pooling, Cycling as a mode of Transport, Using Public Transport, Hybrid vehicles.

The above given topics are only suggestive and students may take up other topics which are locally relevant as well.

Some exemplar projects are given for ready reference as Annexure.

Schedule of Activities

Activity	Time
Completion of Projects at school	By 30 th September 2009
One day School Conference	5 th to 10 th October 2009 (any suitable day)
One day conference organized by KVS/NVS/CBSE/NIOS/TERI/States	25 th to 30 th October 2009
Receipt of Entries at NCERT from KVS/NVS/CBSE/NIOS/TERI/States	15 th to 30 th November 2009
Intimation to Selected Candidates	1 st week of January 2010
National Conference	8 th to 12 th February 2010

Pre-departure orientation of selected candidates(subject to receipt of formal invitation from the host country)	April 2010 (dates to be specified later)

The school should forward the details of the selected delegate as given in the proforma along with the write up and posters to their respective organizations. The write-up of approx. 600 words should either be in Hindi or English. Write-ups in other than these two languages should be forwarded only after translation by the concerned organization. The above mentioned materials should be sent to NCERT by Registered Post at the address given below. No direct entries from schools will be entertained by NCERT.

Coordinator

Children National Conference on Environment

Environment Orientation to School Education (EOSE)

Department of Education in Science and Mathematics

National Council of Educational Research and Training

Sri Aurobindo Marg

New Delhi - 110 016

Activities at a Glance

Inception and execution of projects at school

(Groups of children working on locally relevant topics in the school and community)



Completion of Projects

(Writing of report, making of posters, charts, models, collage etc.)



One day School Conference

(Groups presenting their projects, Discussions, Selection of one delegate, Drawing of Charter of Responsibilities)



Entries forwarded to respective organization

(Schools to send entries to KVS/NVS/CBSE/NIOS/TERI/States (district))



One day conference organized by the respective organizations

(The best 25 entries may be allowed to participate in the conference after scrutiny)



Entries forwarded to NCERT

(Entries from different organization for further screening)



Selection of delegates for National Conference

(Delegates to be selected after screening. Information to be sent for participation in National Conference)



National Conference at NCERT

(Children to participate in discussions and deliberations on their projects, selection of delegates for award and further conferences)



Pre-departure orientation

(Orientation of selected delegates for participation in International Conference)

STUDENTS' PROFORMA

**Paste recent
passport size
photograph**

1. Name of the Student:
2. Class in which studying:
3. Date of Birth:
4. Age as on 1st June 2010:

5. Sex:

6. Name and Complete postal address of the School:

Telephone number:

Mobile number:

Fax number:

E-mail:

7. Rural/Urban

8. Name of the accompanying teacher **(One Only)**:

9. Title of the Project:

10. Brief write up of the project in not more than 600 words giving information on why the topic was chosen, its local relevance, the modalities of how it was carried out, conclusion (please attach extra sheet):

Reducing wastage of food

Background

It is commonly observed that food is wasted/thrown away in many households, hotels, restaurants, parties, etc. This wastage could be reduced if proper practices are followed during preparation and serving of food. It is important that each one of us tries to reduce wastage of food on every occasion.

Methodology

1. Select a place of study according to your convenience. This could be your home, a party or a celebration, etc. If you decide to do this exercise at home, note your observations for at least three days.
2. Decide a convenient measure to estimate the quantity of wastage. This could be a bowl or number of pieces depending on the type of dish.
3. Enter your observations in the given table.

Sl. No.	Place of study	Name of food item	Estimate of amount wasted
1			
2			

4. To find out the reason for the wastage, talk to the people who decide the quantity of food to be prepared. Also talk to the people who prepare the food, those who serve it, those who eat it, and those who waste it.

Conclusion

Write a short report giving reasons for the wastage of food. Suggest measures to reduce the wastage.

Follow up

1. Try to spread the message that food should not be wasted.
2. Try to find out what does a restaurant do with the surplus food or food that is left unconsumed in the plate or serving dishes.
3. Find out what is done with the food that is wasted in the home and food that is surplus.

Controlling vehicular pollution

Background

The number of petrol/diesel driven vehicles on roads in cities as well as in rural areas is increasing every day. The gases released in the air by the exhaust of such vehicles or automobiles contain certain gases and particulate matter that are a health hazard. Exhaust gases from automobiles are one of the worst pollutants of air. The air pollution due to vehicles can be reduced by improving the quality of engines and proper maintenance. The government has prescribed certain norms for manufacturers of automobiles. Only such engines can be fitted on automobiles which meet the prescribed norms for level of pollutants in exhaust gases. Vehicle owners are also expected to keep pollution under control. This can be done by proper maintenance of vehicles. Pollution levels are measured at pollution check centres. If the level of pollutants is found within prescribed limits, a certificate of 'Pollution Under Control' is issued to the vehicle owner.

Methodology

1. Visit a pollution checking booth. Find out what are the components of the exhaust they measure.
2. Try to find out roughly what percentage of vehicles fail to meet the prescribed standards.
3. Find out how each one of the polluting gases affect our health and damage the environment.

Conclusion

Prepare a report on your findings.

Follow up

1. Prepare charts to campaign for reducing vehicular pollution.
2. Find out how many people in your locality get the pollution check done for their vehicles. If you come across people who have not got it done, find out reasons as to why this is so.

Development of urban slums

Background

A slum area is an over populated urban area with sub-standard housing, hygiene and sanitation. Slum dwellers generally do not have access to clean water, electricity, sanitation and other basic services.

Methodology

1. The class can be divided into groups for the project. The groups can visit nearby slum area and observe the surroundings. Each group will visit ten households and get information from them by asking questions like:
 - (a) How long have you been staying here?
 - (b) Where did you live before you came here?
 - (c) What was the place like where you lived earlier?
 - (d) Why did you come here?
 - (e) How many members share the place where you stay?
 - (f) How many children go to school?
 - (g) How many people are working in your family?
 - (h) What work do you do?
 - (i) How many of you can read a newspaper?
 - (j) From where do you get drinking water?
2. Also note the methods of waste disposal, drainage and types of toilets.

Conclusion

Tabulate your information and prepare a small report.

Follow up

1. Suggest measures to improve the living conditions of slum dwellers.
2. Draw a picture of the slum area with the human as well as other phenomena you have observed during your visit.

Let's keep our surroundings clean

Background

It is often seen that irrespective of their education, place of work or any other social factors people lack the basic civic sense of keeping their surroundings clean. Littering is a common sight despite the fact that waste bins are being installed in all public places to avoid this menace.

Methodology

1. Go to a railway station/bus stand/school ground during recess or sit near a banana vendor.
2. Observe what people eat and how they dispose of the left overs.
3. Record your observation of about 50 people.

Conclusion

Conclude your observation by preparing a report.

Follow up

1. Suggest ways to spread awareness to keep the surroundings clean.
2. Display posters and stage a street play in your locality to spread awareness about keeping the surroundings clean.
3. Do a litter count in your school. Record your finding on a board for one week. (This can be a group activity of a class).

Drastic changes in environment disturb well adapted animals

Background

There is a great diversity in the animal world. Amongst the land animals some are adapted to cold climate, some to hot climate (for example, hilly areas, plains, deserts) while some are adapted to wider environmental conditions. These animals adapt themselves in different ways to the climatic conditions of the place where they live. A variety of animals brought from different habitats are kept in zoological gardens or zoos. These animals are maintained for exhibition, education and research. Efforts are made to provide these animals conditions similar to their natural habitat.

Methodology

1. Visit a zoo nearest to your area.
2. Note down the names of as many animals as possible from different climatic zones. Select any three animals for your study.
3. Find out which state or country the animal originally belonged to. You can do so from the information provided outside the enclosures of animals.
4. Find out the type of climate of the place where the animal belongs to.
5. Try to find out from zoo officials/caretakers/guides what special conditions are provided for a particular animal. You may enquire about conditions like food, temperature, humidity, surroundings, moving space, etc.
6. Also find out to what extent this artificial habitat affects their lives in terms of longevity, growth, health and reproduction.
7. Collect photographs/pictures of selected animals, if available.

Conclusion

Prepare a report showing how artificial environment has influenced the life of animals.

Follow up

1. Find out the ways in which animals that you have listed adapt themselves to the climatic condition of the place.
2. Discuss in your class whether it is a good idea to keep animals in a zoo.

Study of migratory birds

Background

Migratory birds are compelled to leave their homes due to harsh climatic conditions and shortage of food. They visit a particular place regularly every year where the climate is comfortable and food is easily available. After a few months, they return to the place from where they had come.

Methodology

1. Visit a nearby place where migratory birds come every year.
2. Find out the following information about the migratory birds:
 - (a) Name of the migratory birds visiting that place.
 - (b) The country or region which they originally belong to.
 - (c) The month during which the migratory birds come.
 - (d) The month during which the migratory birds leave the place.
3. Draw sketches of some migratory birds that you see.

Conclusion

Present the information collected by you along with the sketches in a chart and display it in your school.

Follow up

1. Find out if the number of migratory birds has been changing during the past 5 years. If the number has changed then find out reasons for that.
2. Try to find out whether human activities affect movement of the migratory birds.

Preventing wastage of electricity

Background

Electricity is a very convenient and flexible form of energy. However, it is often not used judiciously by most of us. Electricity is a scarce resource which is produced by burning coal at a thermal power station. It is also generated at nuclear power stations and hydel power plants. Irrespective of the ways in which it is produced it affects our environment. Conserving electric energy not only saves our money but also helps in increasing its availability. By proper planning and a little awareness, we can save a substantial amount of electricity in our schools, work places and homes.

Methodology

1. Visit all the classrooms of your school with a few of your friends during recess time and after the school is over.
2. Observe whether all the fans and bulbs/tubelights are switched off, when no one is there.
3. Note down how many electric fans and bulbs are switched on in vacant classrooms. If you come across any such classrooms, turn off all the switches.
4. Also in a similar way try to find out whether electricity is being wasted at home.
5. Find out about energy saving devices available in the market, for example, compact fluorescent tubes (CFLs).

Conclusion

Prepare a report citing instances of wastage of electricity. Prepare a plan for conserving electricity at your school/home.

Follow up

1. Talk to your school principal/teacher to get your plan implemented.

2. Keep monitoring the activity and communicating with your school mates during assembly time. Ensure that electricity is used judiciously in your house too.
3. Make a list on how you can minimise use of energy consumption in your house/school by gradually replacing worn out electrical devices and fittings with more energy efficient ones.

Creating awareness about wastage of water due to negligence

Background

“If you have water, you can think of the future”. The amount of water recommended by the United Nations for drinking, washing, cooking and maintaining proper hygiene is a minimum of 50 litres per person per day, i.e., approximately 2½ large size buckets of water per person per day. Millions of people in our country do not get enough water to meet their requirements. The problem is likely to worsen. It is therefore important that we should use it judiciously and conserve it.

Methodology

1. Notice whether there is any leakage of taps at your home/school. If there is any leakage put a bucket under it and collect the water leaked.
2. Also estimate the amount of water wasted due to negligence such as leaving the tap open during washing, shaving, while collecting water, washing of vehicles.
3. Calculate approximately how much water is wasted per day/week.

Conclusion

Conclude by writing a paragraph about your findings.

Follow up

1. Prepare a slogan on conservation of water.
2. Take initiative to repair leakage of water from pipes, tanks, etc., in school/home/colony.

Water harvesting

Background

We know that rainwater recharges the ground water and helps to maintain the flow of rivers. However, most of this water causes floods or just flows away. This is a waste of precious natural resource. The rainwater can be used to recharge the ground water especially in the urban areas. During the rainy season, rain water can be collected in large tanks, cisterns, reservoirs, etc., for future use. This is referred to as rain water harvesting. There are different ways of harvesting rainwater.

Methodology

1. Collect information about various techniques of rainwater harvesting from books, magazines, journals, organisations, and the internet.
2. Visit different localities of your village/town/city and get information about the year they started harvesting water, money being spent in maintenance and amount of water harvested in one calendar year.

Conclusion

Prepare a report on your findings and the benefits of rain water harvesting.

Follow up

If water harvesting is not practised in your locality try to launch a campaign to initiate water harvesting.

Changes in the surroundings and their effect

Background

Everyday we hear about the changes taking place in our environment. This may not be very obvious to us if we compare two consecutive years since in most cases environmental changes take place slowly. But we can understand it better by comparing the environment a few decades ago and with the present scenario.

Methodology

1. Observe your surroundings and notice if any change is taking place or has taken place during the last five years or so. For example, construction of houses/buildings, construction/widening of roads, filling of ponds, reduction in agricultural land, felling/plantation of trees, electrification, irrigation facilities, etc.
2. Collect information from your parents, grandparents and elders in the locality to find out the changes which have taken place over the years.
3. Also find out how these changes have affected availability of water, playgrounds, electricity, fuel and fodder, hygiene and sanitation, transport and communication, crop production (including fruits and vegetables) or any other.
4. Collect articles, photographs, news items from local newspapers on changes in the locality and the life of the people.

Conclusion

Prepare a report on the basis of your findings.

Follow up

1. Prepare charts of the gradual changes taking place in your surrounding and display them in your school bulletin board.
2. Find out the effects of developmental activities taking place in your locality on the environment.

Save paper, save tree and save environment

Background

Paper is prepared from wood. Every year large numbers of trees are cut in order to produce paper. As the cutting of trees leads to various environmental hazards, so we should try to reduce its wastage. For that paper must be used judiciously. It can be reused and recycled in various ways – handmade paper, art objects from paper pulp, paper bags.

Methodology

1. Count the number of copies/notebooks in your bag.
2. Note whether you are using the full page, half page, both sides or only single side of your copy/notebook/writing sheets. Count the number of pages unused or partly used.
3. What do you do with the empty pages left in your notebook/copy after the session is over? Do you use them for rough work?
4. What do you do with your used notebooks/copies, textbooks, magazines, newspaper? Do you burn them, throw them, give it to the *kabadiwallah* or use it for some other purpose?
5. Find out from the *kabadiwallah* what he does with the paper that he takes from you. Is it being recycled or reused?

Conclusion

Prepare a report of your findings suggesting the reuse of unused portions of paper for rough work.

Follow up

Suggest measures to show how the consumption of paper can be reduced. With the guidance of your teacher or craftsman try to make items from waste paper or hand made paper.

Elixir of life – water

Background

Discharge of sewage into water bodies such as rivers, lakes, and streams is hazardous to human health and also to aquatic flora and fauna. Pollution of water systems may cause outbreak of diseases like diarrhoea, dysentery, cholera, typhoid, etc. Contamination of water with certain chemicals is also a health hazard. Treatment of polluted water for human use requires large expenditure. Health problems, together with the cost of treating water, affect our economy.

Methodology

1. Visit a river/canal/pond/well/or any source of water (treated or untreated) in your locality and observe and note the activities going on which may be contaminating the water body.
2. Visit a doctor or a health department official and collect information about diseases like dysentery, diarrhoea, typhoid, cholera. Also collect information about the number of people suffering from these diseases.
3. Find out if there are localities where water-borne diseases are more prevalent. If so, find out the source of water.
4. Visit a water treatment plant and find out whether the cost of treatment varies with the level of contamination/pollution.

Conclusion

Present the information collected by you in the form of a report.

Follow up

Try to visit a waste water treatment plant in your vicinity. Observe how it functions.

Global warming

Background

Greenhouse gases trap radiation and prevent heat from leaving the earth's surface. In the process they help to maintain the temperature of the earth. Excess presence of these gases in the atmosphere causes global warming.

Methodology

1. Take two identical glasses of the same material. Put equal quantity of water in them (half filled).
2. Note the temperature of water of both the glasses using a thermometer.
3. Place both the glasses out in open space so that sunlight directly falls on them.
4. Invert a glass bowl/jar over one glass such that it is covered completely.
5. Atleast after two hours, note the temperature of water in both the glasses.
6. Note the difference in temperature of the two samples. Note which one is hotter.
7. Repeat the experiment with equal amount of ice in the two glasses instead of water. Note the time taken by ice to melt completely.
8. Try to find out the reasons for difference in the temperature of water and the time taken for melting of ice.

Conclusion

Relate your observations with global warming.

Follow up

1. Observe the temperature of the interior of two similar cars parked in the sun, one with its window glasses completely rolled up and the other with window glasses rolled down. Take the temperatures again after two hours.
2. Collect news items relating to global warming and its impact appearing in newspapers and magazines.

Where should the waste go?

Background

Different materials decompose, or rot, at different speeds under different conditions. There are materials which do not decompose easily and take a long time. Waste materials are hazardous to the environment if not properly disposed of.

Methodology

1. Start from your own home; try to find out the various types of waste that are generated. Categorise them into groups of materials that decompose easily and that do not decompose easily.
2. Find out whether in your house, or houses in your neighbourhood, these household wastes are kept separately before disposal or kept together and disposed of.
3. Make a list of materials present in the waste collected from your house. Dump this waste in a pit near your house or in a big pot/bucket, sprinkle soil over it and cover it completely.

4. Cover it properly with a plastic sheet/sack to prevent the foul smell from escaping and breeding of flies, etc.
5. Examine the waste dump every ten days and see the things which you can still recognise. Note your observations. If the dump has dried, sprinkle water to make it wet and cover it again as before.
6. Repeat the above step for five more times.
7. After 60 days, list the materials that you can still recognise.

Conclusion

Make a report of your study giving examples of materials that decompose easily, at a slower pace and those which do not decompose at all. Also suggest suitable ways for disposal of different types of waste.

Follow up

Find out which materials can be recycled and used again.

Fossil fuel is not forever

Background

Fossil fuels which are one of the basic sources of energy for all our activities are exhaustible. For example, coal, kerosene, and LPG are sources of energy for cooking, heating, burning in our households. Petrol and diesel used for transport and in industry are also derived from fossil fuels. A large fraction of electricity is produced by burning coal. Fuel wood, though renewable, is fast depleting due to excessive use. By judicious use of these resources one can conserve fossil fuels and reduce the cost of living.

Methodology

1. Visit atleast 10 houses in your neighbourhood and find out the types of fuel used for cooking, heating and boiling of food and water.
2. Also find out the type and condition of the *chulha* (cooking stove), burner, oven, etc. used for the purpose.
3. Find out the average consumption per month in terms of money.
4. Find out the sources of leakage or wastage of energy, if any.
5. Record your observations.
6. Discuss with members of families as to how consumption of fuels can be reduced.

Conclusion

Prepare a report.

Follow up

1. Suggest steps to reduce the consumption of electricity or other fuels in your school (specially where mid-day meal is prepared in the school).
2. Encourage people to use solar water heater and solar cooker.

Judicious use of fuels

Background

The known reserves of coal and petroleum will last, at most, a few hundred years. It is therefore necessary to use these fuels only when absolutely necessary. This will result in better environment and their availability for a longer period of time. In India, the Petroleum Conservation Research Association (PCRA) advises people on how to save petrol/diesel while driving.

Methodology

1. Survey at least 10 houses in your neighbourhood about the number of vehicles being used by them and how many people travel by these at a time. Find out if they share vehicles or go by separate vehicles.
2. Ask about the frequency of servicing of their vehicles.
3. Prepare a chart on the types of vehicles and the frequency of their servicing.
4. Ask about the driving speed of their vehicles. Procure booklets from PCRA and compare their speed with the speed advised by PCRA.
5. Ask about the average mileage being given by their vehicles.
6. Observe, at a busy road crossing, the average time for which vehicles stop. Every time the light turns red, count the number of vehicles waiting for the light to turn green. Also note how many drivers switch off the engine of their vehicles while waiting at the traffic signal.

Conclusion

Make a brief report reflecting to what extent people are adopting measures for using fuels judiciously.

Follow up

Prepare slogans on conservation of fuels and campaign for it in your neighbourhood.

Dangers of deforestation

Background

Deforestation has been practised by humans since the beginning of civilisation. Fire was the first tool that allowed humans to modify the landscape. The first evidence of deforestation shows up in the Mesolithic period, when it was probably used to drive games (prey animals) into more accessible areas. With the advent of agriculture, fire became the prime tool to clear land for crops. Agricultural expansion continued to be one of the major causes of depletion of forest resources. Substantial parts of tribal belts, especially in the northeastern and central India have been deforested due to shifting cultivation. Ever since, forests are being cut, for one reason or the other. With the growth of population and ever growing demand for forest products, especially timber and firewood, the forests are fast disappearing. This has led to many environmental problems like floods, soil erosion, climatic changes and destruction of wild life.

The destruction of forests is not just an environmental issue. It is strongly correlated with the loss of cultural diversity. Such losses have increasingly marginalised and impoverished many indigenous and other forest dependent communities.

Methodology

This can be a group project. Each group can be assigned one of the following tasks.

1. Find out how nearby forests have changed during the last 15–20 years. The change may be in the form of area, plantation, land use and loss of wild life.
2. Find out the causes of deforestation.
3. Find out the environmental effects of deforestation such as increase in atmospheric pollution, soil erosion, drought, flood, etc.

To collect this information the groups may seek help from elders, Panchayat/Municipal records, forest offices, newspaper reports, articles and other records.

Conclusion

Prepare a report of your findings suggesting measures to control deforestation.