

# HOW TO DO A PROJECT

## Preface

“How to do a Project?” is a comprehensive booklet written for highlighting the essential characteristics of “Projects” that we expect our children to carry out under National Children’s Science Congress (NCSC). This simple piece of writing has undergone many revisions and re-revisions over the past two decades, maintaining a unique flavour of the activity as it is being done in Meghalaya and Assam; yet fully maintaining the national guidelines and norms.

We have observed in recent years that a number of projects do not attain the standard expected from CSC projects. In this situation of Pandemic the “Abstract/Synopsis/Summary” of the project has to be submitted immediately after the children have registered for participation in the Programme. Based on the synopses submitted, a panel of experts will select and then allow only those genuine projects to be carried out by children which maintain a particular standard. This is expected to make the District Congresses very smooth, manageable and to contribute towards value addition to NCSC. The presentation(Oral & Poster) of the project will be **ONLINE**.

**The Project Report will have to be submitted 2(two) Weeks before the Oral presentation**

The booklet contains two (2) sections:

Section-I: How to write a Synopsis for NCSC Project?

Section-II: How to do a Project?

## Section-I

### HOW TO WRITE A SYNOPSIS FOR NCSC PROJECT ?

#### WHAT IS A SYNOPSIS?

Synopsis for a research project is an outline of the proposed research work; which will systematically portray the issues, methods and significance of the proposed work. It may contain few details, but all should reflect proposed framework and rationality of the study.

Difference between abstract and synopsis

An abstract of a project gives an overall reflection of the work already carried out, covering relevant issues, its methodology and significant outcomes.

But synopsis deals with brief and vivid description of issues going to be taken up in the proposed study, along with methodology, analytical framework to be adopted and expected outcome of the study.

Some important points of synopsis and abstract  
(in the context of NCSC project)

| Synopsis  | Abstract   |
|---|--|
| (i)   | It is about the study already completed.   |
| (ii) It is to be written in relation to the heading and subheading as mentioned in the box -1.  | Sub-heading is not required in case of abstract  |
| (iii) It must reflect the following aspects specifically:<br><ul style="list-style-type: none"> <li>- Topic of proposed study</li> <li>- Specific Sub-theme</li> <li>- Hypothesis and objectives of the study</li> <li>- Proposed methodology and framework of analysis</li> <li>- Significance of the study</li> <li>- Expected outcome</li> </ul> | It must reflect the following of the already completed study:<br><ul style="list-style-type: none"> <li>- Topic of study,</li> <li>- Objectives</li> <li>- Methodology,</li> <li>- Out come</li> <li>- Significance</li> </ul> |
| (iv) Maximum word limit of a synopsis is 1000 words   | Maximum word limit of an abstract is 250 words   |

#### Box - 1

Different headings and sub-headings to be covered in the synopsis (Title page )

Title: (title of the proposed study)

Sub-theme: ( mention the subtheme under which the proposed study will fall) Name and address of the group leader (along with date of birth):

Name and addresses of the co-workers :

Name and address of the guide :

(Main text)

1. Background of the study :

Aspects to be covered:

- Relevance of the study in relation to focal theme and sub-theme
- Relevance of the issues in the context of the locality where the study will be carried out,
- How will it help to addressing specific issues?
- Reflection of similar study in other context and issues (through consultation of literature or -with experts)
- Rationale proposed to follow in the study ( i.e. logical framework)

2. Hypothesis : ( proposed hypothesis/assumption put forward for the proposed study )

3. Objectives : ( objectives of the proposed study )

4. Methodology :

Proposed unit of observation/ experimental setting & observation; parameters going to be considered; sampling frame (in case of survey); framework of analysis and interpretation; area to be considered for the study ( in case of survey or field experiment base study ) along with reasons of particular decision.

5. Limitation of study : (what are the limitations already assessed in the proposed study )

6. Expected outcome and significance of the study: (expected outcome as depicted and significance of the study in relation to theme, sub-theme and problems sought to be solved.

## Section-II

### HOW TO DO A PROJECT

#### WHAT IS A SCIENTIFIC PROJECT ?

A Scientific Project is a systematic study of a problem carried out to find a rational solution to the problem. A scientific study involves definition of the problem, making hypothesis, observation, collection of data through survey and/or experimentation, analysis of data, drawing of conclusion(s) and proposing solution of the problem.

In National Children's Science Congress (NCSC), children in the age group of 10-17 years undertake scientific projects on problems they observe in the environment around them. The children do the projects as their level of knowledge and throw light on various aspects of the selected problem. They do it through study, survey and/or experimentation. The child scientists like other scientists, generate new knowledge and, thus help future generations. A scientific study paves the way for practical solution of a vexed problem. In a scientific study the approach needs to be well planned systematic and error free. An unsystematic study may lead to aggravation of the problem involved, rather than its solution. Jumping into quick and erroneous conclusions is in fact considered unethical in the scientific community. As such, a lot of responsibility comes on the children as they decide to work on a project. They should ensure that their study and project report reflect only truth and are free from errors. It may appear to you as a very difficult job; but you won't find it difficult if you combine your intelligence with honesty to carry out your project systematically.

In a project you study, survey, experiment and analysis of data, which are followed by drawing conclusions, meant to solve the problem involved. Now comes the vital step of solving the problem in the real sense. This calls for putting your suggestions into force and solving the problem to a large extent, though it may not be solved completely.

#### WHAT SHOULD BE THE APPROACH?

Once you decide to carry out a project, you have to follow some definite steps.

- (1) Form a group of like-minded children of 5(five) members and select a group leader from the group. Please note that only the group leader can participate in the State and National Level Children's Science Congress. Also choose a Guide for your project; he/

she may be your teacher, senior student, a child who has already participated in the NCSC or any other knowledgeable person. You may have more than one guide. However, any of your family members or direct relatives or member of the Organising Committee at any level cannot be your guide. The guide will not offer you direct help in your project but will always stand by to give you necessary tips.

- (2) Find out the geographical (revenue) boundary of the area of study and draw a rough map.
- (3) Make a list of problems apparent in your locality related to the focal theme. You should look for a challenging problem. If you identify more than one problems, which appear to be challenging and exciting, then you should go for the one that suits your group the best. Be patient and think rationally about the project you can carry out best depending upon resources (man-power; money, time, equipment

#### What is a Scientific Project?

- ❖ A systematic and basic study of a problem.
- ❖ Different questions asked to find the solution of a problem and experiments carried out in a scientific project gives new knowledge about the surrounding environment.
- ❖ A scientific project states the benefits that the living community gets through the solution of a carefully selected problem.

#### How to start project ?

A Project starts from the the questions that arise while searching for solution to a problem.

- ❖ At first identify the problem. Now, three questions will arise — what to do? Why to do? and How to do? For the selection of a problem you can take help from —
  - (a) Your experience,
  - (b) Your interest on the topic,
  - (c) Through the study of related topics, and books, journals etc. and
  - (d) Use of Internet, if possible
- ❖ If any question arises, then minute observation and experimental study is required for the solution to the question — the study should be quantitative as far as possible.

etc.) available of course, we do not encourage too much of money to be spent on NCSC projects. Never select a project that does not give you satisfaction and scope for learning new things. Remember, NCSC has been giving priority and recognition to innovative projects all these years since the beginning.

- (4) Collect books, articles, news items etc. related to your project and go through them carefully. Discuss with your guide and decide your plan of action.
- (5) You may have to conduct a survey and/or carry out experiment. We shall discuss in details how to go about these.
- (6) Once you complete your survey/experiment(s), try to solve the problem identified to the maximum possible. Remember that, implementing a solution to the problem is a must. NCSC believes that a project is not complete in suggesting remedies only, but in putting the suggestions to force. It may not be possible for you to solve the problem completely if a very difficult problem is selected. That is why it is important to select small yet an important problem for this purpose. At the same time there is no restriction on your taking up a difficult problem if you are confident enough. Sometimes it may so happen that even if you solve the problem, there will be a need for constant endeavour to solve the problem completely. This, however; may not be possible on your part. In such a case you shall have to make a group to carry on your work; you may contact and motivate some Non-Governmental Organisations (NGOs) and/or the Government authorities for this purpose.

#### WHAT TYPE OF PROJECT SHOULD BE TAKEN UP?

You can select any project you like, which can be related to the main theme of the Congress. However, there are problems, study of which needs sophisticated equipments and continuous efforts for a long time. Projects on

such problems are generally taken up in research laboratories, universities and colleges. Project to be done by children in NCSC need to be completed within a short period (3-6 months), and done with their knowledge they have on the topic.

So, a children's project cannot and should not be compared to a project by senior scientists carried out with sophisticated techniques and lot of study materials.

Every two years a focal theme at the national level is selected for the Children's Science Congress. Such a theme encompasses a lot of sub-themes. The themes and sub-themes are always related to the society and the environment we live in.

Your topic should be under one of the sub-themes (Please refer to this year's information brochure on NCSC) and have a

direct relevance to society and the environment. The project should be such that it is within your capabilities and fits into your time frame. Remember that this project is an extra-curricular activity you are getting involved in and so this should always be done in spare time (may be during the summer vacation). Studying regular books etc. still remains your prime duty. NCSC never advocates your spending valuable time on this project alone, as you know, NCSC is an effort to inculcate scientific temperament amongst all through experiments and experience. Keeping this in mind, select an apparently small yet relevant local problem and concentrate on finding out ways to solve it. It will be helpful to adopt simple experiments to analyse different aspects of the problem instead of resorting only to survey and observations.

In a broad sense, the projects for the National Children's Science Congress can be divided into two categories

- (a) Survey based and
- (b) Experiment based

#### (a) Survey Based Projects

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There are two types of Survey Based Projects. In the first type, data collection is carried out with the help of questionnaire associated with the project topic. For example, a project related to expansion of education in a particular locality or community. In the second type, data collection is carried out directly from the specimen led for the project topic. For example, if you are going to survey the different species of local fish present in different water bodies in a particular region. In this case, you will have to collect the names of species of local fishes either by directly inspecting the water bodies or from the fisherman and experts.

#### Criteria of a good project

- ❖ Pursue your natural curiosity, select a specific subject matter for the project and give definition of the problem undertaken.
- ❖ Discuss the problem by studying relevant books, newspapers, magazines etc.
- ❖ Think and study about the selected problem and make a hypothesis. This may be the probable conclusion.
- ❖ To validate your hypothesis and to get the probable conclusion conduct experiments and analyze data.
- ❖ Draw conclusion based on the results obtained from experiments and collected data. This may not be the same as your hypothesis.
- ❖ The last important work is to make a report by arranging necessary figures and project findings in a correct manner.



Majority of the projects undertaken by our child scientists are of the two types as mentioned above. In the second type of survey-based projects, although a scientific inference could be drawn, it depends on the perseverance

and minute observation capability of the child scientist. In survey-based projects,..... data are more prevalent than scientific data. Thus, this type of projects lead to some relatively acceptable social conclusion instead of proper scientific inference. Such projects have little role to play in finding the scientific and logical solution of a problem. From our previous experience, we have been observing that some of the child scientists had asked unscientific questions as - "Do you have mango trees in your home garden? Do you have flower garden in your home? Is your village street a paved one?" etc., during door to door survey. The answers of such questions could be directly obtained by observation instead of questioning. However, survey may be essential for certain projects related to topics like, vanishing indigenous technologies of a race or community; diminishing scientific attitude of the people of a locality, etc. Similarly, for collecting local names of certain plants, fish or other organisms, questionnaire based survey may be required.

Nevertheless, one should always remember that survey can help only to take practical measures or to scientifically analyse the problems of a project. It is difficult to accomplish a true scientific project only through survey.

#### (b) Experiment Based Project:

Experiment based projects are different from survey based projects. In this type of projects instead of collecting data from individuals or organisations; these are acquired directly from experiments carried out by child scientists in a laboratory or in field conditions. The primary aim of NCSC is to build up scientific attitude along with the development of the knowledge of the scientific study among the children of our country. Therefore, more emphasis has been given to experiment based projects. Consequently, it necessitates to give a detail discussion on the methodology of experiment based project.

For conducting an experiment based project, one has to adopt the existing universal procedure, which consists of the following seven steps.

1. Observation
2. Questioning
3. Formulation of hypothesis
4. Testing
5. Collection of data
6. Analysis of data
7. Conclusion or inference

The projects undertaken for NCSC have also to be completed through the above mentioned steps. However, documentation of the project should be done according to certain standard rules, which is necessary to maintain a uniform standard throughout the country.

The problem associated with your project has been referred to as the "phenomenon" as mentioned above. In the first step you have to observe carefully the problem or the "phenomenon". The second step comprises of formulating legitimate questions as to the occurrence of that phenomenon. After considering all the probable reasons a hypothesis regarding the phenomenon is developed. Then the hypothesis is subjected to tests or experiments. Sometime you may have to change the hypothesis, if it cannot be established with the help of experiments or tests. In such a case, you have to develop a new hypothesis, which is again subjected to separate tests or experiments.

The data acquired from the results of the tests or experiments are then analysed. Finally, a conclusion or inference is drawn from the analysis of the data. The conclusion or inference also helps to derive solutions of the problems identified in the project. Let us consider an imaginary project to illustrate the above mentioned procedure. The child scientist of this project has noticed that the leaf tips of majority of the plants of their garden have dried. The disease has been particularly severe in case of newly formed leaves (observation stage). Why has it happened? What are the probable reasons of the disease? On seeking the answers to the above questions, the group considered three probable reasons as the causes of the disease (hypothesis).

1. Pest attack
2. Fluctuation of soil pH
3. Deficiency of mineral nutrient.

To ascertain the exact reason the child scientist then conducted a set of experiments. At first, he / she applied pesticides on the diseased plants. After a few days he/she observed that the disease has not been cured. Therefore, he / she rejected the first probable reason. Then he / she tested the soil pH, which showed that there has not been any significant fluctuation of soil pH. Thus, it was concluded that the second probable reason is also not applicable.

To test the third probable reason he/she selected two diseased plants present at two opposite ends of the garden. In one of the plants he / she applied NPK fertilizer while in the second one he / she applied a mixture of trace elements (mineral nutrient). After a few days he observed that the second plant began to produce healthy leaves without dried leaf tips. Thus from the experiments he / she concluded that observed disease was caused by deficiency of a particular mineral element.

Projects should contain the following features:

- (1) **Specific Subject Matter:** The subject matter of the project should always be specific and clear. The specificity and clarity of the subject matter depends upon the area and aim of the project. For example, a project topic like "Study on the cultivation of Joha paddy of Sasoni village" or "Study on the nutritional values of local varieties of paddy around Naharkatia" is more specific and clear than a topic like "Study on the cultivation of food grains of Dibrugarh District" or "Study on the nutritional values of food grains".
- (2) **Measurability:** Measurability means determination of values, quantity, amount, etc. through measurements. The subject matter of the project should possess at least some degree of measurability.
- (3) **Relevance:** The subject matter of the project should possess practical utility. Moreover, it should be directly related to the main theme of NCSC.
- (4) **Realistic objectives and role:** The aim and methodology of the project should possess realistic objectives. It is desirable to think innovatively.
- (5) **Time Frame :** The subject matter of the project should be selected in such a way that, it could be completed within the stipulated time period. The study period should not be more than six months.

#### DATA ANALYSIS AND DRAWING CONCLUSIONS

After you have collected data from experiments, observations and/or surveys, these data need to be analysed to draw conclusions/inferences. Looking at the questionnaire/survey forms it is difficult to draw conclusions as the forms contain a lot of information hidden in them. You should analyse your data properly and make them presentable. It is wiser to represent your results and conclusions using a single diagram/ figure rather than pages of written report; figures/ diagrams, make a report much more interesting and understandable.

While drawing conclusions you must try to focus at the important areas. Conclusions, which are very apparent, need not be given importance (for example, all people who were surveyed drink water regularly cannot be a conclusion. Without water human beings cannot survive).

Please note that your report should be concise and you should not unnecessarily go on adding pages to your report. Unnecessary increase in volume of the report reduces the overall quality of the project. However, your project report should clearly reflect your achievements during the project work.

#### Points to remember during data analysis and drawing conclusions —

- ❖ This is the basic part of your project. The results obtained and conclusions drawn should come spontaneously from experiments.
- ❖ Analysis of data and drawing of conclusion should be clear so that a person who reads your report can clearly understand your project work. If the data obtained through the experiment have similarity with already published data or expected data then try to give a comparative explanation.
- ❖ Try to find out how the different factors — controllable or uncontrollable can affect the results of the experiment.
- ❖ If you want to repeat your project work then state about the things you will study in different ways.
- ❖ You should also mention any experiment that you had thought about conducting is unable to due to the limited time period of your project work.

#### SOLUTION TO THE PROBLEM

After the steps like observation, survey, experiments, data analysis and drawing conclusions, you have to take steps to solve the problem in the real sense. You must find a more or less permanent solution to the problem under study. For example, if you are working on a project on household solid waste, you may conclude that the waste should be composted (ordinary compost or vermicompost). The solution should be tried first in your own house and then in the houses of 10/15 of your neighbours. Has the problem eased to some extent? Find an answer to this question and record your findings in the report.

N.B. The steps of a project discussed above are given simply as a guideline. There is no compulsion that you follow all the steps as suggested. you could have a better way of doing the project, Your project will be considered as long as you do not deviate from the basic guidelines.

## HOW TO WRITE THE PROJECT REPORT

Although there cannot be a strict structure of the report and how to write it, there has to be some uniformity in the report, what you are doing during the project may be extremely creative work, but it needs a scientific structure and nationally acceptable format and there cannot be a strict regulation for reporting it. Therefore the following rules have to be adhered to. Always remember at the time of writing the project:

- (1) Use A-4 size (i.e. 21 cm x 29.7 cm or 8.3" x 11.8") paper.
- (2) Immediately after the cover page you must have FORM-A (must be in English, irrespective of the language of your project report).
- (3) The report should be in any constitutionally recognised Indian language.
- (4) There is a limitation for the size of the project report. The total number of words is limited to 3500 for projects of child scientists in the upper age group and 2500 words for projects of child scientists in the lower age group.
- (5) An abstract of maximum 250 words should be given in English irrespective of the language used in writing the report.
- (6) Write on one side of the paper only.
- (7) The report must be hand written (A type written report, a computer print-out of the report or a report written by others will not be accepted).
- (8) Keep a duplicate copy of your report with you for your reference.

### STRUCTURE OF THE REPORT :

Your report should be as per following

order: (a) Cover Page:

The cover page should contain the title of your project written on the top in large font. If you are writing your report in any language other than English, write the Project title in English also. It should also contain the name of your state and district, name of the Institution you are representing, name of the Group Leader and the names of the co-workers. You may use sketches, photographs, cartoons etc. to make the cover page attractive / informative.

(b) Form-A (i.e Registration Form) which you had submitted to the District Co-ordinator at the time of Registration written clearly in English only. This form should be in a single page. You can use a photostat copy of the form also.

(c) Abstract:

Write an abstract of your project in about 250 words. The English translation of the abstract must be given if you write the report in any other language. The abstract should be well written covering all aspects of the project done. The idea of providing the abstract is to present a complete picture of the project. The language used in the abstract (and also in the project report) should be very simple.

(d) Contents:

| Sl. No. | Subject                         | Page |
|---------|---------------------------------|------|
| 1       | Form -A (Registration Form) ... | i    |
| 2       | Abstract.....                   | ii   |
| 3       | Introduction .....              | 1    |
| 4       | .....                           |      |

(e) List of Figures:

| Sl. No. | Title | Page |
|---------|-------|------|
| 1       | ..... |      |
| 2       | ..... |      |

(f) List of Tables:

| Sl.No. | Subject | Page |
|--------|---------|------|
| 1      | .....   |      |
| 2      | .....   |      |

(A) Title of the project : Write the title of the project on the top. The title should be short and crispy yet should give a rough idea of the project. The title of the project, however, normally does not give much idea on the project, so you have to give an introduction to the project.

(B) Introduction: The introduction is a general discussion on the topic and what you are planning to do. You may also write about the outline of the report.



(C) Aims and Objectives: When you start a work you shall surely expect some result out of it. In this chapter explain in short what you intend to get as the result or the outcome of your work. Note, it may vary from the final outcome. Try not to exceed one page for this chapter.

(D) Hypothesis: Here you need to explain what assumptions you had made. Remember to validate your assumptions while coming to the final conclusion.

(E) Need Statement: Justify why you selected this project in 50 to 100 words. Also justify how your work is related to the main theme/sub-themes of the congress.

(F) Work Plan : Write in short about the scheme of work to complete the project. You may represent it graphically through flow charts. Remember, your scheme may vary later.

N.B. The chapter (A)-(F) must be written well before your actual project work.

(G) Methodology: It is the base of the project. So proper design of the experiments or the questionnaire is very necessary. In this chapter you should write how you have done the project, when you did (month day etc.) and how you have selected samples. However this chapter should not contain the collected data or analysis of data. Maps, blank sample survey form(s), etc. should be given here. A low-cost project yet very effective is highly appreciated. N.B. : Maintain Log Book showing the day to day activities which has to be submitted at the national level Children's Science Congress also.

(H) Observations: Here you need to present the data that you have collected. Collection of data either as responses, observations of experiments should be done meticulously. The data collected should be sufficient enough to be scientifically validated.

(I) Data Analysis: Here you have to make an analysis of the data that you have collected through survey or experiments.

(J) Results: Now it is time to interpret the data you had collected and analysed. Present the results of the analysis. Relevant maps, figures such as graphs, tables may be used judiciously to represent results. They should be understandable to all and should be systematically represented. Take care to make your presentation as simple as possible. Do not draw conclusions here. In fact, upto this chapter you are not supposed to give your own opinion or interpretation. This is very important as the data you got may mean one thing to you and something else to others.

(K) Conclusions: Now it is time to draw conclusions. Include your suggestions that you think can solve the problem. You should not generalise your observations/conclusions or derive big conclusions as you are working in a small area with a small sample size.

(L) Solution to the problem: Once you implement a permanent (more or less permanent) solution to the problem write down the steps of implementation and how you have solved it. Figures, photographs, maps, letters, articles published for sensitization may be given along it.

(M) Future Plan: Action plan for follow-up actions is always expected. The work that you have carried out needs to be conveyed to the general masses. What type of action you have planned for it.

(N) Acknowledgement: Acknowledge the help and co-operation you got from various individuals and organisations. Remember that, you should record your thanks/gratefulness to all those who have helped you or encouraged you, it does not matter how small the help may be or how less important the person may be. However, this chapter preferably should not be more than a page.

(O) Reference: This is the last chapter of your project report. Here you should quote all study materials used (e.g., books, articles, new paper, personal interviews etc.) You should write references in a specific order. We shall stick to writing them in alphabetical order of the names of new papers).

For example —

In case of books:

1. Lamb, Marjorie, Two minutes a day for a Greener Planet, pp 50-60, Harper Paperbacks, New York, 1991.
2. Mazumder, Paramananda (Ed), Asomat Bigyan charchar dhara, pp. 10-15, Priyabala Prakashan, Tinsukia (Assam), 1995.

i.e., Name of author(s)/editor(s), name of the book (underlined), Page nos. (used), publisher, place of publication, Year.

In case of News Papers:

3. Name of the News Paper (underlined), Page No. (used) Issue No., Volume No., Date, Place of Publication, Year. In case of Articles:

4. Author(s), "Name of the article" (in inverted commas), Name of the Book/Magazine/News paper (underlined), page nos. (used), Issue No., Volume No., Date/month, Year, Publisher, Place of Publication, Year.

In case of personal interviews:

5. Rao, Dr. M.N.K., (Personal Interview), Date, place of interview, year.

Some projects may not be possible to be reported in the manner as discussed above in the Structure of the Project. For example, a project on "Modified form of daily used household items or machines". In this project the chapters, 'Data Analysis' and 'Solution to the problem' may be replaced by a chapter 'Description of the Equipments/Kits'. This chapter will contain descriptions of the equipments/kits and theories involved, how to make them and their possible uses/utilities. Also you have to write a comparative analysis on old and new items/machines. Above all a slight modification has to be made depending on the project but the main work should be the same.

## ORAL PRESENTATION

- (1) Oral presentation of your work is as important as your written report. If you can present your project effectively, then the desired would be created. So, you should prepare yourselves for the oral presentation in a very systematic manner.

In the last Congresses we have seen children getting into trouble in each step by trying to cover everything in the project report in the allotted 8 (eight) minutes. Assuming that you can highlight (speak on) one point/idea in one minute, then 6-7 ideas can be presented effectively. Effective presentation means presentation done patiently, making it audible and understandable by the audience. So, it is important to select the most important points to be highlighted during the presentation. A person interested in your project will go through it in details and evaluate it as a whole.

- (2) As you start your presentation, tell the names of your group members, name of your school/organisation and place to which you belong to. Then come to the main work directly (avoid unnecessary introduction). Tell the title of the project and start speaking on why you are doing it (the need), how you have done it, the results obtained, conclusion(s), probable solution to the problem.
- (3) Use of 4 posters (charts) during the project presentation is compulsory. You may also use models etc., if you have made any. The poster should be clear and simple. You should never try to cramp a lot of information into the posters. While presenting do not ever try to explain all the things given in the posters. In the Children's Science Congress you can use transparencies (on OHP i.e. Over Head Projector) or LCD projectors. However, LCD/OHP is not advisable at District Level Congress.

Quite often it is seen that the children memorize a speech of about 8 minutes and try to reproduce it during project presentation without getting involved with the presentation. Such a presentation carries no appeal and the audience normally gets bored. So, it is important to take help of the posters during the presentation. Some children bring along sheets of paper and read these out during the presentation. This is not a presentation, but reading (Note the difference between paper presentation and paper reading!). In National Children's Science Congress we want you to be smart orators as well. So, take care of this aspect.

- (4) Never get excited during the presentation and avoid unnecessary movement of your body. Such actions reduce the impact of your presentation. Dramatization may be necessary during the debate or a mock parliament; but in NCSC, the audience wants clear and sober presentation.
- (5) Avoid the use of difficult words and ornamental language. Unnecessary use of ornamental language eats up the time allotted for presentation; it also makes the presentation fussy.
- (6) As you take your stand to present your paper, establish eye contact with the audience. Never concentrate on a particular group of people or inert objects (such as doors, windows, ceiling and outside). If you do so, the overall impact of your presentation will be much reduced even if your way of expression is of the highest order.
- (7) There will be some time allotted for interaction (question-answer) after your presentation. Listen to the questions attentively and think before you answer. Do not lose your temper even if a question is totally irrelevant. You should try to remain as calm and pleasant as possible. If you get excited/irritated, then you create a negative impression among the audience.

## POSTER PRESENTATION

As you already know, posters are compulsory in NCSC. These posters should be relevant and must have clarity so that everybody can get an idea about your project by looking at your posters. In addition to your oral presentation you shall have to present your posters in a separate session (Poster session) in a separate room/hall. After the oral presentation put your posters (as instructed) in the poster presentation hall. Like your report and oral presentation, your posters presented in the poster session will also be evaluated. Take poster session seriously and seek help and advice from your guide, seniors and teachers.

Limit your posters to four (4). You should emphasize on the way of expression and present the salient features of your project in these posters. Try to make your posters unique and innovative; the posters should express your creativity. In your posters there need not be a total description of your project, but only highlight main points.

Oral and poster presentations are like advertisements of your project. In a TV advertisement on washing powder, do they show us the whole process of washing clothes (with the specific powder)? They do not; the advertisement shows only those points which attract people (create an interest) and, thus, the name of the product and its specialties are remembered. The same principle should be adhered to during project presentation and poster presentation.

We are trying to create scientific temperament and rationalism among all. In the Congress, all of you may not get selected for awards or scholarships (or to represent your State). Do not get disheartened; our contribution towards betterment of the society, however small it may be, will always be counted. You, the children are going to make India a prosperous country through your innovative actions.

## HOW TO MAKE POSTERS

Take four (4) numbers of 55 cm x 70 cm (21.6" x 27.5") drawing sheets (i.e. chart papers). You get drawing sheets in different colours. Posters for oral and poster presentations should be the same.

In one of the posters write the title of your project in large font followed by the names of your group members (in smaller font). If you are doing your project in language other than English, give the English name also (because your posters are for all India presentation). The size of the letters used in the title should be such that it is visible to everybody in the presentation room. Some interest will be created about your project only if the audience knows the name of your project.

There is no need of writing the word 'Title' as you write the title. The title should be short and it should not cover more than two lines in the drawing sheet.

Your posters should contain information on (1) The project title, (2) Names of the group members, (3) Objectives, (4) Map of the area, (5) Methodology, (6) Results, (7) Conclusion, (8) Solution to the problem and (9) Follow-up actions. Depending upon the nature of the project the poster may or may not have a map and/or results.

By now you must be thinking how to put so much of information in only 4 posters. Does it look impossible? Cool! This is where you get a unique opportunity to show your talent. Isn't it a challenge? Let's proceed systematically and we shall take the challenge with courage.

Do not write on the drawing sheet directly. Make 4 sample posters first. Take 4 sheets of ordinary paper and plan out each poster. Are these posters giving an overall idea of your project? Once the first set is prepared, make corrections, add and delete and prepare a second set. Go on repeating the process till you are fully satisfied. (Remember the popular saying, "Rome was not built in a day"; be patient). The final outcome of this process is the 4 posters you need. Now transfer these to the drawing sheets.

If you, however, try to cramp a lot of information into these posters, you are in for real trouble. You should try to write the information given in one paragraph in your project report in a single line or so. For Example, in your report you have given a detailed description of a survey work done (i.e. what the survey was, how you have done it, number of samples, difficulties etc.) but in the poster you will simply write: "Survey done among 100 families/ persons". So, everybody will know that you have done a survey and during presentation you also remember to tell about your survey work once you see this line. If somebody wants to know more, you will be asked/contacted. You have done an advertisement of your project; anybody interested will come down to know more. The two main aims of the posters are (i) to use them as an aid during presentation, and (ii) to attract others and create an interest by giving a comprehensive overview of your project.

In the posters you can use pie diagrams, histograms, graphs, photographs, cartoons etc. However, do not use such diagrams/ photographs about which you do not have a clear idea. Also do not unnecessarily distract the attention of the audience to the posters from the actual presentation. You can use ink, colour pencils, sketch pens and colour papers to prepare your posters.

You can even think of using locally available vegetable dyes (from plants, flowers and fruits) to colour your posters.

Use more than one colour in each poster. Say, if you write one line in red, the next line may be in blue. This will make the posters legible and will break the monotony. Letters used in the posters should not be smaller than 2 cm in height, otherwise they will be illegible from a distance. Keep a gap of 2-3 cm between lines. Remember that a person sitting in the last row in the presentation room should also be able to read your posters without any difficulty.

**Synopsis Evaluation criteria**

| Categories and Aspects to be assessed and evaluate  | Marks |
|---|-------|
| <b>Title of the study</b> : Relevance with theme, sub-theme and context of the study; unnecessary length creating problems  | 5     |
| <b>Background</b> : Issues identified for the study, how the particular study would help in addressing the issues; reflected rationale, literature review/ consultation with experts indesigning the study  | 5     |
| <b>Hypothesis</b> : Logical relevance of hypothesis, reflection hypothesis hypothesis in framing the objectives of the study; is there any research question framed through hypothesis and objectives   | 10    |
| <b>Methodology</b> : Unit of observation, parameters considered and its relevance with issues of study (including hypothesis and objectives); framework of analysis and interpretation (how it will help in verifying hypothesis and making interpretation in relation to objectives) | 15    |
| <b>Limitation</b> : Limitation of the proposed study and how are they depicted in logical order.  | 5     |
| <b>Expected</b> : How expected outcome of the study are depicted and its logical relevance  | 5     |
| <b>Language</b> : Correct, simple and appropriate language  | 5     |
| Total   | 50    |

**PROJECT EVALUATION CRITERIA'S**

**a. Model consolidated evaluation sheet (District level)**

| Sl No | Criteria   | Max marks | Written Report | Oral Presentation | Total |
|-------|--|-----------|----------------|-------------------|-------|
| 1.    | Originality of idea and concept                  | 10        |                |                   |       |
| 2.    | Relevance of the project to the theme            | 10        |                |                   |       |
| 3.    | Understanding of the issue                       | 15        |                |                   |       |
| 4.    | Data collection and analysis                     | 15        |                |                   |       |
| 5.    | Experimentation / validation                     | 10        |                |                   |       |
| 6.    | Interpretation and problem solving attempt       | 10        |                |                   |       |
| 7.    | Team work  | 10        |                |                   |       |
| 8.    | Background correction                            | 10        |                |                   |       |
| 9.    | Oral presentation/written report (as applicable) | 10        |                |                   |       |

**b. Model consolidated evaluation sheet (State and National levels)**

| Sl No | Criteria  | Max marks | Written Report | Oral Presentation | Total |
|-------|---|-----------|----------------|-------------------|-------|
| 1.    | Originality of idea and concept                   | 5         |                |                   |       |
| 2.    | Relevance of the project to the theme             |           |                |                   |       |
| 3.    | Understanding of the issue                        |           |                |                   |       |
| 4.    | Data collection and analysis                      |           |                |                   |       |
| 5.    | Experimentation / validation                      |           |                |                   |       |
| 6.    | Interpretation and Problem solving attempt        |           |                |                   |       |
| 7.    | Team work   |           |                |                   |       |
| 8.    | Follow up & action plan                           |           |                |                   |       |
| 9.    | Oral presentation/ written report (as applicable) |           |                |                   |       |
| 10    | Improvement over the previous level as suggested  |           |                |                   |       |