

HOME SCIENCE

FORMATIVE ASSESSMENT



Formative Assessment

*Manual for
Teachers*

CLASS-X



CENTRAL BOARD OF SECONDARY EDUCATION

Shiksha Kendra, 2, Community Centre, Preet Vihar, Delhi-110 092 India

नया आगाज़

आज समय की माँग पर
आगाज़ नया इक होगा
निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।

परिवर्तन नियम जीवन का
नियम अब नया बनेगा
अब परिणामों के भय से
नहीं बालक कोई डरेगा
निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।

बदले शिक्षा का स्वरूप
नई खिले आशा की धूप
अब किसी कोमल-से मन पर
कोई बोझ न होगा

निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।
नई राह पर चलकर मंज़िल को हमें पाना है
इस नए प्रयास को हमने सफल बनाना है
बेहतर शिक्षा से बदले देश, ऐसे इसे अपनाए
शिक्षक, शिक्षा और शिक्षित
बस आगे बढ़ते जाएँ
बस आगे बढ़ते जाएँ
बस आगे बढ़ते जाएँ.....





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Manual for Teachers

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CLASS X



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Shiksha Kendra, 2, Community Centre, Preet Vihar, Delhi-110 092 India

Teachers' Manual on Formative Assessment in Home Science, Class X

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भारत का संविधान

उद्देशिका

हम, भारत के लोग, भारत को एक 'सम्पूर्ण प्रभुत्व-संपन्न समाज' के पथदर्शक लोकोत्प्रेरक गणराज्य बनाने के लिए, तथा उनके सम्स्त नागरिकों को:

सामाजिक, आर्थिक और राजनतिक न्याय,
विचार, अभिव्यक्ति, विश्वास, धर्म

और उ सना ष्ठी स्वतंत्रता,
पतिष्ठा और अव र की स्मता

प्राप्त कराने के लिए, तथा उ सब में, व्यक्ति की गरिमा और राष्ट्र की एकता और अ ण्डा सुखिश्चित करन वाली बंधुता बढ़ाने के लिए दृढसंकल्प होकर अप इस संवि णीसभ्र में अज तारीख 26 न बर, 1949 ई० को एतद्वारा इस् संवि ण को ध अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।

1. संविधान (यालीस्र्वा संशोधन अधिनियम, 1976 की धारा 2 द्वारा (.1.1973) से " भुत्व स्मन्न लोकोत्प्रेरक गणराज्य" के स्थान प पतिष्ठापि । त
2. संविधान (यालीस्र्वा संशोधन) अधिनि म, 1996 की धारा 2 द्वारा (.1.1973 से) " ण्ट्र क्रीरकता" के स्थान प पतिष्ठापि । त

भाग 4 क

मूल कर्तव्य ।

5 क. मूल कर्तव्य - भारत के प्रत्येक नागरिक का यह कर्तव्य हेगे कि ष्व -

- (क) संविधान का पालन करे और उसके आद णी, संस्थाओं, राष्ट्रध्वज और राष्ट्रगान का आद करे; र
- (ख) स्मन्नता के लिए ह रे राष्ट्रीय आंदेलन को प्रेरित करने वाले उच्च आद णी को हृद में संजोए रखे और उसका पाल करे; न
- (ग) भारत की प्रभुता, एकता और अखंड ण की रक्षा करे आर ढैसे अक्षुण्ण रखे; ण
- (घ) दश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;
- (ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निमाण करे जो धर्म, भा ण और प्रदश या वेर्ग पर आधारित सभी भेद ण व सेध परे हों, ऐसी प्रथाओं का त्याग करे जो स्त्रियों के सम्मान के विरु हं; ढ
- (च) हमारी सामासिक संस्कृति की गौरवशाली परंपरा का मह व समझे और उसका परीक्षण करे;
- (छ) प्राकृतिक पर्यावरण की जिसके अंतर्गत वन, झील, नद , और विन्य जीव हं, रक्षा कैरे और उसका संवर्धन करे तथा प्राणिमात्र के प्रति द ण भाव य रखे; ण
- (ज) वैज्ञानिक दष्टिकोण, मानववाद और ज्ञ नार्जन तथा सुधार की भावना का विकास करे;
- (झ) सार्वजनिक संपत्ति को सुरक्षित रखे और ढिसा से दरं रह; ू
- (ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत प्रयास करे जिससे राष्ट्र निरंतर बढ़ते हए प्रयलु और उपलब्धि की नई उंचाइयों को छू ले।

THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a **SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizens :

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the ² [unity and integrity of the Nation];

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do **HEREBY TO OURSELVES THIS CONSTITUTION.**

1. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "Sovereign Democratic Republic (w.e.f. 3.1.1977)
2. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "unity of the Nation (w.e.f. 3.1.1977)

THE CONSTITUTION OF INDIA

Chapter IV A

Fundamental Duties

ARTICLE 51A

Fundamental Duties - It shall be the duty of every citizen of India-

- (a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
- (c) to uphold and protect the sovereignty, unity and integrity of India;
- (d) to defend the country and render national service when called upon to do so;
- (e) To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- (f) to value and preserve the rich heritage of our composite culture;
- (g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;
- (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
- (i) to safeguard public property and to abjure violence;
- (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.

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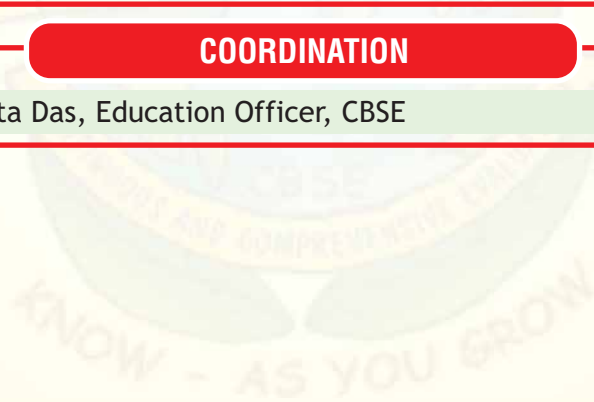
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PREFACE

*A*t the centre of the transformation that School Education is undergoing presently is the new perspective to assessment and its relationship to the teaching-learning process. It is widely agreed that assessment influences what is taught and how teaching and learning are delivered. There is also a widespread belief among educational researchers and practitioners that assessment can and often does constrain rather than enhance learning outcomes. If we restrict our choices of teaching and learning activities to exercises that simply rehearse for examinations, then we run the risk of failing our learners during the teaching and learning process as a whole. Another pitfall in working towards assessment is that learners may concentrate simply on doing the bare minimum needed in order to guarantee a pass.

Hence the challenge of changing the traditional system of examination and evaluation has emerged as a major focus. By introducing Continuous and Comprehensive Evaluation at the secondary level in all its affiliated schools, CBSE has sent out a clear message that assessment must take into account all the aspects of the personality development of the learner and that since learning is a continuous process, assessment also has to be continuous. CCE fundamentally shifts the focus from testing to learning by perceiving assessment as an integral part of the overall framework of teaching and learning. It follows from this that when incorporated into classroom practice, assessment tends to lose its individual identity, getting subsumed into the instructional process.

Such a conceptualization necessitates a greater thrust on formative assessment. It must be said, at this stage, that though many schools have been practicing CCE and as a consequence, formative assessment procedures for classes I - VIII for many years, the overall thrust still continues to be to use assessment for 'measuring' rather than 'enhancing' learning. In other words, there has been a general lack of conceptual clarity with regard to the formative assessment practices among stakeholders as a result of which, many apparently formative assessment tools and procedures have, in effect, been summative in nature, ie, exercises to gauge, at a particular point in time, student learning relative to content standards. Although the information gleaned from this type of assessment is important, it can only help in evaluating certain aspects of the learning process.

It brings us to the vital need of strengthening formative assessment because our overall aim is to facilitate learning by improving the teaching- learning process on the basis of information gathered from assessment.



In this sense formative assessment is a part of the instructional process, underpinning the importance of student involvement. Students need to be involved both as assessors of their own learning and as resources to other students bringing into focus the importance of self and peer assessment besides teacher assessment. Research shows that the involvement in and ownership of their work increases students' motivation to learn. The most significant advantage of formative assessment is that it makes learning an enjoyable experience because of student involvement, enhanced learning and unobtrusive techniques of assessment.

Summative assessment constitutes a public recognition of achievement and we are fairly familiar with most of the tools and procedures of summative assessment. However, many teachers may find it a challenge to develop effective formative assessment tools; they may also experience some difficulties in integrating them with classroom instruction. In order to provide conceptual clarity in this regard and to place some illustrative examples of formative assessment tasks in the hands of the teachers, the Board is bringing out a series of Manuals for classes IX and X in all the major subjects. This manual on Home Science - is one of them. The tasks exemplified in this Manual are of different types such as Cross word puzzles, Debates, Matching Items, Flow charts and Multiple Choice Questions. It also contains sustained writing tasks to be attempted by students. The tasks provided are varied and cater to the different multiple intelligence.

It is fervently hoped that teachers and students will derive maximum benefit from these publications. By studying the contents carefully and by using the tasks in classroom teaching, teachers would be able to build their capacity not only for enhanced learning to take place but also for preparing their own materials to add value to curriculum delivery. Certain practical guidelines have been included in the manuals to enable schools and teachers to implement formative assessment within the CCE framework as proposed by the Board for classes IX and X.

This document has been prepared by a group of Home Science teachers and I record the sincere appreciation of the Board to each of these contributors. I also convey my appreciation to Dr. Srijata Das, Education Officer for conceptualizing and coordinating the task of deciding the content and bringing out the manual.

I sincerely hope that with the availability of rich materials, teachers will be able to implement the CCE scheme in the right spirit in all the schools affiliated to CBSE. Comments for improvement of the manual are always welcome.

VINEET JOSHI
Chairman



Continuous and Comprehensive Evaluation

Education aims at making children capable of becoming responsible, productive and useful members of a society. Knowledge, skills and attitudes are built through learning experiences and opportunities created for learners in school. It is in the classroom that learners can analyse and evaluate their experiences, learn to doubt, to question, to investigate and to think independently. The aim of education simultaneously reflects the current needs and aspirations of a society as well as its lasting values and human ideals. At any given time and place they can be called the contemporary and contextual articulations of broad and lasting human aspirations and values.

An understanding of learners, educational aims, the nature of knowledge, and the nature of the school as a social space can help us arrive at principles to guide classroom practices. Conceptual development is thus a continuous process of deepening and enriching connections and acquiring new layers of meaning. Alongside is the development of theories that children have about the natural and social worlds, including themselves in relation to others, which provide them with explanations for why things are the way they are and the relationship between cause and effect. Attitudes, emotions and values are thus an integral part of cognitive development, and are linked to the development of language, mental representations, concepts and reasoning. As children's metacognitive capabilities develop, they become more aware of their own beliefs and capable of regulating their own learning.

Characteristics of learning

- All children are naturally motivated to learn and are capable of learning.
- Understanding and developing the capacity for abstract thinking, reflection and work are the most important aspects of learning.
- Children learn in a variety of ways-through experience, making and doing things, experimentation, reading, discussion, asking, listening, thinking and reflecting, and expressing themselves in speech or writing-both individually and with others. They require opportunities of all these kinds in the course of their development.
- Teaching something before the child is cognitively ready takes away real learning. Children may 'remember' many facts but they may not understand them or be able to relate them to the world around them.
- Learning takes place both within school and outside school. Learning is enriched if the two arenas interact with each other. Art and work provide opportunities for holistic learning that is rich in tacit and aesthetic components. Such experiences are essentially to be learnt through direct experience and integrated into life.



- Learning must be paced so that it allows learners to engage with concepts and deepen understanding rather than remembering only to forget after examinations. At the same time learning must provide variety and challenge, and be interesting and engaging. Boredom is a sign that the task may have become mechanically repetitive for the child and of little cognitive value.
- Learning can take place with or without mediation. In the case of the latter, the social context and interactions, especially with those who are capable, provide avenues for learners to work at cognitive levels above their own.

Place of Evaluation in the Curriculum

A curriculum is what constitutes a total teaching-learning program composed of overall aims, syllabus, materials, methods and assessment. In short it provides a framework of knowledge and capabilities, seen as appropriate to a particular level. Evaluation not only measures the progress and achievement of the learners but also the effectiveness of the teaching materials and methods used for transaction. Hence evaluation should be viewed as a component of curriculum with the twin purpose of effective delivery and further improvement in the teaching learning process.

If properly understood, evaluation or assessment will not be perceived as something administered by the teachers and taken by the learners on the conclusion of a period of learning. When evaluation is seen as an end of the learning exercise, both the teachers and the learners will tend to keep it outside the teaching-learning process, rendering assessment broadly irrelevant and alien to the curriculum. Further such a perception associates anxiety and stress with evaluation for learners. On the contrary, if evaluation is seen as an integral part built into the teaching learning process; it will become continuous like both teaching and learning. When evaluation is subsumed into teaching-learning, learners will not perceive tests and examinations with fear. It will lead to diagnosis, remediation and enhancement of learning.

The scope of evaluation in schools extends to almost all the areas of learners' personality development. It should include both scholastic and co-scholastic areas, i.e. it should be comprehensive in nature. This is in line with the goals of education. Evaluation is continuous and reveals the strengths and weaknesses of learners more frequently, so that the learners have better opportunity to understand and improve themselves. It also provides feedback to the teachers for modifying their teaching strategies.

In view of getting a complete picture of the child's learning, assessment should focus on the learner's ability to -

- learn and acquire desired skills related to different subject areas.
- acquire a level of achievement in different subject areas in the requisite measure
- develop child's individual skills, interests, attitudes and motivation
- understand and lead a healthy and a productive life.
- monitor the changes taking place in a child's learning, behaviour and progress over time.



- respond to different situations and opportunities both in and out of school.
- apply what is learned in a variety of environments, circumstances and situations
- work independently, collaboratively and harmoniously.
- analyze and evaluate.
- be aware of social and environmental issues
- participate in social and environmental projects and causes.
- retain what is learned over a period of time.

Thus assessment is a useful, desirable and an enabling process. To realize this one needs to keep the following parameters in mind -

The need to:

- assess the learner.
- use a variety of ways to collect information about the learner's learning and progress in subjects and cross curricular boundaries.
- collect information continuously and record the same.
- give importance to each learner's way of responding and learning and the time it takes to do so.
- report on an ongoing continuous basis and be sensitive to every learner's responses.
- provide feedback that will lead to positive action and help the learner to do better

In the assessment process, one should be careful NOT to:

- label learners as slow, poor, intelligent etc.
- make comparisons between them.
- make negative statements.

Continuous and Comprehensive Evaluation

Continuous and Comprehensive Evaluation (CCE) refers to a system of school-based evaluation of students that covers all aspects of a students' development. It is a developmental process of a child which emphasizes on two fold objectives. These objectives are continuity in evaluation on one hand and assessment of broad based learning and behavioural outcomes on the other.

The term '*continuous*' is meant to emphasise that evaluation of identified aspects of students '*growth and development*' is a continuous process rather than an event, built into the total



teaching-learning process and spread over the entire span of academic session. It means *regularity of assessment, diagnosis of learning gaps, use of corrective measures and feedback of evidence to teachers and students for their self evaluation.*

The second term '*comprehensive*' means that the scheme attempts to cover both the scholastic and the co-scholastic aspects of students' growth and development. *Since abilities, attitudes and aptitudes can manifest themselves in forms other than the written word, the term refers to application of a variety of tools and techniques (both testing and non-testing) and aims at assessing a learner's development in areas of learning like :*

- Knowledge
- Understanding/Comprehension
- Application
- Analysis
- Evaluation
- Creativity

Objectives of CCE are:

- To help develop cognitive, psychomotor and affective skills.
- To lay emphasis on thought process and de-emphasise memorization
- To make evaluation an integral part of teaching-learning process
- To use evaluation for improvement of students' achievement and teaching - learning strategies on the basis of regular diagnosis followed by remedial instruction
- To use evaluation as a quality control device to maintain desired standard of performance
- To determine social utility, desirability or effectiveness of a programme and take appropriate decisions about the learner, the process of learning and the learning environment
- To make the process of teaching and learning a learner-centered activity.

Features of CCE are:

- The '*continuous*' aspect of CCE takes care of '*continual*' and '*periodicity*' aspect of evaluation.
- Continual means assessment of students in the beginning of instruction (*placement evaluation*) and assessment during the instructional process (*formative evaluation*) done informally using multiple techniques of evaluation.
- Periodicity means assessment of performance done frequently at the end of unit/term (*summative*)



- The '*comprehensive*' component of CCE takes care of assessment of all round development of the child's personality. It includes assessment in Scholastic as well as Co-Scholastic aspects of the pupil's growth.
- Scholastic aspects include curricular areas or subject specific areas, whereas co-scholastic aspects include Life Skills, Co-Curricular Activities, Attitudes, and Values.
- Assessment in scholastic areas is done informally and formally using multiple techniques of evaluation continually and periodically. The diagnostic evaluation takes place at the end of a unit/term test. The causes of poor performance in some units are diagnosed using diagnostic tests. These are followed up with appropriate interventions followed by retesting.
- Assessment in Co-Scholastic areas is done using multiple techniques on the basis of identified criteria, while assessment in Life Skills is done on the basis of Indicators of Assessment and checklists.

Source - Examination Reforms, NCERT

The functions of CCE are:

- It helps the teacher to organize effective teaching strategies.
- Continuous evaluation helps in regular assessment to the extent and degree of learner's progress (ability and achievement with reference to specific scholastic and co-scholastic areas).
- Continuous evaluation serves to diagnose weaknesses and permits the teacher to ascertain an individual learner's strengths and weaknesses and her needs. It provides immediate feedback to the teacher, who can then decide whether a particular unit or concept needs re-teaching in the whole class or whether a few individuals are in need of remedial instruction.
- By continuous evaluation, children can know their strengths and weaknesses. It provides the child a realistic self assessment of how he/she studies. It can motivate children to develop good study habits, to correct errors, and to direct their activities towards the achievement of desired goals. It helps a learner to determine the areas of instruction in which more emphasis is required.
- Continuous and comprehensive evaluation identifies areas of aptitude and interest. It helps in identifying changes in attitudes, and value systems.
- It helps in making decisions for the future, regarding choice of subjects, courses and careers.
- It provides information/reports on the progress of students in scholastic and co-scholastic areas and thus helps in predicting the future successes of the learner.

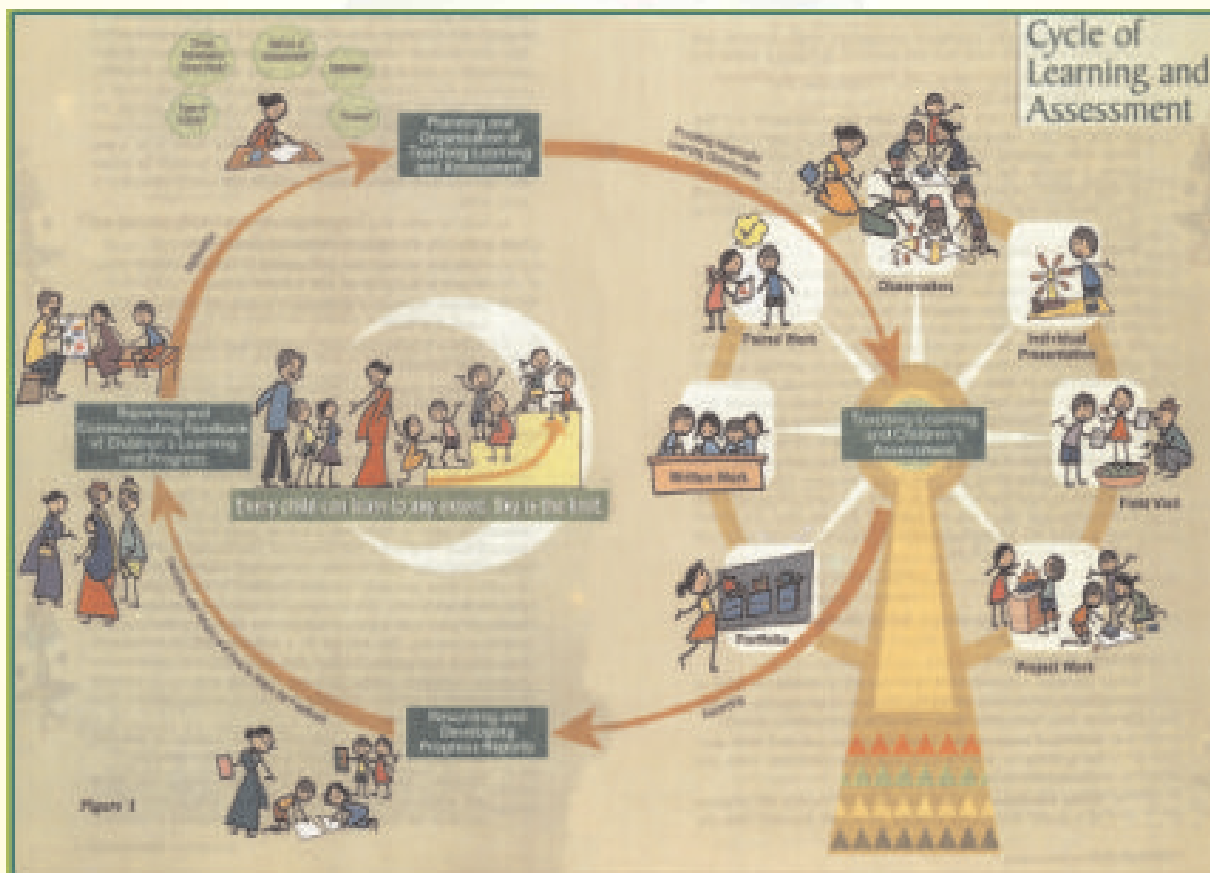
Continuous evaluation helps in bringing awareness of the achievement to the child, teachers and parents from time to time. They can look into the probable cause of the fall in achievement



if any, and may take remedial measures of instruction in which more emphasis is required. Many times, because of some personal reasons, family problems or adjustment problems, the children start neglecting their studies, resulting in a sudden drop in their achievement. If the teacher, child and parents do not come to know about this sudden drop in the achievement and the neglect in studies by the child continues for a longer period then it will result in poor achievement and a permanent deficiency in learning for the child.

The major emphasis of CCE is on the continuous growth of students ensuring their intellectual, emotional, physical, cultural and social development and therefore will not be merely limited to assessment of learner's scholastic attainments. It uses assessment as a means of motivating learners in further programmes to provide information for arranging feedback and follow up work to improve upon the learning in the classroom and to present a comprehensive picture of a learner's profile.

It is this that has led to the emergence of the concept of School Based Continuous and Comprehensive Evaluation.



Source : Ncert



Scholastic and Co-scholastic Assessment

In order to have Continuous and Comprehensive evaluation, both scholastic and co-scholastic aspects need to be given due recognition. Such a holistic assessment requires maintaining an ongoing, changing and comprehensive profile for each learner that is honest, encouraging and discreet. While teachers daily reflect, plan and implement remedial strategies, the child's ability to retain and articulate what has been learned over a period of time also requires periodic assessment. These assessments can take many forms but all of them should be as comprehensive and discreet as possible. Weekly, fortnightly, or quarterly reviews (depending on the learning area), that do not openly compare one learner with another and are positive and constructive experiences are generally recommended to promote and enhance not just learning and retention among children but their soft skills as well.



School Based Continuous & Comprehensive Evaluation

There has been a consistent move towards reducing the load on the student by making public or board examination stress free. Over the decade there has been a high pitched race towards more marks and thus more competitiveness among students and schools.

The move of the CBSE to replace marks with grades is a step in the right direction. The paradigm shift is to empower schools by creating a workable school based continuous and comprehensive scheme.

School Based Continuous and Comprehensive Evaluation system should be established to:

- reduce stress on children
- make evaluation comprehensive and regular
- provide space for the teacher for creative teaching
- provide a tool of diagnosis and remediation
- produce learners with greater skills

Position Paper on Aims of Education - NCF 2005, NCERT

Aims of School Based CCE

- Elimination of chance element and subjectivity (as far as possible), de-emphasis of memorization, encouraging Comprehensive evaluation incorporating both scholastic and co-scholastic aspects of learners development.
- Continuous evaluation spread over the total span of the instructional time as an integral built-in aspect of the total teaching-learning process.
- Functional and meaningful declaration of results for effective use by teachers, students, parents and the society.
- Wider uses of test results for purposes not merely of the assessment of levels of pupils' achievements and proficiencies, but mainly for its improvement, through diagnosis and remedial/enrichment programmes.
- Improvement in the mechanics of conducting examinations for realizing a number of other allied purposes
- Introduction of concomitant changes in instructional materials and methodology.
- Introduction of the semester system from the secondary stage onwards.
- The use of grades in place of marks in determining and declaring the level of pupil performance and proficiency.

The above goals are relevant for both external examination and evaluation in schools



Characteristics of School Based Evaluation :

- Broader, more comprehensive and continuous than traditional system.
- Aims primarily to help learners for systematic learning and development.
- Takes care of the needs of the learner as responsible citizens of the future.
- Is more transparent, futuristic and provides more scope for association among learners , teachers and parents.

School based evaluation provides opportunities to teachers **to know the following about their learners:**

- What they learn
- How they learn
- What type of difficulties / limitations they face in realising learning objectives together
- What the children think
- What the children feel
- What their interests and dispositions are.

The focus has shifted to developing a deep learning environment. There is a paradigm shift in the pedagogy and competencies of ‘controlling’ to ‘enriching’ to ‘empowering’ schools.

Traditional Schooling	Enriching Schooling	Empowering Schooling
<ul style="list-style-type: none"> ● Teacher centred ● Subjects and classes ● Sorting and ranking individuals <p>Competency:</p> <ul style="list-style-type: none"> ● Memory ● Competitive 	<ul style="list-style-type: none"> ● Student centred ● Self Directed ● Continuous assessment <p>Competency:</p> <ul style="list-style-type: none"> ● Critical thinking ● Collaborative ● Creative 	<ul style="list-style-type: none"> ● Experience centred ● Virtual authenticity ● Multi literacies <p>Competency:</p> <ul style="list-style-type: none"> ● Risk taking ● Ethical ● Interactive

There are four Assessment Paradigms

Assessment of Learning

Most commonly, assessment is defined as a process whereby someone attempts to describe and quantify the knowledge, attitudes or skills possessed by another. Teacher directedness is paramount and the student has little involvement in the design or implement of the assessment process in these circumstances -



- Summative
- Teacher designs learning
- Teacher collects evidence
- Teacher judges what has been learnt (and what has not)

Assessment for Learning

The assessment for learning involves increased levels of student autonomy, but not without teacher guidance and collaboration. The assessment for learning is sometimes seen as being akin to ‘formative assessment’ and can be seen as informing teaching. There is more emphasis towards giving of useful advice to the student and less emphasis on the giving of marks and the grading function -

- Teacher designs learning
- Teacher designs assessment with feedback to student
- Teacher assesses what has been learnt (student develops insight into what has not)

Assessment as Learning

‘Assessment as learning’ is perhaps more connected with diagnostic assessment and can be constructed with more of an emphasis on informing learning. Assessment as learning generates opportunities for self assessment and for peer assessment. Students take on increased responsibility to generate quality information about their learning and that of others -

- Teacher and student co-construct learning
- Teacher and student co-construct assessment
- Teacher and student co-construct learning progress map

Assessment for learning and assessment as learning activities should be deeply embedded in teaching and learning and be the source of iterative feedback, allowing students to adjust, re-think and re-learn.

Assessment in Learning

The assessment in learning places the question at the centre of teaching and learning. It deflects the teaching from its focus on a ‘correct answer’ to focus on ‘a fertile question’. Through the inquiry, students engage in processes that generate feedback about their learning, which come from multiple sources, and activities. It contributes to the construction of other learning activities, lines of enquiry and the generation of other questions -

- Student at the centre of learning
- Student monitors, assesses and reflects on learning
- Student initiates demonstration of learning (to self and others)
- Teacher as coach and mentor



Teachers and students need to understand the purpose of each assessment strategy so that the overall assessment 'package' being used by learners and teachers accurately captures, generates and uses meaningful learning information to generate deep learning and understanding.

Purpose of Assessment

- To ascertain what learning, change and progress takes place in the child over a period of time in different subjects of study and other aspects of the child's personality.
- To find out the needs and learning style of every learner.
- To devise a teaching-learning plan that is responsive to the individual needs and learning styles.
- To improve the teaching-learning materials by adding value.
- To help every learner find out their interests, aptitudes, strengths and weaknesses so that the learner can evolve effective learning strategies.
- To measure the extent to which curricular objectives have been realized.
- To enhance the effectiveness of the teaching-learning process.
- To record the progress of every learner and communicate it to parents and other stakeholders.
- To maintain a dialogue between the teacher and the student and also the parents as a collaborative endeavor for overall improvement of the system.
- To involve the learners in the process through peer and self assessment.

Different stages in Assessment

Examination is not assessment; it is only one of the tools of assessment. As we have seen above, assessment is an integral part of the teaching-learning process and hence cannot be seen as the final stage in isolation. The overall aim of assessment is to gather information to improve the teaching-learning process. So it has certain distinct stages.

Stage - 1: Gathering information about and evidence of the extent of effectiveness of teaching and learning

We gather information in a variety of ways, using a number of tools. Observation, conversation and discussion, assignments, projects, different types of tests etc are some of the methods and tools we use for collecting information.

Stage - 2: Recording of Information

The information gathered has to be systematically recorded because it constitutes not only rich inputs that have to be used for improving teaching and learning but also evidence to support the conclusion we come to about the progress made by the students. In order to make



the recording effective, we must use different recording devices such as learner profile, anecdotal records, case studies, report books etc. It is essential that the information is recorded in both quantitative and qualitative terms along with well thought out and objective observations by the teacher. It is also necessary to keep samples of students' work as evidence to support the report of the teacher. The most important aspect of good recording and reporting is that it shows the progress of the learner in different domains over a period of time.

Stage - 3: Analysing and Reporting the Information Collected

The recorded information constitutes valuable feedback that the teacher, the student and the parents should use to enhance the learning process. To do this, the gathered information has to be analysed periodically so that the teacher can draw conclusions about how a child is learning and progressing. Such analysis and the grading that is done is actually a mapping of the progress of students in a learning environment. Analysis and review also leads to unambiguous statements about the strengths of every child and the aspects requiring further improvement. The report has to be communicated to the learners and their parents so that they are able to collaborate with the teacher to take the necessary steps for improving learning. It is essential that the child is encouraged to compete with self rather than with others. One of the key components of engaging students in the assessment of their own learning is providing them with descriptive feedback as they learn. Research shows descriptive feedback to be the most effective instructional strategy to move students forward in their learning. Descriptive feedback provides students with an understanding of what they are doing well, links to classroom learning and specific input on how to reach the next step.

Stage - 4: Using the Information for Improvement

Assessment should result in improvement. Though the student, the teacher and the parents are all stakeholders in this paradigm, it is the teacher who has to take the initiative to use the analysis of information on each learner to enhance learning. This calls for reflective practices. Some questions that the teacher could ask himself/ herself are:

1. Are all the learners involved in the activities of the class?
2. Are there learners who face problems in coping with the pace and flow of the teaching - learning process?
3. What are their problems and how should I help them?
4. Is there something in my teaching strategy that has to be modified to make the class learn better? How should I go about it?
5. Are there some learners who are not challenged by the materials and methods and hence lose motivation quickly? How should I respond to their special needs?
6. Are there some lessons/ chapters/ units that pose difficulties to many learners? How should I add value to these portions of the syllabus?
7. Have I identified certain common errors, mistakes and instances of lack of conceptual clarity from the information collected and analysed? How should I go about an effective programme of remediation?



8. Is my classroom time management effective? What are the changes that I could introduce to make it more learner and learning oriented?
9. Am I getting adequate support from the school management, my colleagues, the parents and the community? How can I involve all the stakeholders more actively in what I am doing for the benefit of my learners?
10. What are my own needs of professional development? How can I fulfil them in a continuous manner?

Such reflective questions will help the teacher modify and refine the programme of teaching to achieve the learning objectives as well as to enhance his/ her professional competence continuously.

By now it is well established that learning is a continuous process and it involves informal, formal and non-formal modes. It is also widely acknowledged that children learn by constructing their knowledge and it makes learning a process that takes place within the children rather than without. In this paradigm of constructivism, the teacher ought to recognize the importance of different stages of learning i.e., the initial stage where the existing knowledge of the learner is seen as the entry level, the second stage where new knowledge is understood and accommodated with the existing knowledge and the third stage where the constructed knowledge as a 'whole' is tested by the learner by applying it to real life situations for making sense of the world and the self and for drawing conclusions, problem solving, decision making etc. What constitutes knowledge at the third stage automatically becomes the learner's existing knowledge for further learning and thus it is a cyclical process.

The main purpose of assessment is to enhance the effectiveness of the learning process and hence it has to be integrated appropriately with every stage of learning. Since learning is continuous, assessment also must be continuous. Otherwise the learner will not be able to know whether she/ he is proceeding along the right lines, what is the stage at which he experiences difficulties, what are the new inputs and strategies that are required to successfully continue the process of construction of knowledge and what is the help that is expected from the teacher.

Similarly the teacher also has to know at what stage of learning each learner is at a particular point of time, what are the changes that are to be made to the teaching strategies to make every child learn effectively and what further help can be provided. For instance, when a child in class I comes to school, it is probable that the child has not had any formal schooling earlier. It does not mean that the child has no prior knowledge because learning, as has been pointed out earlier, can be through informal and non formal modes too. So the teacher's duty is to identify the prior knowledge of the child while dealing with a particular concept or skill. It is only then that the teacher can facilitate the process of construction of knowledge by each learner.



To ascertain the prior knowledge of the learner, the teacher has to adopt many tools and techniques, including questions. In the same manner, during the process of learning as well as at the subsequent stage of application of knowledge to real life, the teacher has to continuously assess the learner to facilitate a smooth process of accommodation, assimilation and extension.

From the above, it may be apparent that assessment, which is in essence formative, has to be integrated with the teaching-learning process. Formative assessment by definition, is the process of finding out the felicity with which a learner is able to 'form' concepts and skills and hence it is process rather than product oriented. When assessment is divorced from the process of construction of knowledge, it ceases to be an effective learning-enhancing procedure. Hence teachers, principals, students and other stakeholders are to read this manual keeping in mind the broader prospective of the entire teaching- learning process instead of limiting it to assessment even though the manual is on formative assessment.

It is to be understood then that all assessments, if they are to be effective, ought to be formative. However, there are subtle differences between formative and summative assessments which are more procedural than absolute. We can safely say that the broad frame work of formative assessment consists of a larger sub set of formative and a smaller sub set of summative assessments. Even a summative assessment could be used formatively when the information gathered from the summative assessment is used to improve the pedagogy, the materials and the assessment tools. When assessment is seen predominantly as formative, learners will be able to enjoy learning and they will not experience undue stress. On the other hand, when we give importance to only year-end or term-end summative tests or examinations, as has been the practice in many schools till recently, the system will throw up situations like the following:

- The examination time table was announced yesterday. When I went home and showed a copy of the time table to my mother, she got very excited. She gave me a lot of instructions about what I should and should not do. TV was out as was chatting with friends. Examination jitters and nerves suddenly gripped the entire household. When my father returned from office, he too joined the frenzied discussions which were all about preparation, hard work, marks and the frightening consequences of poor performance. I didn't sleep that night.

- Shruti

- When I started writing the answer, my mind went completely blank. On the answer sheet in front of me I saw my father's face. He was telling me how important it was that I should do much better than my elder sister who he called a 'wash out'. In this trance like state I also heard my grandfather saying that if I didn't do well, his dreams would be shattered. Infact they all said that this was the foundation of my life.

- Deepak



- I am under a lot of stress ever since the time table for the examination was announced. If the Board results are not upto to the expectations, my performance will be assessed and I will be given junior classes from next session. I feel very frustrated and hassled. I should take some special classes and make the dull students practice many sample question papers. Let them also learn answers to important questions by heart. I should somehow make them get good marks. Otherwise I will not hear the end of it.

- Kavita, a teacher.

Aren't we all familiar with such outpourings? Education ought to liberate children from fear, anxiety, stress, insecurity and humiliation and lead them to enlightenment. But, over the years we have turned this sublime process into a mundane instrument for material gains. When scoring marks, gaining admission, landing a job and creating wealth come to constitute the main purpose of education, it creates intense competition and consequently, enormous pressure on children. If we want to make learning an enjoyable experience for every child, the challenge of changing the traditional system of examination should be accorded top priority.

MINDSET: We have got so used to the examination driven education system that any attempt to put alternatives in place is received with doubt and even skepticism. The examination - oriented education has created a well-defined paradigm whose main features could be identified as the following:

- Learning is geared towards appearing in an examination that usually comes at the end of the academic session.
- So, teachers and students see assessment as something that comes after the stage of learning, i.e., first children learn and then they will be examined.
- Since formal examinations are based on prescribed syllabi, teaching and learning becomes text book based where the teacher's job is only to transact the information included in the text book.
- Learning becomes synonymous with storage and retrieval of information with very little scope for individual thinking, originality and creativity.
- Since examinations are conducted in the remote future, teachers and students tend to be relaxed initially and get increasingly anxious towards the end.
- The build-up of stress becomes scary to students and they hardly ever look forward to examinations (unless of course they see them as the final obstacle before the release of tension and anxiety).
- In this paradigm the teacher does not necessarily focus on the process of teaching - learning since it is only the final product that is going to be assessed as the student's performance in the examination.



- The student can and often does postpone learning till the last minute. On the one hand learning ceases to be continuous and on the other it becomes unrealistically daunting due to the accumulated volume of learning to be attempted within a limited period.
- Students who have mastered the knack of cramming within a short period do well and those who lack this ability fare badly.

The above features, among all others that are often discussed and well known to all the stakeholders, have created a mindset that stems from the following beliefs.

- If there is no examination, teachers will not teach and students will not learn.
- Examination system is very comfortable for teachers because mostly they have only to teach the text books and prepare the students for the examinations at some distant future.
- If teachers have to take up continuous and comprehensive assessment, they have to put in more work. Hence status - quo is more comfortable.
- Assessment, if restricted to only the scholastic subjects, is a lot simpler than when it includes all the aspects of the student's personality.
- When assessment comes only at the end, teachers do not have the need to reflect on their practices and review them for causing better learning. It also means that no value addition is imperative to the materials and methods.
- **The Changing Scenario:** Now the mindset has to change because, the world over, the child is seen as the centre of the teaching-learning process. Assessment should take into account individual differences in terms of socio-cultural and economic background, learning strategies, styles and aptitudes. While the belief that 'one size fits all' has to be discarded, there is a need to individualise the teaching-learning process that is constantly improved to help every child learn, albeit in his/ her own way. It means that assessment should go hand in hand with the teaching-learning process, providing rich inputs to the teacher and the students to continuously enhance the effectiveness of the process. This can be achieved if
 - ❖ assessment is integrated with teaching-learning
 - ❖ the teacher uses assessment for ascertaining the strengths and weaknesses of the materials, the methods and the learners
 - ❖ the teacher makes use of assessment to improve his own teaching and the learning of every student
 - ❖ the learner gains an insight into his learning style and strategies and uses this insight to improve his learning.



Scholastic Assessment

The desirable behaviour related to the learner's knowledge, understanding, application, evaluation, analysis, and creativity in subjects and the ability to apply it in an unfamiliar situation are some of the objectives in scholastic domain.

In order to improve the teaching learning process, Assessment should be both Formative and Summative.

Formative and Summative Assessment

Formative Assessment is a tool used by the teacher to continuously monitor student progress in a non threatening, supportive environment. It involves regular descriptive feedback, a chance for the students to reflect on their performance, take advice and improve upon it. It involves students' being an essential part of assessment from designing criteria to assessing self or peers. If used effectively it can improve student performance tremendously while raising the self esteem of the child and reducing the work load of the teacher.

Features of Formative Assessment

- is diagnostic and remedial
- makes the provision for effective feedback
- provides the platform for the active involvement of students in their own learning.
- enables teachers to adjust teaching to take into account the results of assessment
- recognizes the profound influence assessment has on the motivation and self-esteem of students, both of which are crucial influences on learning
- recognizes the need for students to be able to assess themselves and understand how to improve
- builds on students' prior knowledge and experience in designing what is taught.
- incorporates varied learning styles into deciding how and what to teach.
- encourages students to understand the criteria that will be used to judge their work
- offers an opportunity to students to improve their work after feedback,
- helps students to support their peers, and expect to be supported by them.

Formative Assessment is thus carried out during a course of instruction for providing continuous feedback to both the teachers and the learners for taking decisions regarding appropriate modifications in the transactional procedures and learning activities.

- '... often means no more than that the assessment is carried out frequently and is planned at the same time as teaching.' (Black and Wiliam, 1999)
- '... provides feedback which leads to students recognizing the (learning) gap and closing it ... it is forward looking ...' (Harlen, 1998)



- '... includes both feedback and self-monitoring.' (Sadler, 1989)
- '... is used essentially to feed back into the teaching and learning process.' (Tunstall and Gipps, 1996)

Summative Assessment is carried out at the end of a course of learning. It measures or 'sums-up' how much a student has learned from the course. It is usually a graded test, i.e., it is marked according to a scale or set of grades. Assessment that is predominantly of summative nature will not by itself be able to yield a valid measure of the growth and development of the child. It, at best, certifies the level of achievement only at a given point of time. The paper pencil tests are basically a one-time mode of assessment and to exclusively rely on them to decide about the development of a child is not only unfair but also unscientific. Over emphasis on examination marks focusing on only scholastic aspects makes children assume that assessment is different from learning, resulting in the 'learn and forget' syndrome. Besides encouraging unhealthy competition, the overemphasis on Summative Assessment system also produces enormous stress and anxiety among the learners.

Features of Summative Assessment

- Assessment of learning
- Generally taken by students at the end of a unit or semester to demonstrate the "sum" of what they have or have not learned.
- Summative assessment methods are the most traditional way of evaluating student work.

Summative Assessment

- "Good summative assessments--tests and other graded evaluations--must be demonstrably reliable, valid, and free of bias" (Angelo and Cross, 1993).
- '...assessment (that) has increasingly been used to sum up learning...'(Black and Wiliam, 1999)
- '... looks at past achievements ... adds procedures or tests to existing work ... involves only marking and feedback grades to student ... is separated from teaching ... is carried out at intervals when achievement has to be summarized and reported.' (Harlen, 1998)



Scholastic Assessment (Part I A)		
Formative Assessment (Flexible Timing)		Summative Assessment (Written-End of term)
Tools	Techniques	
<ul style="list-style-type: none"> ● Objective type ● Short Answer ● Long Answers ● Questions ● Observation schedule ● Interview schedule ● Checklist ● Rating scale ● Anecdotal records ● Document Analysis ● Tests and inventories ● Portfolio analysis 	<ul style="list-style-type: none"> ● Tests ● Assignments ● Quizzes and Competitions ● Projects ● Debates ● Elocution ● Group discussions ● Club activities 	<ul style="list-style-type: none"> ● Objective type ● Short Answer ● Long Answers

Implications for the Teaching Community

The on going process of transformation of school education in general and evaluation practices in particular has re-defined the teacher's role. Some of the major implications are as follows:

- Teaching practices can no longer be a mechanical routine. Since formative assessment is an integral part of the classroom teaching, the teacher has to devise ways and means to use the feedback for improving curriculum transaction.
- Teaching the text book will not be the main mode of classroom practices. Value addition in terms of interactive tasks, co-operative assignments and projects and integration of new content will be required to involve all the learners in the teaching-learning process.
- Since formative assessment requires the teacher to devise appropriate tools and procedures that are specific to a unit or lesson taught, it will become imperative for the teacher to constantly add new materials and strategies to his/ her repertoire. It will also mean that the lesson plan becomes dynamic and constantly changing according to the needs of the lesson and the learners.
- The teacher has to become a true knowledge worker, referring to sources, reading new materials, discussing curriculum-related issues with colleagues and experts, writing materials and taking up research.



- Teaching can no longer be a six or seven hour job. It is a profession and the practitioner has to prepare himself/ herself every day not only in the school but also outside the school.
- Recording and reporting will necessarily become more detailed because a number of parameters sometimes ignored or only weakly attempted have to be included effectively. Teachers will be required to devote adequate time on a regular basis for formative assessment and its recording. It also means that teachers should develop tolerance for complexity and ambiguity.

In short, the mindset has to change and the teaching community should develop a greater sense of accountability.

The Changing Paradigm

Introduction of Continuous and Comprehensive Evaluation has brought about a sea-change in the classroom. The main aspect of this change is the fact that assessment is becoming an integral part of the teaching-learning process. CCE and formative assessment are not new concepts and many schools have been practicing them for a long time now. However, assessment of scholastic and co-scholastic areas using a range of tools and indicators has provided the evaluation process a firmer scientific base as well as credibility. Similarly, though formative assessment has been part of the evaluation practices followed by schools, it has not been systematically used to identify learning gaps and for remediation. In a sense the system of unit tests, assignments and projects being used to reflect continuous assessment of learning has become more 'summative' in nature because the feedback is hardly used for improving the teaching-learning practices. It is necessary hence, to understand the concepts of formative assessment and summative assessment in proper perspective so that we are able to not only construct tools accordingly but also use them for the purposes for which we construct them.

What is Formative Assessment?

Let us look at a task:

Subject: Social Science

Class: VIII

Topic: Women, Caste and Reform

Task: Dramatization

Procedure:

1. Students will be divided into groups. They will in their groups, discuss and prepare a short skit on any of the social ills prevalent in the Indian Society at different periods of time.
2. The social ills may include Sati, Child Marriage, Female Infanticide, Denial of Education to Women and Gender Disparity.
3. Each group will prepare a small skit and perform it. Each student will be asked to speak some dialogue.
4. After the presentation, students will have a discussion.



Learning Objectives:

- To enable the learners to gain an insight into the social evils prevalent in India at different periods of time.
- To provide an opportunity to the learners to reflect on social evils and verbalize their feelings.

Skills:

To develop in the students the ability to

- Write scripts
- Deliver dialogue
- Act
- Work in teams

Assessment

The performance of the groups will be assessed on the basis of content, dialogue-delivery and clarity of concept.

Time:

- Discussion and script writing: 2 periods;
- Presentation: 1 period

Follow up:

The presentations could be discussed by the class. Wherever the concept is not clear, teacher could encourage students to give their comments. The teacher could also revisit any part of the lesson that has not been clearly understood by the students.

Is this a formative or summative assessment task?

It has the following features:

- The main objective is to enable the learners to gain an understanding of the concept of social evils perpetrated against the girl child and the woman in India at different periods of time.
- The task is part of the teaching-learning of the topic of women, caste and reform.
- The task involves students in group interaction and presentation.
- After the task is completed, the teacher gives feedback for improvement. Also, if needed, the lesson may be reviewed.
- Assessment is done on the basis of well-defined criteria.
- The task is done in the classroom as part of the lesson.
- The main purpose is not to measure the knowledge of the learners. The task aims to provide conceptual clarity to the learners through experiential learning.
- It also encourages further learning.



These attributes are at the heart of Formative Assessment.

Let us now look at the following questions given in a test:

What are the different social evils prevalent in Indian society at different times? How have they affected girl children and women? Write your answer in about 200 words.

This is a typical question that figures in a summative test or examination. Here the main aim is to measure the extent of knowledge of the learners in the lesson tested. The answers of the learners will be marked or graded on the basis of value points and a marking scheme. The information collected by the teacher may not be used to diagnose the problems faced by learners or for remediation since the test is usually conducted after completing the unit or lesson.

However, if a short quiz or test is conducted on the topic when the lesson is in progress to ascertain the learning gaps for the purpose of providing further help to learners, it will be formative in nature. **So, by and large the way in which a tool is used, i.e. for enhancing learning or for ascertaining and measuring the extent of learning, decides whether it is for formative or summative purpose.**

For our own conceptual clarity let us look at the attributes of Formative and Summative Assessment in detail.

Formative Assessment

- Formative Assessment is the assessment that takes place during a course or programme of study.
- It is an integral part of the learning process.
- It is often informal, i.e., it is carried out by teachers while teaching.
- It provides feedback to both teacher and learner about how the course is going and how learning can be improved during the course.
- It helps teacher and learner answer the following questions:
 - Are the learners doing what they need to do?
 - Are the teaching and learning strategies chosen by the teacher in need of modification?

When the cook tastes the soup, that's formative;
when the guests taste the soup, that's summative.”

- Robert Stakes.



Summative Assessment

- Summative Assessments are given periodically to determine at a particular point in time what students know and do not know.
- Summative Assessments are usually associated with standardized tests such as Board Examination, Half-yearly and Annual Examination and even Unit Tests.
- They are spread out and occur after instruction every few weeks, months or once a year.
- Hence they are tools to help evaluate the effectiveness of programmes, school improvement goals, alignment of curriculum and student placement.
- Since they are used to 'sum up' learning they are called Summative Assessments.
- They are always formal in nature.
- These assessments happen too far down the learning path to provide information at the classroom level and to make instructional adjustments and interventions during the learning process.

● Formative Assessment is assessment
for
LEARNING.

● Summative Assessment is assessment
of
LEARNING.

● Formative Assessment is
PEDAGOGY.

● Summative Assessment is essentially
EVALUATION.

● Formative Assessment can be
thought of as
'PRACTICE'.

● Summative Assessment can be
seen as
PERFORMANCE AFTER PRACTICE.

● A good comprehensive assessment programme balances formative and summative assessments.



What is NOT Formative Assessment?

It is seen that under the guise of continuous evaluation schools conduct a series of 'tests'. There are tests for almost every day of the week or every month of the academic session. The argument put forth is that only by conducting frequent tests continuous assessment can be ensured. However, such practices can hardly be called formative assessments because they are not integrated with the teaching-learning process. Nor is the information collected by the teachers from such tests effectively and systematically used for improving the teaching-learning process.

Case Study

Students of class IX are given the following project in science:

Project on Communicable Diseases

- Collect information about communicable diseases by referring to books and journals and surfing the internet.
- Present the information in a folder with illustrations, pictures and photographs.

- The folders should be submitted for evaluation within 15 days.
- The folders will be evaluated on the following criteria:
Content, Neatness of Presentation and Illustration

Students complete the task individually and submit the folders by the dead line. Teacher grades the work of the students as per the assessment criteria.

Question:

- Is it a good formative task?
 - How are the students helped by the teacher and peer groups in doing the task?
 - What are the objectives of the project?
 - To assess the student's ability to collect information and present them?
- Or
- To enable the students to deepen their learning?

If the purpose is to help the learners acquire a deeper understanding of the topic of the project then the project should be organized differently.

- Teacher should discuss the project with the learners.
- They will explore ways in which information could be gathered, understood and adapted.
- Provide scope for group work so that learners study the topic collaboratively and help and support each other.



- Teacher monitors the entire process at regular intervals, giving feedback for correction, modification and refinement.
- Besides submitting a folder, the learners are also required to make a presentation to the class or take a viva voce.
- Assessment is done by involving the learners in peer assessment.
- The information gathered by the teacher and the learners is used to improve and further the teaching-learning process.

One major concern with regard to such projects and assignments is that the teacher has very little scope to ensure that they are done by the students themselves. It is now common knowledge that projects and assignments can be 'bought' from shops. Instances of parents doing the projects are also not uncommon. Furthermore, downloading information from the internet also leads to very little learning.

Hence, to use projects and assignments as effective tools of formative assessment, the teacher should take certain precautions:

- Make the learners do the task **as far as possible** in the school itself under the direct supervision of the teacher.
- Discuss the project with the learners and monitor their progress at every stage.
- Involve them in the assessment process through self and peer assessment.
- Give descriptive feedback as an instructional strategy to move students forward in their learning.
- Help students link their classroom learning with the task and their experience.
- Follow it up with activities like revisiting some of the concepts, explanations etc.

What does this Manual contain?

After the introduction of CCE in schools affiliated to CBSE in class IX during 2009-10, the Board felt it necessary to provide a holistic picture of CCE to all the stakeholders, particularly the teachers. Hence a Teacher's Manual on Continuous and Comprehensive Evaluation - Class IX & X was brought out. Besides giving detailed information about the scheme of CCE, fundamentals of assessment of co-scholastic and scholastic areas, dimensions of school-based assessment and tools and techniques of evaluation for formative and summative purposes have also been included in the manual. The term-wise split up of weightage for formative and summative assessments has also been provided in the manual.

As a sequel to this publication, the Board decided to bring out a series of manuals to provide exemplar and illustrative materials on Formative Assessment in Languages, Mathematics, Science and Social Science for classes IX and X. Detailed guidelines with specifications for Summative Assessment have already been provided to schools. It is the formative assessment that needs to be strengthened and hence these manuals.



Objectives of the Manual on Formative Assessment

1. To clarify the concept of formative assessment within the broad framework of CCE.
2. To integrate formative assessments (FA 1, FA 2, FA 3 & FA 4) with the materials prescribed and classroom procedures.
3. To help teachers and learners use formative assessment for enhancing the teaching-learning process.
4. To provide a rich source of formative assessment tasks for the units/ lessons in Languages, Mathematics, Science and Social Science for classes IX and X.
5. To help teachers use the Formative Assessment tasks given in the manuals for generating further tasks on their own.
6. To enable teachers to gain conceptual clarity with regard to Formative and Summative Assessments.
7. To motivate teachers to build their capacity to add value to materials and methods.
8. To help teachers plan and manage time effectively.
9. To provide guidelines to schools to record formative and summative assessments in a systematic manner.
10. To provide scope for teacher development in the area of assessment as well as for consultations and enrichment.
11. To initiate a healthy and meaningful interaction between different stakeholders on CCE and the place of formative assessment in this scheme.
12. To make the teaching - learning process enjoyable for both the teachers and the learners.

Content:

The manual contains the following broad areas.

1. Formative Assessment & Summative Assessment: Concept and distinction.
2. What are NOT good formative assessment practices.
3. Overall framework of Formative Assessment with split up of units, time frame, periodicity, number of tasks for each formative assessment, calculation of weightage and recording, analysis and follow-up.
4. Formative Assessment Tasks for different units/ lessons in Languages, Mathematics, Science and Social Science for classes IX & X.



Overall Framework of Formative Assessment in Classes IX & X - Scholastic Areas.

Scholastic Part 1 (A)

Evaluation of Academic Subjects in Class IX & Class X.

Six assessments are proposed. These are valid for most schools, however they can be varied or adapted with written communication to the Board.

Type of assessment	Percentage of weightage in academic session	Month	Term wise weightage
FIRST TERM			
Formative Assessment-1	10%	April-May	FA 1+2= 20%
Formative Assessment-2	10%	July-August	
Summative Assessment-1	20%	September	SA 1= 20%
SECOND TERM			
Formative Assessment-3	10%	October-November	FA 3+4= 20%
Formative Assessment-4	10%	January- February	
Summative Assessment-2	40%	March	SA 2= 40%
<p>Total Formative Assessments = FA 1 + FA 2 + FA 3 + FA 4= 40%</p> <p>Smmative Assessments = SA 1 + SA 2= 60%</p>			

The following points have to be noted by teachers and students (For Classes IX & X).

- There are two formative assessments each in the first and second term.
- Each Formative Assessment is again divided into smaller assessments (class assignments, quiz, projects, written tests) which can carry different marks.
- Each formative assessment has a weightage of 10% which can be arrived at by taking an average of all tasks or the best three or four.
- The total weightage of all the four formative assessments is 40%.
- The time-frame, split up of syllabus as per the four formative assessments, and the minimum number of suggested tasks for each formative assessment have been given in the



annual planner for each subject. The annual planner is only suggestive and schools can adapt it as per their needs.

Formative Assessment and Classroom Teaching.

The formative assessment tasks have been designed keeping the following principles in mind:

- Formative assessment is an integral part of classroom practices. So they have been related to the syllabus to be transacted.
- The tasks generally specify the following:
 - Unit/ Lesson
 - When to conduct the task.
 - Approximate time required for each task.
 - Objectives of the task.
 - Task specifications.
 - Procedure for conducting the task including preparation, if any.
 - Criteria for assessment
 - Feedback and follow-up.

Teachers, however, have the freedom to make minor modifications in the overall design of the task to suit their requirements.

The most important aspect to be kept in mind is that these tasks are meant to be integrated with the teaching-learning process, i.e. **while** teaching a unit/ lesson (**and NOT after**). Also the follow up in terms of providing further help to clear doubts, remove problems faced by learners and make modifications in teaching methods and strategies has to be given utmost importance. Hence FA tasks will figure in the teaching plans developed by teachers.

Split-up of Syllabi

To facilitate smooth implementation of CCE, CBSE has already provided split-up of syllabi for all the subjects term-wise. This manual has further sub-divided the syllabi reflecting the name and number of units/ lessons covered for FA 1, FA 2, SA 1, FA 3, FA 4 and SA 2. Though the weightage for each of the four Formative Assessments is 10%, the number of units/ lessons may vary for each of these depending on the time available in the annual academic calendar. Teachers are advised to study the suggested annual calendar at the beginning of the academic session and collaboratively design their own annual plan making any minor modifications they feel necessary to suit their specific needs. However it is necessary that the overall scheme is



retained to ensure that continuous and comprehensive evaluation is carried out in its true spirit.

Summative and Formative Assessments

In the first term the weightage given to formative assessment (FA 1 + FA 2) is 20%. The weightage given to SA 1 is 20%. Schools should assess the students in the entire syllabus meant for the first term in SA 1. What it means is that there may be one or two units that are transacted after FA 2. These units will be included for assessment in SA 1. Similarly, in the second term, the rest of the syllabus will be assessed in SA 2. It implies that teachers need not be unduly concerned about assessment of the units/ lessons that are taught after conducting FA 4. These units/ lessons along with the others meant for second term will be covered by SA 2 for 40%. It is also to be noted that if any unit/ lesson has not been formatively assessed due to time constraint, it will be assessed summatively at the end of each term.

Procedure for Formative Assessments

- The suggested split up of syllabi will be followed by teachers for formative assessment.
- The minimum number of formative assessment tasks as suggested in the annual plan have to be conducted. However, teachers can give more than the minimum number of tasks depending on the need and time available.
- The performance of students in each task will be assessed on the basis of assessment criteria given.
- The total of marks obtained by each student in the formative tasks will be calculated and reduced to 10 marks. For instance, if three tasks of 5 marks each have been given for FA 1 and a student obtains 3, 3 and 2 in these tasks, the total obtained by the student will be 8 out of 15. The weightage for 10 will be $(8 \div 15) \times 10 = 5.33 = 5 = \text{Grade C}$ (The total will be rounded off to the next whole number if the decimal is 0.5 or more. If less, it will be ignored). Similarly the mark will be calculated for FA 2, FA 3 and FA 4 and the total will yield the marks in formative assessment out of 40% marks for the whole academic session.

Record Keeping

It is absolutely essential that teachers maintain a clear record of the formative assessments conducted because they will be verified by CBSE from time to time. The following points have to be kept in mind while recording FA.

- Individual report book as suggested by CBSE has to be maintained in addition to student report form.
- A separate consolidated marks register must be maintained reflecting the following for each student.
 - Tools of Formative Assessment (quiz, MCQs, debate, group discussion, creative writing, presentation etc) must be recorded.



- Maximum marks, marks obtained and weightage for 10 marks for each of the four formative assessments must be maintained.
- Cumulative total in FA must be calculated and recorded.

Schools may devise a suitable format for the marks register. Many schools are computerising the entire process of recording the assessments. While evolving such a programme, care may be taken to ensure that all the relevant particulars are included in the programme.

- Recorded evidence of student performance and teacher/ self/ peer assessment has to be collated and maintained so that queries of parents may be answered based on such evidence. In this context the importance of student portfolio gains significance. It is suggested that every student maintain a portfolio consisting of the best of their written work in each subject. These should include the work submitted as draft as well as the edited and improved versions to demonstrate the progression of learning over a period of time. Teacher will find it convenient to open individual student portfolio folders at the beginning of an academic session, discussing with students the importance of and the procedure for maintaining the portfolios.
- It is to be noted that the assessment has to be reflected in the report book only as grades. The grades will be on the 9 point grading scale as given below.

91 - 100	A1
81 - 90	A2
71 - 80	B1
61 - 70	B2
51 - 60	C1
41 - 50	C2
33 - 40	D
21 - 32	E1
00 - 20	E2

- The marks in the consolidated marks register will be calculated to arrive at the weightages for different FAs & SAs and the equivalent grades will be entered in the Report Book. What it means is that the assessment of each task in FA and each SA test will be carried out in terms of marks which will be entered in the consolidated Marks Register. Grades to be entered in the Report Book once in each term will be calculated accordingly from the consolidated Marks Register.
- Apart from the above records, schools will also maintain a Results Register for each section which could be consolidated for primary and secondary classes at the end of the academic session.



Task Types Appropriate for Formative Assessment

The Teacher's Manual on CCE throws much light on the types of assessment tools available to the teacher. It also mentions that all the tools are not appropriate for formative assessment. In this manual an attempt has been made to clarify what is NOT formative assessment. Since the purposes of formative and summative assessments differ, the tools have to be chosen carefully. However, as a general rule, the following will help teachers in making a decision in this regard:

- Formal Paper Pencil tests are not always suitable for formative assessment because schools tend to make use of them more for summative rather than for formative purpose.
- Similarly, Projects and Assignments that need much work outside the school and class hours also may not be ideal for formative assessment. The reasons are obvious:
 - Without proper monitoring, these tasks may lose their validity and credibility. (Students may just copy or download from the internet. Parents and others may actually do the projects and assignments. Now a days projects and assignments could be bought from 'Education Shops'!)
 - **To be formative, the tasks should involve collaboration, discussion, reflection and improvement.**

On account of these reasons, projects and assignments should be very carefully used as tools of formative assessment. However, in the hands of imaginative and resourceful teachers, they may become effective formative assessment tools.

- What can be effectively assessed through formative assessment cannot be assessed through summative assessment. Speaking and listening skills, presentation skills and practical skills and all the co-scholastic areas have to be assessed formatively.
- By combining formative and summative assessments all the aspects of a learner's personality development can be comprehensively covered.

Some of the Precautions that can be taken

- a). Give realistic projects and assignments. Don't give topics like:
'Survey of Moghul Architecture.

It will invariably lead to 'Cut & Paste' practices. On the other hand, it will be realistic to expect students to attempt the following on their own:

Choose any one example of Moghul Architecture. Collect information and pictures on the monument. Write a brief report in about 2 pages giving the following details:

- Name of the Monument.
- Period when built.
- Who built it.
- The purpose (History of the Monument)
- Salient Architectural features.
- Its present state.



- b) It is not enough if we make the project or assignment simple and realistic. In order to ensure that further learning has taken place and that the students are able to link new knowledge with what they have learnt in the class, the teacher could interview each student on the project. The interview, if conducted imaginatively, could be very brief but at the same time give proof of the student's own research and presentation.
 - c) Make projects a group activity so that it can be done in the classroom itself. Groups will decide, with the teacher's help, what projects they will work on, division of the project into smaller units, allotment of smaller units among members etc. It means that project work should be discussed in the class to make it work.
 - d). Fix a time frame and interact with groups to see where they are at different stages, what they are doing and whether they need any help. This will instill seriousness of purpose, besides motivating the students to take up their work with keen interest.
5. As pointed out earlier, the formative and summative tools are determined by the purpose for which they are used.
- a. If the purpose is to formally ascertain at a given point in time what students know and do not know, then it is summative.
 - b. If the purpose is to informally get information regarding how the course is going, how learning can be improved during the course itself, what are the challenges faced by individual learners and how the teacher should address them, then it is formative.

So it is the purpose of the tools that usually determines whether it is for formative or summative assessment. Having said this, we can still make an attempt to identify assessment tools that are more suitable for formative assessment than for summative assessment. Since summative assessment is formal and is usually a paper-pen test, what cannot be assessed by such means can be assessed only through formative assessment tools.

Suggested Tools for Formative Assessment.

Language

- Listening Comprehension
- Reading Comprehension
- Debate/ speech/ Group Discussion/ Role Play /Presentation
- Dramatization/ Dialogue/ Conversation/ Commentary
- MCQs/ Quiz
- Grammar Exercises.
- Writing/ Completing a poem, story, script, play, diary entry etc.
- Web Charts, Concept Mapping
- Visual Representation
- Letter, E-mail, data interpretation, article, bio sketch and dialogue completion

It is suggested that at least one out of four tasks should be used for assessing conversation skills in the form of listening comprehension or conversation.



Mathematics

- Data handling and analysis.
- Group projects
- Problem solving
- Maths Lab Activities
- Quiz/ oral questions
- Experiments
- Presentations
- Chart, model making
- Visual Representation
- Simple and interesting assignments
- Mathematical puzzles based on various theorems.

It is suggested that for Mathematics at least one activity out of four should be used for assessing performances in maths lab activities.

Science

- Experiments
- Information gathering and deducing
- Presentations on science concepts/ experiments
- Investigations for stated problems
- MCQs and Science Quiz
- Simple and interesting assignments
- Group assignments and projects.
- Model Making
- Science symposium/ seminar.
- Preparation of various compounds/ salts
- explanation of different natural phenomenon using scientific principles.

It is suggested that for science, at least one out of four formative assessments in the year are experiments.

Social Science

- Written assignments involving inference, interpretation and evaluation
- Commentaries
- Simple projects (group & individual)
- Presentations (group & individual)
- Quiz and MCQ's
- Models and charts.
- Debates
- Symposium/ Seminar
- Conducting intervenes of historical figures
- Role plays
- Dramatization of historical events

It is suggested that in social Science at least one out of four activities should be based on project.



In addition to the tools listed above teachers can devise other informal ways in which formative assessment can be done. For instance observation of student's performance in the class (participation, answering questions etc) can also be used effectively for formative assessment. Written tests have not been included in the above list because they tend to become formal and hence are more suitable for summative assessment. Moreover, if written tests are also used for formative purposes, there will be a tendency to use them more often as they are relatively easy to construct and administer. This will lead to an increase in the stress level of students. They are better used for summative assessment. This, however, does not prevent teachers from holding one minute tests, open book tests and concept-based questions expecting written answers during the course of teaching a unit or lesson. The answers have to be analysed and discussed to provide conceptual clarity and address gaps in learning. Some of the formative assessment tasks included in this manual involve a fair bit of writing. However, they are all to be attempted in the class with scope for feedback.

How to use this Manual

As already mentioned, this manual contains a number of formative assessment tasks for classes IX & X in all the main scholastic subjects. Teachers can make use of them in a planned manner not only to assess learning but also to enhance the effectiveness of their own teaching. Some suggestions for the effective use of the formative tasks are given below:

a. Planning

At the beginning of the academic session teachers of the same subject can consult each other and draw out a plan of formative assessment for the entire session. A suggested annual planner is given for each subject in the manual. The annual plan drawn up by each school should include the following details:

- How many formative tasks will be used for FA 1, FA 2, FA 3 and FA 4. (The number of tasks should not be less than the minimum suggested)
- The identified tasks from the manual (Teachers are, however, free to add their own tasks to the ones given in the manual)
- While deciding/ choosing the tasks, care should be taken to select a variety so that knowledge and skills are covered comprehensively and there is no scope for monotony to set in. For example, in languages, the different skills like reading, writing, speaking and listening and language areas like literature and grammar have to be covered in formative assessment. The plan could distribute tasks over the four formative assignments in such a way that all these aspects are assessed at least twice or thrice in a session. Similarly the tasks may be chosen in other subjects in such a way that they assess different skills and competencies using a variety of modes of assessment.

b. Classroom Strategies

Since the tasks are to be integrated with classroom instruction, teachers have to embed them in their lesson plans.

Task specification as given in the manual may be used by teachers in the following manner:



Objectives: These specify the learning outcomes for each task and hence help teachers and learners in developing a focus. They are also meant to be kept in mind at the time of assessment.

Procedure: A task may need some preparations on the part of the teacher. These are included under 'Procedure'. The different steps to be followed, precautions to be taken and suggestions for collecting information are also provided under this heading.

Criteria for Assessment

In order to make the assessment objective and systematic, specific criteria have been provided for each task along with suggested marks. It is essential that the teachers put up these criteria or read them out to the class before commencing a task. Learners should know on what basis they will be assessed. It will also give them task clarity. The scores obtained by students in each of the tasks conducted must be recorded. The record of assessment should also be maintained. Wherever a written product emerges, it may be made part of the student portfolio.

Feedback/ Follow Up

This is a crucial stage in formative assessment. The performance of students gives valuable information about their understanding, conceptual clarity, problems faced and gaps in learning. Based on this information, teachers could give feedback and undertake follow up activities for remediation and enrichment. The information will also enable teachers to modify their practices for enhanced effectiveness of learning.

Some Challenges

Teachers may face certain challenges in integrating formative assessment with teaching. This may be due to

- Large class size
- Scarcity of time
- Constraints imposed by logistics
- Strategy to assess group/ pair tasks.

With the help of proper planning these challenges could be overcome. Some suggestions are given below:

Large Class Size

- Choose tasks that involve group work and pair work.
- Tasks that require written answers from the learners could be peer assessed.
- Answers to MCQs and other objective type questions could be marked by students themselves by exchanging their work sheets as the teacher calls out the answers.



- All the students in a class need not be assessed in one period. It means that the tasks may be distributed among groups of students so that the teacher is able to assess them in different periods. The implication is that in large classrooms all the students need not be assessed in all the tasks. By planning the tasks carefully, all the skills can however be covered by rotating the tasks among groups of students.
- It follows from this that all the students need not be involved in the same task at a time. In order to cater to multiple intelligence, teachers could adopt a flexible approach with regard to giving tasks to students. For instance, students good in written work may be given tasks different from students good at practical work.
- While framing the time table some double periods could be provided in each subject. Tasks involving debates, presentations, group discussions, dramatization, role plays etc could be conducted during the double periods.

Time Management

Since the number of teaching periods for each subject is pre-determined, teachers may feel that conducting formative assessment tasks within the allotted periods may prove to be difficult. However, it is to be borne in mind that formative assessment is to be built into the teaching-learning process and it only represents a change in the methods to be adopted for curriculum transaction. By reducing explanations and frontal teaching, adequate time could be found for tasks and activities. Some other suggestions are:

- Proper planning will result in efficient time management.
- Complete the preparations for each task well before the class begins so that there is no wastage of time.
- Use self and peer assessment strategically.
- Train learners in the initial part of the term to collaborate with each other and the teacher. Over a period of time they will be able to maintain efficiency and brisk pace.
- It is essential that the scoring sheet with names of students is prepared at the beginning of the academic session as per the annual plan. Columns for FA 1, FA 2, FA 3, FA 4 may be provided along with details of the tasks selected for each assessment and the maximum marks so that recording of scores does not take much time.
- Train the students in maintaining their portfolios. A folder may be maintained for every subject in which the best written products could be filed by each student. When students are helped to take responsibility for record keeping, it will ease some burden on the teachers besides leading to better time management.

Logistics

Photocopying of worksheets may not be feasible in all the schools. Teachers have to adopt a few strategies to overcome this problem.



Suggestions

- Only elaborate worksheets and those with diagrams and pictures need to be photocopied.
- Wherever possible, the worksheet can be put up on the blackboard.
- If technology is accessible, worksheets could be projected with the help of an LCD projector.
- MCQ's and objective type questions could be read out and students instructed to write only the answers on a sheet of paper.
- Instructions for pair work, group work and whole class work could be read out once or twice.
- Share with the Principal and school administration the requirement of photocopies in advance so that the school makes adequate arrangements.
- Always use both the sides of the sheet of paper for photocopying. It may mean that more than one task is photocopied on a single sheet. After the students complete one task the sheets may be collected and redistributed for the next task.
- Whenever possible, worksheets could be shared by two or more students.
- Train the students to observe economy in the use of paper/ worksheet.

Strategy to assess group/ pair tasks.

Initially teachers may find it a little difficult to assess group/ pair tasks because the product is usually from more than one student. Some suggestions are given below to help the teachers in this regard:

- Wherever possible group and pair tasks could be broken down into smaller areas and each member of the group could be assigned an area.
- Where the above is not feasible, the contribution of each student to group work has to be observed and monitored.
- Usually after group discussion a presentation is to be made by each group. Care may be taken to rotate the presentation among all the students so that over a period of time all are given an opportunity to present the group's views.
- Group tasks may be assessed for the entire group/ pair. It means that members of each group may get the same mark/ grade. However, in pair tasks it is easier to assess the performance individually.
- Since formative assessment is informal, group tasks may be assessed on broad parameters such as participation, contribution and effectiveness of each member of the group.
- It is necessary that the teacher monitors group tasks properly to ensure that every student is participating and no student dominates.



Conclusion

This document has laid emphasis on teacher-preparedness, planning and co-ordination. It is suggested that at the time of drawing out an annual plan, the principal interacts with each subject committee and helps the teachers prepare a plan of action ensuring that assessment is integrated with the teaching-learning process.

It may be necessary to prepare detailed lesson plans for each unit/ lesson besides the overall plan for the first and second term. While the lesson plan should essentially be an innovative tool evolved by each teacher depending on the concepts to be taught, the needs of the learners and other socio-cultural factors, it is perhaps advisable to include certain broad areas in the lesson plan to make it reflect the integration of continuous and comprehensive evaluation. While these broad areas, along with the format of the lesson plan could be decided by each school, the following components could be included to ensure holistic planning:

- Content/ topic/ lesson.
- Concepts/ skills
- Instructional Objectives.
- Levels - entry, process, integration, exit.
- Tools of assessment with specific questions
- Remediation.

It is also suggested that the formative tasks may be assessed for ten marks or multiples of ten to facilitate easy calculation of weightage. Similarly, self evaluation by students could be encouraged by integrating ICT and developing student self-access tools. While it will provide ample scope for learner autonomy, it will also reduce the burden on the teachers. Finally a word about projects. This document specifies that projects should, as far as possible, be done in the school itself. But certain projects that call for extensive research and work involving hands and using different materials may be difficult to be carried out within school hours. Since the main concern is about the genuineness and credibility of the work submitted for assessment by the students, if adequate care is taken by the teacher in monitoring the project work, students may be allowed to do some part of it outside the schools. Detailed guidelines on the precautions to be taken in this regard have been provided in this manual. By making the projects realistic and simple, teachers can ensure authenticity of the work of students.





HOME SCIENCE

Class X TERM - I & II

Term I

- Unit 1 : **Developmental Milestones of 0-3 year old**
Task 1 Research: processing and reporting
- Unit 2 : **Toys/games for children**
Task 2 Tool development to assess quality
- Unit 3 : **Nutrients**
Task 3 Quiz
Task 4 Crossword puzzle and jumbled words
- Unit 3 : **Loss and Enhancement of Nutrients (Cont.)**
Task 5 Experimentation
Task 6 Practical
- Unit 4 : **Meal Planning**
Task 7 Food Diary
- Unit 5 : **Food Hygiene and Methods of Storage of Food**
Task 8 Demonstration

Term II

- Unit 6 : **Effective use of Shared Resources**
Task 9 Seminar
- Unit 7 : **Maintaining Accounts of the Family**
Task 10 Project-group work
- Unit 8 : **Rights and Responsibilities of Consumer**
Task 11 Creative writing-script for puppet show
- Unit 9 : **Care of Clothes**
Task 12 Puzzle
- Unit 10 : **Quality Check in Textiles**
Task 13 Class assignment

Developmental Milestones of 0-3 year old

Task 1: Researching and Reporting (Power point presentation)

Note: With this activity 'research' we want to expose the students to an exciting area which normally is associated with higher education only. Simply stating, the word research means gathering information from varying sources in relation to a specific topic and for a specific purpose. We take up the gathering and analyzing a body of information or data to extract new meaning or develop solutions to problems or cases. The data gathering device may be an experiment, a survey, a questionnaire or an interview schedule.

The important activities the students will indulge into are developing a tool to collect information, use this tool, analyse and collate the information collected and present it in a meaningful way to the class and others in the school.

Making a power point and presenting the findings is a novelty and an enjoyable task for students. This is an activity which calls for treating the information collected, analyzed, processed, into meaningful small bits that would fit into small frames, and thus suitable for power point. This will also help them in becoming thorough in their preparation and face questions from the class.

The suggested execution plan also encourages them to self learn and also be each accountable for fellow student's learning. Gradual progress towards the goal will be their learning and formative assessment.

Topic	Unit I Developmental Milestones of physical, motor, social, emotional and language development
Period of task	Pre-learning
Content Coverage	Whole chapter
Learning Objectives	<p>After the activity students will be able to do the following:</p> <ul style="list-style-type: none"> • explain the meaning of the term 'milestone' in development of a child • state important milestones in the area of physical, motor, social, emotional and language development of a child between 0-3 years. • argue that there are individual differences when children grow and develop and a child can be early, late or normal in reaching the milestone. • present concise and holistic picture of development in children from 0-3 years, in tabular form.





	<ul style="list-style-type: none"> refer to the table and check if a child is early, late or normal in development and comment on why a child is different. trace the development forward or backward to ascertain what a child has achieved and what he is will achieve henceforth.
Task	Researching and Reporting (Power point presentation)
Execution of Task	<p>Teacher divides the class into three groups and assigns area of study e.g., group I, 0-1 year, group II, 1-2 years and group III, 2-3 years.</p> <p>She also makes clear that each group while working on assigned area will use the same tool for observations. While preparing the power point also they will use the same 'Tabular format'.</p> <p>Teacher also helps students to prepare the tool for observation</p> <p>At home students will</p> <ul style="list-style-type: none"> use the tool developed earlier in the class students individually observe the child of the age group assigned, in their own home/park/ neighbourhood. read the lesson in their text book to have an access to the information and relate it to the information collected. <p>In the class students will work in the assigned group and</p> <ul style="list-style-type: none"> jointly process the information collected by every member by pooling, collating, analyzing, interpreting, relating, evaluating and critically examining. reduce the information into suitable small meaningful bits that would fit into slides/frames and prepare the power point prepare each other for presentation and questions each group makes a group presentation in the class and answers questions from the audience. add information provided by other students and modify their presentation teacher will help them in visualizing three presentations together and may show the class DVD on the subject. submit the entire plan of activities complete with all the information about 'who did what' along with a copies of the presentations.

Duration	4-5 periods and a few hours at home.
Note for Teacher	She can also ensure that groups are working smoothly and members are taking responsibility of helping each other.
Remedial work	Teacher can from time to time find out if students need help. She can monitor the progress of those who need help. And provide assistance when stuck i.e., in planning the format of recording the observations, examining the content and writing the report.
Impact of the task	The exercise presents students the opportunity to <ul style="list-style-type: none"> • develop tool for data collection • relate, compare, analyze, create and evaluate • empathize with others, make decisions, listen patiently and with respect to fellow students' views and get along with others • present their own views clearly in interesting manner. • develop leadership characters, skill in power point presentation.
Extended learning	Those who want can be invited to make advanced presentation on issues and concerns of this age group.

Criteria for evaluation (Aspect)	Marks assigned: 15	Distribution
<ul style="list-style-type: none"> • Relating and interpreting 		2
<ul style="list-style-type: none"> • Accuracy of information, quality of work and presentation. Typical characteristics of following areas of development must be represented: <ul style="list-style-type: none"> - physical characteristics - cognitive and language characteristics - socio-emotional characteristics 		6
<ul style="list-style-type: none"> • Presentation 		3
<ul style="list-style-type: none"> • Involvement of all the members, initiative, leadership 		2
<ul style="list-style-type: none"> • Getting along and respecting others and empathy for others 		2

Note : Another suggestion for evaluating this lesson can be by asking students to make a bulletin board display. Students can be in three groups and each group can work on one age group. Three boards can be developed using same plan of display.



Toys/games for children

Task 2: Tool development to assess quality of a toy/game

Note : The process of tool development helps the student in reviewing their knowledge. The process involves listing qualities, presenting to a group of people, getting feedback from them, and modifying the tool. Presenting the tool in the class helps to better communication skill and tool modification after discussion means addition to the knowledge. Finally the use of tool to evaluate the quality of a given toy not only helps students to complete the task but also gives them a feeling of achievement and confidence.

Topic	Suitable toys/games for a 0-3 year old
Period of task	Post Content
Content Coverage	Unit - II Play (part of chapter)
Learning Objectives	<p>After the exercise students will be able to do the following:</p> <ul style="list-style-type: none"> recall their knowledge of characteristics of children between 0-3 years of age relate the characteristics of a toy/ game and the characteristics of the child, to understand the concept of quality. evolve the criteria to make a judgement on suitability of the toy/ game for the child in question. use the tool to assign quality to a toy/game and draw conclusions.
Task	Develop a tool for quality assurance of a toy/game for 0-3 year old
Execution of Task	<p>Pre preparation : every learner will bring one toy for evaluation.</p> <p>In the class:</p> <p>After finishing the topic teacher will ask the students</p> <ul style="list-style-type: none"> to take 10 minutes and list 10-15 qualities of a good toy/game for 0-3 year old. ask them to work in groups of three (one on either side where they are sitting), and discuss each list to make one consolidated list of 10-15 qualities of a good toy/game. (10 minutes).



Unit 2

Formative Assessment – Toys/games for children

	<ul style="list-style-type: none"> • provide two toys to each group to evaluate these by using the tool prepared (5 minutes) • review the tool to remove or modify any entry. • jot down the instructions for use. <p>Present all the tools developed by different groups to the whole class. Consolidate all the tools into one tool and this must have the following aspects represented in it:</p> <ul style="list-style-type: none"> • age appropriateness/ suitability to age level • design and material • overall appeal • manoeuvrings /usability • sturdiness • safety - non-toxic/rounded corners/corners not sharp/ not too small in size. • cost/price • instructions for use and maintenance <p>Fine tune the tool and the instructions for its use.</p>
Duration	30 minutes - 1 hour.
Note for Teacher	Teacher need to see that groups work smoothly.
Remedial work	<p>There may be students in the class who do not benefit from this task. They can be given alternative task suggested here:</p> <ul style="list-style-type: none"> • they use the tool which has been developed and evaluate a toy. <p>OR</p> <ul style="list-style-type: none"> • looking at the tool they can be asked to draw out qualities of a good toy.



Impact of the task	<p>The exercise presents students the opportunity to</p> <ul style="list-style-type: none"> • relate, compare, analyze, create and evaluate • empathize with others, make decisions, listen patiently and with respect to fellow students' views, • present their own views with articulation and clarity, • get along with others • develop leadership characters. • understand the procedure of developing and using indicators of quality
Extended Learning	Evaluate other toys- at home and neighbours/shop

Criteria for evaluation (Aspect)	Marks assigned: 15	Distribution
• Completion of listing qualities of a good toy on time		1
• Relating characteristics of the toy and the child and interpreting		5
• Accuracy and quality of work and its presentation in the class		4
• Involvement of all the members, initiative, leadership		3
• Empathy for others, getting along and respecting others		2



Nutrients

Task 3: Quiz

Topic	Nutrients
Period of task	Post Content
Content Coverage	Unit - IV Whole unit
Learning Objectives	<p>Students will be able to do the following:</p> <ul style="list-style-type: none"> • name the nutrients and state their functions and sources. • argue that absence of any specific nutrient for a period of time can lead to health problem. • demonstrate alertness and promptness in responding to oral questions from the content • present the answer with articulation • review the content using problem solving approach
Task	Class quiz
Execution of Task	<ul style="list-style-type: none"> • This may be conducted after the whole unit is completed. • Teacher gets the questions ready from the topic chosen. • For the quiz, class may be divided into two or three teams • A quiz master and a record keeper are also appointed from the students • Effort of each team should be to earn as many scores as possible. • Questions of same difficulty level should be asked to each team and response can be time bound. (list of some questions is given) • The scores earned by each team are written on the black board by the record keeper. • The team earning highest score wins.



Unit 3

Formative Assessment – Nutrients

Note for teachers	Teacher may identify students who need more help and ask students who have already mastered the content to help these students to solve their problems. They can then attempt the following work sheet of MCQs based on the topic. <ul style="list-style-type: none"> The list of possible questions is provided but if they want to develop their own list they are free to do so.
Impact of the activity	Students learn to <ul style="list-style-type: none"> respond promptly (alertness) and to the point make quick decisions think and reason out help each other practice initiative and leadership characteristics.
Duration	2 periods
Note for teacher	Teacher can see that there is a Quiz Master and a Record Keeper and they are functioning to satisfaction of all.
Remedial work	If some students are not able to cope up with the requirements of a quiz, they can a worksheet containing MCQ (sample attached/given below). Feedback must be given to them after assessment.

Suggested rounds for the quiz

Picture/visual round

One picture for each group must be organised. It can be shown to the two teams, with the help of a power point presentation/ overhead projector or a photocopy of a picture. These may have name of nutrient along with several pictures of its sources or diseases. The teams will have to connect and identify them with the corresponding nutrient. Each team will get marks accordingly.

General awareness round Each team will be asked 08 questions one by one and will be given 2 seconds to answer it. If a team is unable to answer the question correctly, it will be passed to the next team. If the other team is able to answer will get 1 bonus mark which will be extra credit to the team. The correct answers will be told if either of the teams is not able to answer the question. Scores will be written on the black board.

Note : The question for two teams should be of same level of difficulty. Questions with one word answer may be developed by the teacher or they may use the following.

Following is a list of questions for the Quiz. (Use odd numbers for Team A and even numbers for Team B).



1. Name the major nutrient found in pulses.
2. Name the major nutrient found in cereals.
3. What can be the consequence of frequent absence of calcium from daily meals?
4. What can be the consequence of frequent absence of iron from daily meals?
5. What two symptoms one can see in a person who does not consume enough proteins ?
6. Give two consequences of consuming too many fatty foods in daily meals.
7. Mention one reason for not getting vitamin C from daily meals
8. Mention one reason for not getting enough proteins from daily meals.
9. What would you choose in place of milk for obtaining similar nutrients?
10. What are good sources of protein for vegetarians?
11. What causes marasmus?
12. What causes Toad's skin?
13. What is the nutritional cause of bleeding gums?
14. What is the nutritional cause of constipation?
15. Name the two nutrient which are not present in milk.
16. Name the two nutrient which are not easily available from spinach.

Rapid fire round ; each team has to answer ten questions (of same difficulty level) in one minute. If they delay in answering the questions they may not get to answer all questions. Marks are given for number of questions answered correctly.

TEAM - A

1. Root vegetables are a major source of -----
2. One gram of carbohydrates yield -----calories.
3. Of potatoes and amla which is the richer source of vitamin C -----?
4. If you need to replace milk with a cheaper substitute, choose -----
5. Deficiency of vitamin D leads to -----
6. Mineral which helps in clotting of blood is -----
7. Scurvy is a condition caused by deficiency of -----
8. If you want to improve your appetite you must take-----
9. Anaemia is caused by deficiency of-----
10. Pigeon chest is a condition caused by the deficiency of-----



Unit 3

TEAM - B

1. Cereals are a major source of -----
2. One gram of protein yields -----calories
3. Of soyabean and pulses which is the richer source of proteins -----
4. If you need to replace almonds with a cheaper substitute choose -----
5. Deficiency of vitamin B₁ in food leads to a condition called -----
6. Vitamin which helps in clotting of blood is -----
7. Purplish tongue and cracks at corners of lips happen due to deficiency of -----
8. If you want to improve your digestion you must take -----
9. Osteoporosis occurs due to deficiency of -----
10. The condition in which child becomes monkey faced is called -----

Buzzer round:

Questions will be asked of the team who presses the buzzer first. Incorrect answers will have negative markings.

1. Body can make vitamin -----with the help of sunlight.
2. Vitamin A available in plants in the form of -----
3. The disease in which the hair gets an orange tinge (pigmented) is -----
4. Two foods which provide vitamin C are ----- and -----
5. Two foods which provide Iron are -----and -----
6. The deficient nutrient which causes goitre is called -----
7. Two symptoms of osteoporosis are -----and -----
8. The deficient nutrient which causes beri-beri is called -----
9. Two symptoms of vitamin A deficiency are -----and -----
10. Symptoms of scurvey are seen in which part of the body?



Score Board for recording performance

Rounds	Team A	Team B
General awareness round		
Picture round		
Buzzer round		
Rapid fire		
Total		

Parameters for evaluation	Observation points	Marks allotted (30)	Marks earned
Performance		28	
Initiative / Leadership		1	
Respect for other members and empathy		1	

Worksheet of MCQ for remedial teaching:

Instructions : Following are some incomplete statements which can be completed by choosing the most correct alternative from the four given at the end of each statement. Choose and tick mark the alternative.

- Potatoes are a source of
 - body building materials
 - energy providing materials
 - protective materials
 - all nutrients
- Deficiency of vitamin A in daily meals leads to a condition called
 - night blindness
 - marasmus
 - kwashiorkor
 - beri-beri



Unit 3

Formative Assessment – Nutrients

3. Deficiency of Iodine in daily meals leads to a condition called
 - a. night blindness
 - b. marasmus
 - c. kwashiorkor
 - d. goitre
4. Deficiency of this mineral causes anaemia
 - a. magnesium
 - b. iron
 - c. zinc
 - d. iodine
5. Deficiency of proteins in daily meals leads to a condition called
 - a. night blindness
 - b. goitre
 - c. kwashiorkor
 - d. beri-beri
6. For good quality protein, following should be our choice.
 - a. apple
 - b. egg
 - c. spinach
 - d. cabbage
7. Which of the following food has all nutrients?
 - a. milk
 - b. egg
 - c. meat
 - d. pulse
8. Flesh foods are rich in good quality protein and
 - a. fibre
 - b. carbohydrates
 - c. vitamin B
 - d. vitamin C



9. For healthy gums you must take
 - a. vitamin A
 - b. vitamin B
 - c. vitamin C
 - d. calcium
10. Til is a good source of
 - a. Carbohydrates
 - b. Calcium
 - c. proteins
 - d. vitamin A
11. Strong bones do not require the following
 - a. calcium
 - b. phosphorous
 - c. vitamin D
 - d. iodine
12. Fats are concentrated source of
 - a. energy
 - b. proteins
 - c. minerals
 - d. vitamins
13. A food item that provides only energy is
 - a. bajra
 - b. rice
 - c. sugar
 - d. wheat
14. Calories produced by 1 gram of fat are
 - a. 9
 - b. 12
 - c. 4
 - d. 6



Unit 3

Formative Assessment – Nutrients

15. Following vitamin is made by the action of sunlight under the skin.
 - a. vitamin C
 - b. vitamin A
 - c. vitamin K
 - d. vitamin D
16. Food Guide given by ICMR is in the shape of a (an):
 - a. pyramid
 - b. hexagon
 - c. square
 - d. circle
17. What food doesn't belong to this food group?
 - a. chocolate milk
 - b. soya paneer
 - c. cheese
 - d. ice cream
18. Cereals are not a good source of
 - a. fat
 - b. iron
 - c. vitamin C
 - d. vitamin B
19. Antibodies in the body are due to presence of
 - a. Fats
 - b. Iron
 - c. Protein
 - d. Vitamin C
20. Symptoms of rickets are
 - a. Bow legs
 - b. Pigeon chest
 - c. Multiple fractures
 - d. All the above



Task 4 Crossword puzzle and jumbled words (worksheet)

Topic	Nutrients
Period of task	Post Content
Content Coverage	Nutrients- listing, function in human body, sources and deficiency diseases
Learning Objectives	<p>Students will be able to do the following</p> <ul style="list-style-type: none"> • learn new terms used in the content and spell them correctly • solve the puzzle using the content learnt. • master content using problem solving approach
Task	Crossword Puzzle and Jumbled Words
Duration	15-20 minutes
Note for teacher	Teacher must see that every student is working individually and if stuck takes help.
Execution of Task	<p>After the topic is completed students are given the puzzles to solve.</p> <p>Time taken by each is noted.</p> <p>Some other observations like ease with which the task is attempted, confidence, are also taken note of.</p> <p>Students submit the papers after completion of the task(s).</p>
Impact of the activity	<p>Students get a chance to improve their ability of reasoning, critical thinking, decision making, confidence building, problem solving, etc.</p> <p>In the process they also revise the content and improve on their spellings.</p>
Remedial work	Students may need help to begin with. Also some students take longer than the others to finish. Give them extra time and is required give them alternative puzzle for practice. If concepts are not clear help them to clear those before they attempt to solve the puzzle.
Extended learning	Students can be asked to develop more crossword puzzles.

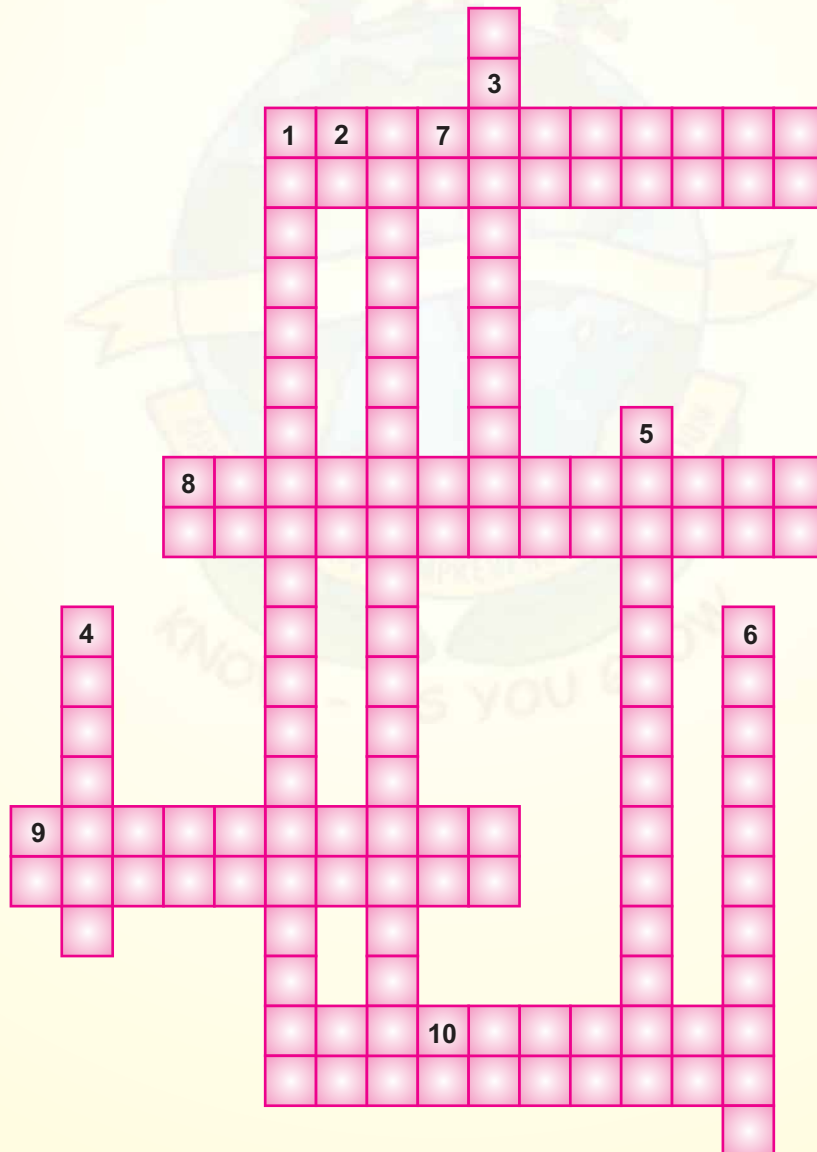


Unit 3

Formative Assessment – Nutrients

Parameters for evaluation	Observation points	Marks allotted (30)
Number of correct answers		5
Time taken for problem solving		1
Ease and confidence with which task attempted		2
Correction work (if any)		2

Crossword puzzle sheet on nutrients



Down

1. Vitamin C is also known as _____
2. Condition in which bones become porous. _____
3. Conditions when skin has frequent Haemorrhages is known as _____
4. Nutrient which helps to maintain body temperature _____
5. Vitamin A, D, E, K are classified as _____
6. Carrots are rich in _____

Across

7. Mineral which helps in clotting of blood _____
8. Comes from sources like macaroni, noodles, rice _____
9. Water and roughage perform this function _____
10. Nutrient which helps to build and repair cells. _____

Jumbled words worksheet: Find nutrients with their corresponding deficiency disease

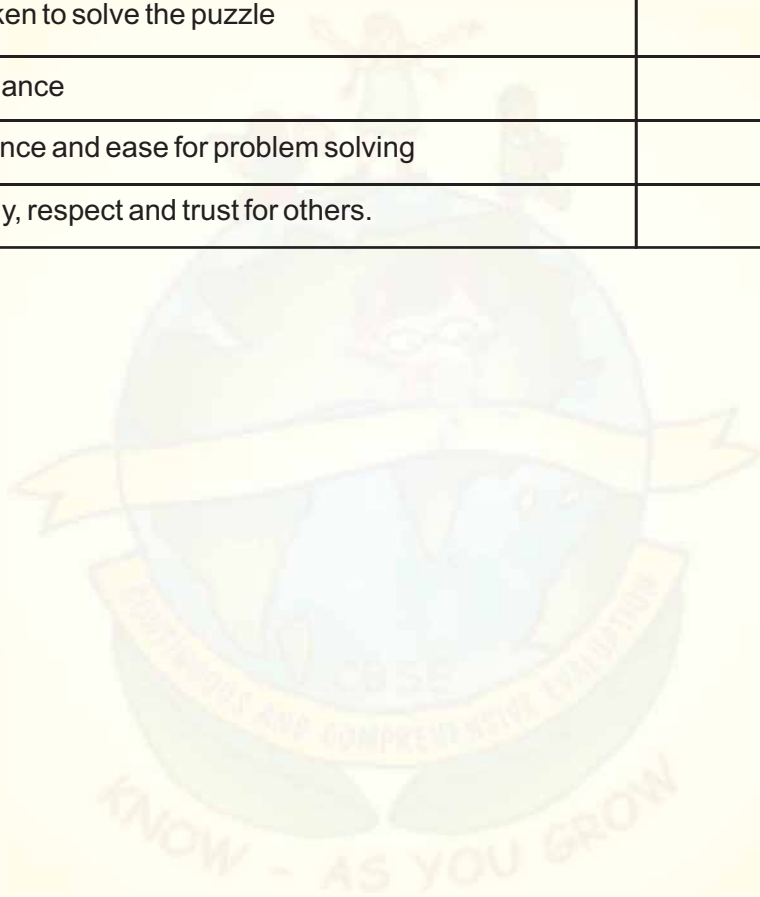
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O	L	N	S	S	I	A	M	P	J	I	W	Y	V	V	P
G	N	D	S	K	W	A	R	S	H	I	O	R	K	A	R
B	H	N	V	I	S	S	I	I	R	H	D	V	D	N	A
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R	C	L	T	I	U	F	X	Z	R	I	C	K	E	T	S
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E	U	G	N	I	V	I	R	O	N	V	R	M	R	K	A
R	A	I	A	N	V	I	T	A	M	I	N	D	L	R	H
I	H	N	L	C	P	A	B	U	X	S	T	A	F	R	Z
A	N	E	M	I	A	R	O	L	H	N	G	B	V	R	V



Unit 3

Formative Assessment – Nutrients

Criteria for evaluation (Aspect)	Marks assigned: 10 5 minutes ½ mark for each correct answer	Distribution
<ul style="list-style-type: none">• Time taken to solve the puzzle		1
<ul style="list-style-type: none">• Performance		5
<ul style="list-style-type: none">• Confidence and ease for problem solving		2
<ul style="list-style-type: none">• Empathy, respect and trust for others.		2



Loss and Enhancement of Nutrients (Cont.)



Task 5 : Experimentation

Topic	<ul style="list-style-type: none"> • Loss of nutrients during cooking • Conservation of nutrients • Enhancement of nutrients
Task	Experimentation: observing at home to check and analyse whether nutrients are being wasted, conserved or enhanced.
Period of task	Pre-content
Content coverage	Unit IV -Nutrients (half unit) Loss of nutrients during cooking, conservation and enhancement of nutrients.
Learning objectives	<p>After the exercise learners will be able to do the following:</p> <ul style="list-style-type: none"> • Argue that conservation and enhancement of nutrients in food is easy and important • analyse information to conclude that nutrients can be lost or enhanced during process of preparation and cooking of food • discuss and be aware of ways to save and enhance nutrients in daily meals • demonstrate the ability to evaluate a recipe on the basis of the method of its preparation
Execution of Task	<p>Step 1. After introducing the concept of conservation and enhancement of nutrients teacher asks the class to write a paragraph on what they think about their own home practicing ways to conserve enhance and prevent loss of nutrients.</p> <p>She also asks them how easy or difficult it was to write and why?</p> <p>Step 2. She now gives them the following tool to collect information on the same issue</p> <p>Observation tool</p> <p>Students are asked to observe mother/ cook for methods she adopts while preparing vegetables (carrots/potatoes, leafy vegetables), cereals and pulses and record observations.</p>



Unit 3

Formative Assessment – Loss and Enhancement of Nutrients (Cont.)

	1. When were the vegetables?	Before / after cutting
	2. How were the vegetables peeled?	Thick or thin
	3. How were the vegetables cut?	Cross-sectional or longitudinal
	4. How big were the pieces?	large or small?
	5. Were the vegetables soaked in water?	Yes/ no
	6. What was done to the water?	Used for cooking /thrown
	7. How many times the water in which greens were soaked replaced?	
	8. What was the colour of the water?	Clear/green
	9. How were these cooked?	Covered or uncovered?
	10. Were the vegetable reheated after it was cooked?	Yes/no
	11. How many times the vegetable was heated after cooking?	Once/twice/ more
	12. Did she sieve the flour before kneading?	Yes/no
	13. Did she mix anything to the flour before kneading?	Yes/ no
	14. What did she mix in flour?	Soya flour/ gram flour/oil/ghee/milk
	15. What did she do to the dough which got fermented?	Used to make chapattis/thrown away
	16. Did she sprout pulses?	Yes/no
	17. Did she soak the pulses?	Yes/no
	18. What was done to the water?	Used for cooking/ thrown away
	19. What did she do to left over dals?	Served as it is/ kneaded in flour/ disposed it
	20. What was mixed with dal?	Another dal/ some vegetable / paneer / wheat/ besan flour





	<p>Students will realise that with this tool they are able to give much more information. But there may be questions for which they have no answer because they have either not noticed or they just do not know.</p> <p>Step 3. Students now take the tool home and find answer to each question. Analyse the information and draw conclusions to say if their family is sensitive to this issue. In the class they will discuss the details of the information brought and to understand how nutrients are lost, conserved or enhanced.</p> <p>The tool helps them to understand how sensitive their families are towards the issue and there is a need to improve the situation.</p> <p>In small groups they can discuss and decide a future action to improve the situation.</p> <p>Write individual report on how successful this exercise has been in making them aware and sensitive of the issue. Also how motivated they are in carrying out a corrective action at home.</p> <p>Submit the report and other papers.</p>
Note for teacher	Teacher can keep a watch on all students to see how each one is performing. And keep a note on how of how smoothly the groups are working
Duration	One hour at home and 2 periods in the class.
Impact	<p>The exercise will help learners to</p> <ul style="list-style-type: none"> critically observe, reason out, analyse the observations, connect with previous learning, compile information, and conclude. They would also realize that it is easy to provide information when questions are structured than when left open. get a feel of conducting research. developing the needed tool is also a good experience which in a way helped them to review and learn the content make decision and respect each other for the judgement. get practice in oral and written communication and create confidence.
Remedial work	If the teacher identifies any body needing more help, she can be given additional practice with the help of students who have mastered already.

Unit 3

Extended Learning	Plan and carry out a campaign to promote the issue in school and community. Also lay stress on kitchen hygiene and pre-preparation cleanliness. They can also work on the organizational chart for kitchen activities.
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Criteria for evaluation (Aspect)	Marks assigned: 15	Distribution
• Participation quality-initiative, responsibility and creativity		2
• Accurate observation and recording		3
• Analyses, connecting with the known		4
• Conclusion and closure		4
• Empathy for others, getting along		2

Task 6: Practical- Methods of saving and enhancing nutrients in daily meals.

Topic	Methods of saving and enhancing nutrients.
Period of task	Practical
Content Coverage	Unit- III Nutrients- methods of enhancing nutrients
Learning Objectives	<p>After the practical learners are able to do the following</p> <ul style="list-style-type: none"> • select the recipe which has possibility for enhancing the nutrients • follow the recipe and take necessary precautions to enables the prevention of loss of nutrients and also prepare a perfect end product • demonstrate an organized and sequential procedure of working. • follow rules of hygiene while working. • make an interesting presentation of the product along with appropriate accompaniments • evaluate the product against criteria developed • accept the feedback with an eye on making amendments in future
Task	Practical



<p>Execution of Task</p>	<p>Pre-preparation of the activity:</p> <ul style="list-style-type: none"> • After the reading the lesson on the topic, students can surf the net or consult any other source (TV, library) and collect recipes which include combination, fermented and germinated foods. Select two or more appropriate recipes. • Develop criteria for evaluation of the products • Make groups of 3-4 Students. • Make a list of ingredients needed for the selected recipes. Order the purchase. <p>In the class:</p> <ul style="list-style-type: none"> • Check the ingredients and get all the utensils and other requirements ready. Organize the work table. • Prepare a time plan and activity chart so that work is systematic and on time. • Assign chore responsibilities to group members • Follow the recipes and prepare the products following hygienic practices. " Present the products creatively with appropriate accompaniments. • Grade the products and consider the improvements for next time. • Answer questions (viva) • Clean and wind up. • Record the recipe with important observations and modifications in the recipe • Submit all documents for grading.
<p>Note for teacher</p>	<p>Teacher can keep a watch on all students to see how each one is performing. She can keep a note on how where they need help and provide the same either herself or through peers.</p>
<p>Duration</p>	<p>One practical of 2-3 periods.</p>
<p>Impact of the task</p>	<p>Students get confidence in selecting and preparing the product in the context of given assignment.</p> <p>They practice taking decisions, evaluating, working in organized manner, and following procedures/instructions in sequence grading and recording.</p>



Unit 3

Formative Assessment – Loss and Enhancement of Nutrients (Cont.)

	They learn to take/accept challenge, follow principles of hygiene, not waste ingredients and fuel. Learn to work together with responsibility.
Remedial work	Teacher can explain the recipe once again to students who need more practice. Put them in a small group and ask them to complete the task together. She can observe them to see how they progress in their work and help each other in completing the task.
Extended learning	Write a script to promote ways of enhancing nutrients in daily meals.

Criteria for evaluation (Aspect: laboratory work)	Marks assigned: 15	Distribution
• Systematic planning and organized working, following instructions, efforts for no wasting of time, energy and materials		6
• Quality of finished product		2
• Recording of the recipe with suggestions for improvements		2
• Regularity in filling / recording and submitting, quality of written work		1
• Lab ethics- hygiene, finishing on time, winding up completely		2
• Empathy for others and getting along		2



Meal Planning

Task 7: Food Diary

Note : Writing a food diary means collecting authentic information for a period of time. If this information is not written immediately one is likely to forget/inflate or miss out.

Topic	Meal Planning
Sub topic	Use of food groups in planning balanced diet
Period of task	Post Content
Content Coverage	Unit IV Part of the chapter
Learning Objectives	<p>After the activity students will be able to do the following</p> <ul style="list-style-type: none"> • Demonstrate the ability to maintain an authentic record • Analyse record and relate it to food groups • Comment on the representation of food groups suggested by ICMR • Evaluate information of food intake/meals eaten in the context of food allowances suggested by ICMR. • Develop ability to record authentic information as complete as possible.
Task	Writing food diary and information processing
Execution of Task	<p>At home:</p> <ul style="list-style-type: none"> • While the topic of meal planning is being covered in the class students are asked to write in a diary the details of all the meals they eat during the day, for a week. Details about what, how much and the ingredients that are gone in to make each dish. <p>In the class:</p> <ul style="list-style-type: none"> • Students in small groups of four each, prepare list of foods available in the market and classify these in 5 food groups suggested by ICMR. • Analyze the information in each diary to comment on how the food groups are represented in the meals they have eaten during the week • Evaluate the meals eaten in the context of food allowances suggested by ICMR • Sit together and write a joint report on the modifications required in daily meals of individual student and possible solutions.



Note for teacher	If teacher has an idea of students who will need help, before the assignment begins she can provide help by monitoring their diary writing and then attaching these students with students who are likely to finish early.
Duration	½ hour for one week at home and 2 periods in class
Impact of the activity	Students get opportunity for <ul style="list-style-type: none"> • documenting information • goal setting, planning, decision making, critical analyses, • experiential learning experience • analyzing information, evaluating, concluding and generalizing. • developing confidence in writing and presenting the report
Remedial Work	While monitoring the diaries of the students, teacher would identify students who need help and where they need help. They will practice analysing the information once again under the supervision of teacher or students who have completed the task.
Extended learning	Students who want to do some advanced work can be asked to teach knowledge to neighbours

Criteria for evaluation	Marks assigned: 10	Distribution
• Evaluation collection of information at home and discussion in class.		6 3+3 (Home + Class)
• Presentation of work		2
• Empathy and co-operation with each other		2



Food Hygiene and Methods of Storage of Food

Task 8: Demonstration

Topic	Methods of Storage of Food
Period of task	During the lesson
Content Coverage	Whole topic
Learning Objectives	<p>After the activity is complete students will be able to do the following:</p> <ul style="list-style-type: none"> • state three categories of food that need different handling, e.g., perishable, semi-perishable and non-perishable foods. • select the things required for the methods of storage assigned. • use correct procedures for storing foods • discuss the precautions to be taken in each case.
Task	Demonstration
Execution of Task	<p>Class is divided in three groups and each group is assigned one area of storage, e.g., perishable foods, semi perishable foods and non-perishable foods. Now students prepare for the demonstration by doing the following:</p> <ul style="list-style-type: none"> • review the content by reading the lesson in text book, discussing with mother or any other adult at home and may be by surfing the internet. • collect what ever is required for demonstration • prepare the table with everything • call the class to attention and demonstrate the process emphasizing the following: <ul style="list-style-type: none"> o what is to be stored o what all is required and how is all this readied o how is the food prepared o final process of storage o precautions



	<ul style="list-style-type: none"> answer any questions jointly, raised by fellow students in the class. all the groups take turns to proceed in the same sequence and demonstrate the storage. submit all the relevant papers for grading along with the self assessment form
Note for teacher	Teacher can keep praising the efforts of the demonstrators and encourage them to answer questions asked.
Duration	2 periods
Remedial work	<p>Those who find demonstration difficult can help in the process and carry out other duties in the process. Watching others demonstrate will help them to review the content. Teacher can ask them questions around the following content</p> <ul style="list-style-type: none"> what is to be stored what all is required how is food prepared how is the food prepared final process of storage precautions
Impact of the activity	<p>This activity gives students the opportunity to do the following:</p> <ul style="list-style-type: none"> set goals and find related content share it with group members and improve prepare for demonstration on following points <ul style="list-style-type: none"> what is to be stored what all is required and is all this prepared how is the food prepared final process of storage improve communication skill develop confidence work in groups with responsibility
Extended learning	For advanced learning students can find information on packaging from internet.



Effective use of Shared Resources

Term II

Task 9: Survey followed by seminar.

Topic	Resources available to family
Period of task	Pre-content
Content Coverage	Unit - VII wise use of resources (Part of the chapter)
Learning Objectives	<p>Students are able to do the following</p> <ul style="list-style-type: none"> • develop appropriate tool to evaluate the community resource. • observe, analyse and sift the required information in order to reach conclusions. • state that there is urgent need for using community/shared resources wisely. • suggest ways to prevent misuse of resources. • adopt preventive measures to stop further misuse of community resources. • sensitize others to use community resources wisely.
Task	Survey followed by seminar.
Execution of Task	<ul style="list-style-type: none"> • Teacher helps the class list down all community resources they use, on the blackboard. • She divides the class into 5-6 groups depending on its size. • Each group is assigned one community resource such as parks, hospitals/medical health centres, library, public transport, etc.' and air, water, electricity, etc. • Together they develop a tool to examine each community resource covering following areas: <ul style="list-style-type: none"> - typical characteristics of the resource - need for careful use - how these are misused - suggestions to prevent misuse. <p>Using the tool students collect the information and in the class they collate this information to develop a paper for the seminar.</p>



Unit 6

	<ul style="list-style-type: none"> • Each group will choose a leader and a reporter. • Each group writes a paper <p>In the seminar</p> <ul style="list-style-type: none"> • Teacher takes the Chair and Leaders of each group present the respective papers in the seminar organised in the class. The reporter in each group prepares a report on the proceedings and the paper. • Every group jointly answers any question raised by the audience. • In the end teacher does the summation of all the content also making comments on the quality of each paper. She also fills gaps if any. • Every one in the class writes a paragraph about how she/he enjoyed the activity and what were the gains. • Submit all papers along with self assessment of own contribution in the whole process.
Duration	4 periods(in class) 2-3 hours to observe(at home/outside)
Note for teacher	Teacher makes sure that group work goes smoothly.
Remedial work	<p>Teacher asks the students who need more help on the topic to read the lesson in the text book and write questions which they want to clarify. She helps the students to understand these parts either herself or through peers.</p> <p>Show a documentary or ask them to collect pictures/ posters/newspaper clippings; where community resources are being misused followed by a class discussion.</p>
Impact of the task	<p>The exercise provide students the opportunity to</p> <ul style="list-style-type: none"> • interview, document, and collect data, process information by screening, sifting, critically analyzing, reason out, organize, and synthesize. • present the results in the class with articulation and clarity. <ul style="list-style-type: none"> o typical characteristics of the resource o need for careful use o how these are misused o suggestions to prevent misuse.



Unit 6

Formative Assessment – Effective use of Shared Resources

	<ul style="list-style-type: none"> work together as a group, respect each others point of view, and take responsibility. ensure they themselves do not misuse the community resource and if possible, check others also from misusing them.
Extended learning	Write an article for the newspaper to spread awareness and prevent misuse of community resources.

Criteria for evaluation (Aspect)	Marks assigned: 15	Distribution
<ul style="list-style-type: none"> Participation in tool development 		2
<ul style="list-style-type: none"> Accurate use of tool and collection of information 		2
<ul style="list-style-type: none"> Relate, reason, critically analyze, interpreting information and draw conclusions around the following: 		5
<ul style="list-style-type: none"> Write and present report 		3
<ul style="list-style-type: none"> Work individually and with the group, responsibility, take initiative, empathy, etc 		3



Maintaining Accounts of the Family

Task 10 : Project work (Group work)

Topic	Money management
Sub topic	Family income and expenditure
Period of task	Post Content
Content Coverage	Unit - VII Part of the chapter
Learning Objectives	<p>After the activity students will be able to do the following</p> <ul style="list-style-type: none"> • demonstrate the ability to work together to find the sources of income and expenditure of the family • select and use correct tool to collect needed information • develop a format to write income and expenditure account and discuss the advantages of recording • generalize information on sources and expenditure of a family • divide responsibility, take initiative and help each other in the group to do the needful • close the project by making a presentation to the class
Task	Project (group work)- Home and class work
Execution of Task	<p>In the class</p> <ul style="list-style-type: none"> • students are divided into groups of 4-5. Teacher takes care that there are students with all styles of learning in each group. Same project is assigned to all along with the list of objectives • prepare an action plan, select/ develop needed tool(s) for data collection and divide the responsibilities for implementing the action plan • execute the plan and obtain required information. If information on sources of family income is not forthcoming from homes teacher helps them to know the possible sources e.g., pension/salary/profit from business, rent, bonus, interest from deposits, gift cheques, etc.



	<ul style="list-style-type: none"> • discuss the meaning of expenditure • evolve together the formats for recording daily expenditure • Every one must have a copy of the format, and every one must try it out at home to see the efficacy of the format and every one must report back the results of the tryout • bring about any modifications needed • discuss formats for weekly and monthly expenditure and try these also out for sometime in simulation and the results as well as needed modifications be discussed in the next meeting. • together make a report emphasizing on the following points <ul style="list-style-type: none"> - need for recording - need for a format - difference in daily, weekly and monthly recording - when to record and why • members of the group must make sure that all understand what they are doing why they are doing and how they are doing. • submit all the papers including formats for recording expenditure and the group report. • all students must also submit their individual contribution to this activity and what each one has learnt from this exercise. <p>Outside the class</p> <ul style="list-style-type: none"> • collect needed information if possible, with responsibility. • tryout the format for recording daily expenditure as well as the weekly and monthly expenditure.
Note for teacher	Teacher must monitor group work from time to time and offer help if and whenever needed.
Duration	10 days
Remedial work	Students who need help can be asked to write their personal account and then learn to write family's daily account



Impact of the activity	Students get opportunity to
	<ul style="list-style-type: none"> • work together, plan and set goals, select and develop tools, divide work. • execute plan, follow precautions, work with responsibility. • collect and record needed information and have experiential learning of observing and interviewing • develop critical thinking, analyses, decision making, self confidence, etc.
Extended learning	Make a strategy to promote writing of account regularly among people.

Criteria for evaluation (Aspect)	Marks assigned: 15	Distribution
• Completion on time		1
• Planning and execution of plan		3
• Tools, quality of information collected, interpretation and conclusions		6
• Involvement of all the members, initiative, leadership		3
• Empathy for others, getting along and respecting others		2



Rights and Responsibilities of Consumer

Task 11: Creative writing-Script for puppet show

Topic	Unit VIII Consumer education
Period of task	Pre-content
Content Coverage	Consumer rights and responsibilities
Learning Objectives	<p>After the exercise student will be able to do the following:</p> <ul style="list-style-type: none"> • state problems consumers have to face • realizing that people need to be aware of their rights and responsibilities select interesting approach of street/puppet play to inform public. • write the script using the content • present the message effectively
Task	Creative writing : script for puppet show/street play to be presented in the class, school assembly or even as a street play.
Execution of Task	<p>Pre-preparation: students and teacher together discuss the plot and the kind of information that should go into it. Thus an out line of the plot emerges.</p> <p>At home</p> <ul style="list-style-type: none"> • do the research to collect the information • write the script individually by elaborating the outline around the following: <ul style="list-style-type: none"> - problems one has to face as consumer - rights and responsibilities of a consumer - suggestions for problem solving <p>In the class</p> <ul style="list-style-type: none"> • class is divided in 3-4 groups and each group works on the scripts to make it as one taking ideas from every member in the group. • present these 3-4 scripts to the class and get the feed back • modify the script • together they draw criteria to rank the scripts and select one script with consensus, e.g., the script that has the following: <ul style="list-style-type: none"> - need for consumer education - details of problems faced by consumers - suggestions for over coming the problems



	<ul style="list-style-type: none"> - knowledge of rights and responsibilities - actual use of rights and responsibilities • enact the chosen script in the school and get feedback from every one present. • individually, they submit a report on the work they have completed in class and at home, on their individual contribution to the task and what they have learnt from this task, in a folder/envelop, along with the self assessment on the given form
Note for teacher	Teacher must encourage every one to participate.
Duration	One hour at home and 2-3 periods in the class
Remedial work	Identify students who need help and give them a second chance to write the script, enact it and write a self assessment report.
Impact of the task	<p>The exercise presents students the opportunity to</p> <ul style="list-style-type: none"> • express their ideas in writing • relate, compare, analyze, create and evaluate • empathize with others, make decisions, listen patiently and with respect to fellow students' views, • present their own views with articulation and clarity, • get along with others • develop leadership characters.
Extended learning	Learn to write the script in language of TV

Criteria for evaluation (Aspect)	Marks assigned: 15	Distribution
• Completion on time		1
<ul style="list-style-type: none"> • Adequacy, accuracy of information, quality of first written work, modifications in subsequent written work and if all the areas are covered in the script, e.g., <ul style="list-style-type: none"> - need for consumer education - details of problems faced by consumers - suggestions for over coming the problems - knowledge of rights and responsibilities - actual use of rights and responsibilities 		7
• Presentation to the group and involvement of the group		3
• Participation quality- initiative, creativity and responsibility		2
• Empathy, and getting along		2



Care of Clothes

Task 12: Puzzle

Topic	Care of Clothes
Period of task	Post Content
Content Coverage	Whole Chapter
Objectives	<p>After the activity students will be able to do the following</p> <ul style="list-style-type: none"> • learn new terms used in the content and spell them correctly • solve the puzzle using the content learnt. • self-assess learning in a joyful manner; • test the basic concepts using thinking and problem solving skills.
Task	Puzzle- problem solving and group discussion
Execution of Task	<p>This task is performed in the classroom. Students are given photocopy of the puzzle worksheet.</p> <p>5-7 minutes are allowed to solve the puzzle. They take another 2-3 minutes to score the result with the key provided</p>
Note for teacher	Teacher must see that students are solving the puzzle comfortably.
Duration	10-15 minutes.
Remedial work	Identify those who need help. She must explain to them the concepts once again and then present to them an alternative puzzle and extra time.
Impact on learner	<p>Learners attempt to achieve the following:</p> <ul style="list-style-type: none"> • revise the chapter problem solving • develop self confidence • be honest while checking other person's work • respect and trust for others • create their own puzzles and fix solutions.
Extended learning	The students may be asked to make such puzzles to enhance their thinking skills. This will help the teacher to have a puzzle bank for future learners.



Criteria for evaluation (Aspect)	Marks assigned: 10 Time : 5 minutes ½ mark for each correct answer	Distribution
• Time taken to solve the puzzle		2
• Performance		5
• Confidence		1
• Empathy, respect and trust for others.		2

Puzzle Sheet

Who am I?

- I am an undesirable mark on the fabric : **A N I S T**
- I improves whiteness and brightness of your shirt: **H A C E L B**
- My acid does not harm silk: **R V I G E N A**
- I am one of the methods of stain removal **N G P S G O N I**
- I help maintain the crispness of your cotton fabrics: **H R A T S H**
- I give you information about care of garment: **E A B L L**
- When you get your clothes stitched by taking personal sizes I am known as: **R L O I T A M E D A**
- You dry your coloured cotton after washing under me: **E S H A D**
- I am a reagents you use for cleaning or washing your garments: **L C N E R A S E R S**
- I am a basic stitch used for holding the two layers of fabric temporarily: **K C A T G I N**

Alternative puzzle of Jumbled words for remedial work

Who am I?

- Dry white cottons in **N U S**
- This is one of the methods of stain removal **G I N D I P P**
- Chemicals used to improve the whiteness and the brightness of white cottons **H A C E L B**
- Marks other than dirt on clothes are known as **N A I S T**
- Soaps and syndets are known by a common name **G E N T D R E T E**
- Washing, drying and finishing of clothes is known as **D E R I N G N U A L**
- Products other than cleanser require to give good finish to the fabric during laundering are known as **R I E S A L L A U X I**
- Cleaning of expensive and delicate fabrics done using solvents and grease absorbents - such method of cleaning is known as **R Y D C N A E L I N G**
- Towels should be washed by this method of washing **C N O I T U S**
- This is a natural bleaching agent **L I H G T U N S**



Quality Check in Textiles

Task 13: Class assignment: Prepare a care label

Topic	Label on ready made apparels
Sub-topic	
Period of task	Post Content
Content Coverage	Unit - IX Quality check of apparels part of the chapter
Learning Objectives	Students are able to do the following: <ul style="list-style-type: none"> • establish relationship between fibre characteristics and care instructions • choose symbols to convey appropriate care • place symbols and instructions on the label
Task	Prepare a care label after Brain storming and Design development
Execution of Task	Pre- preparation (for teacher): Prepare slips with following tasks including the size of labels and put them in an attractive box: <ol style="list-style-type: none"> ladies black silk kurta with cream embroidery child's pink pure woollen cardigan olive green cotton saree white hand embroidered gents kurta navy blue nylon track suit with school logo sequined maroon polyester T shirt white school uniform red and black cotton tie and dye dupatta polyester school tie <p>In the class (Learner's activity): Divide into 10 groups One member from each group picks up the already prepared task slip from the box 15 minutes are spent on brain storming in order to refresh relevant information on:</p> <ul style="list-style-type: none"> - Characteristics of specific fibre, colour, end use and accessories



	<ul style="list-style-type: none"> - Listing of requisite care instructions - Finding out appropriate and accepted symbols - Preparation of suitable instruction card <p>20 minutes are spent on designing of a creative care label carrying all the required symbols and instructions.</p> <p>Each team then presents the label and instruction card justifying selection of symbols.</p>
Duration	2 -3 periods.
Note for teacher	Keep a watch how students perform
Impact of the activity	<p>The activity helps learner to achieve the following:</p> <ul style="list-style-type: none"> " review and refresh the content " discriminate between required and not required content " create something new " justify and reason out " decision making " work with others
Remedial work	Ask the students who need help to look at care labels carefully and ask questions to clarify what they do not understand. Now try again to make a care label. Teacher explains to them once again the symbols used globally for care.
Extended leaning	An open house session after the presentation where other teams ask relevant questions while the presenting team defends/justifies their work

Criteria for evaluation (Aspect)	Marks assigned: 15	Distribution
• Participation in group discussion and other activities		2
• Performance as team member		1
• Label (end product)		
- Selection of correct symbols and instructions		2
- Art work		2
• Instruction card (end product)		
- Care instructions as per the fibre characteristics		2
- Participation by all		1
- Communication and Presentation skills		1



<ul style="list-style-type: none"> Empathy shown to class fellows for good/poor performance by clapping or positive comments about good performance and willingness to work with the person who could not perform well. 		4
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Self Assessment Form:

Tick on the most applicable. You can tick on more than one option.

1. Obtained credit was worth the effort put in.
2. I like working alone.
3. Enjoyed doing the exercise
4. Regularity in study helped me to do well.
5. I could do things myself and did not need any help.
6. Did not enjoy the exercise.
7. It was too difficult and I had to take help of the family.
8. Making a presentation gave me opportunity to improve my communication skill.
9. I realize my weakness and can overcome it
10. I like working with my friends/classmates
11. I enjoyed more when my classmates helped me.
12. I felt nervous when I had to make a presentation.
13. I felt happy when my classmates clapped for me.
14. I can now easily talk and present my views before the class.
15. I feel lot more confident now
16. I realize the importance of listening
17. I did not feel nervous when I had to make a presentation.
18. I was not able to solve the given puzzle.
19. I have learnt to surf on the net and I like it very much.
20. There is so much information available on net.
21. I like solving puzzles.
22. I was able to solve the given puzzle.
23. In group discussion I was exposed to many points of views.
24. Through group discussion I learnt the skill of resolving conflict.
25. In group discussion I learnt to respect another person's point of view.
26. I can write much better answers now.
27. I am lot more interested in school now.



28. I have made many new friends.
29. As a member of the group I have made useful contributions.
30. As a member of the group I have not made useful contributions because I have not been understood.

Effective Group work

We have suggested a lot of group work in the activities. But effective group work is never automatic. A teacher has to work for it. A group can work effectively only when its members know each other well, get along well with each other and trust each other. Members of a new group have to pass through all this.

A teacher can use ice breaking exercises for the first introduction of members. These can be obtained easily from the net. Some such activities are as follows:

Broken Phrase

Collect number of common phrases and break each into two parts. Write one each on small chits and fold each chit.

When students come to the class ask them to pick up one chit each.

Ask them to go round and find the other half of the phrase.

Tell students to find some interesting things about their partners and introduce them to the class in interesting manner.

I never did that!

The teens sit in a circle. Give each of them 10 or 15 jellybeans or pennies. In turn, each teen tells something they have never done. Anyone who has done it gives the speaker one of his or her jellybeans or pennies. After going around the circle twice, the person with the most jellybeans or pennies wins. For example: I have never travelled outside the USA. I have never eaten sushi. I have never played a violin.

Two Truths and a Lie

In turn, teens each tell two true things and one false thing about themselves. The group tries to guess which one is the lie.

Another could be say a good word about your neighbour or write a positive remark for your neighbour.

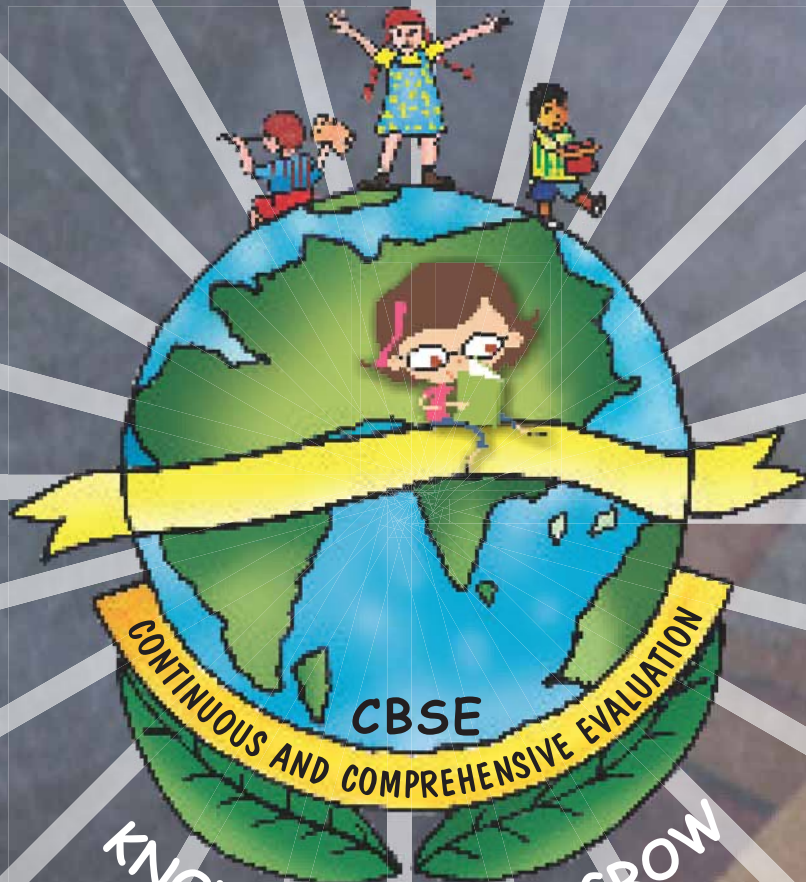
Look for more on website: [Ten Ice Breakers for Teens](#) on Google

Yet another tip for effective working in the group is that the tasks set have interdependence. This makes every member accountable needs to contribute his/her share to make the project a success.

Working in small groups is easier than in large groups. Hence keep the number in groups 3-4only.

Teacher must move in the groups to see that members are working smoothly. If any group is not, do not break the group. Try to find the problem and solve it with the help of the members. Do not let jealousy or indifference influence the members.





KNOW - AS YOU GROW



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