



SENIOR PHASE POLICY: NATURAL SCIENCES

This policy is subject to the requirements of the Education Department and the assessment policy of the school.

PLANNING

- Planning is done for the school year and should be finalized before the beginning of the new school year, but not later than the first Friday of the first term.
- Planning includes the development of a learning programme, work schedule and lesson plan.
- All the educators in the Senior Phase should participate in the planning session. The educators in a grade group especially should work together closely.
- The requirements for Natural Sciences as set by the Education Department should be met throughout. To avoid confusion or lack of clarity, existing documents should be adapted as changes are brought about by the Education Department.
- The head of department for the Senior Phase should approve the learning programme, work schedule, lesson plan and assessment tasks before the principal or his or her deputies send them for processing.
- All the Senior Phase educators should send their planning for Natural Sciences to the head of the department daily for monitoring. Learners' workbooks and assessment tasks should be sent along sporadically or as requested from time to time by the head of the department.
- The head of department for the Senior Phase and/or the principal should request weekly or daily planning files for monitoring as deemed necessary.
- Educators should make provision on their planning sheets for intervention and indicate how learners with barriers for learning are involved.
- Planning sheets need not be similar for all the grades or classes, as long as the information referred to above as well as the learning outcomes, time per day, activities and resources are indicated.



THE DEVELOPMENT OF ASSESSMENT TASKS:

- Assessment is an integral part of teaching and learning and should be included at all levels of planning.
- Assessment should be reliable and continuous.
- Assessment should be transparent, so that both educator and learner know exactly what the expectations are for each task.
- Assessment tasks should be developed as prescribed by the Education Department and the assessment policy of the school should be adhered to.
- Educators in each grade group should work together to develop assessment tasks. Work should be done on a rotation basis. All the educators in each grade group should preferably get a turn to develop the documents.
- Assessment tasks, as well as the applicable learning programme, work schedule and lesson plan should be submitted to the head of the department for approval. Where possible memoranda should be attached.
- Assessment tasks, lesson plans, etc. should preferably be ready for monitoring during the last week of the previous term, but not later than the first school day of the term in which it should be completed.
- Learners' performance should be recorded as a code for the assessment task.
- Where necessary comments may be written for support purposes.
- Assessment tasks should be typed neatly before being submitted for approval.
- In the case of absence the learner should be allowed to complete an assessment task later. (A written excuse from the learner's parent or guardian or a medical certificate is required.)
- Educators should inform a learner's parents in writing if the learner still has not completed assessment tasks after repeated requests. These letters should be signed by the head of the department and a copy should be placed in the learner's profile and/or the educator's intervention file.

ASSESSMENT

INTRODUCTION

Assessment is a continuous and planned process of identifying, gathering, interpreting, and diagnosing, information about the performance of learners. All forms of assessment involve generating and collecting evidence of achievement; evaluating this evidence and using this information to understand and thereby assist the learner's development and the teaching process.



Assessment should be both *informal* and *formal*. In both cases regular feedback should be provided to learners to enhance the learning experience. enhance the learning experience.

INFORMAL AND FORMAL ASSESSMENT

Informal assessment consists of regular checking of learners' class work (including practical tasks) asking questions orally and giving constructive feedback. Marks for informal assessment need not be recorded.

Formal assessment consists of selected assessment tasks, the marks of which should be recorded formally. These assessment tasks are done throughout the year and include tests, selected practical tasks or investigations and examinations. All marks that are recorded formally contribute to the final year mark.

Assessment is a process that measures individual learners' attainment of knowledge (content, concepts and skills) in a subject by collecting, analysing and interpreting the data and information obtained from this process to:

- Enable the teacher to judge a learners' progress in a reliable way
- Inform learners of their strengths, weaknesses and progress
- Assist Educators, parents and other stakeholders in making decisions about the learning process and the progress of learners

Assessment should be mapped out against the content (concepts and skills) and specific aims for Natural Sciences.

In both informal and formal assessments it is important to ensure that in the course of a school year:

- all of the subject content is covered
- the full range of major skills is included. (See **Section 2.7** and **Section 4.5**)
- a variety of different forms of assessment is used. (See **Section 4.4**)

INFORMAL ASSESSMENT OR DAILY ASSESSMENT

The purpose of Informal assessment is to continuously collect information on a learner's achievement that can be used to improve their learning.

Informal assessment is a daily monitoring of learners' progress. It should not be seen as separate from the learning activities taking place in the classroom.

Informal assessment can be done through observation, discussion, practical demonstrations, informal classroom interactions, class work, investigations and so on. Informal assessment may be as simple as stopping during the lesson to observe learners or to discuss with learners how learning is progressing. Informal assessment should also be used to provide feedback to the learners and to inform planning for teaching.

Self-assessment and peer assessment, as part of informal assessment, actively involves learners in assessment and a teacher playing an overseeing role. This is important as it allows learners to learn from and reflect on their own performance.



Selected informal assessment tasks may be marked by learners or Educators, but need not be recorded unless the teacher wishes to do so. The results of daily assessment tasks are not taken into account for promotion and certification purposes, but for improving teaching and learning.

Informal, on-going assessments should be used to encourage the acquisition of knowledge and skills and should be the stepping stones leading up to the formal tasks in the Programme of Formal Assessment. (See **Section 4.4**)

FORMAL ASSESSMENT

Formal assessment tasks and tests form part of a year-long formal Programme of Assessment in each Grade and subject. Formal assessments are marked and recorded by the teacher for progression purposes. All Formal Assessment tasks must be moderated for the purpose of quality assurance and to ensure that appropriate standards are maintained.

Formal assessment provides Educators with a systematic way of evaluating how well learners are progressing in a Grade and in a particular subject. Formal assessment tasks in Natural Sciences are tests, examinations, selected practical tasks or investigations and a project. The project may be done at any time during the year, but the marks must be recorded in the 4th term.

The School-based assessment component in the different phases is as follows:

Grades	Formal school-based	End-of-year examinations
R - 3	100%	n/a
4 - 6	75%	25%
7 - 9	40%	60%
10 and 11	25%	75%
12	25% including school-based mid-year and 'trial' examinations	External examination: 75%

Formally assessed tests and practical tasks/investigations must together reflect the whole term's work. Weighting of marks should reflect time allotted to each section in the curriculum content.

The cognitive demands of assessment

The cognitive demands of assessment used should be appropriate to the age and developmental level of the learners in the grade. Assessments in Natural Sciences must cater for a range of cognitive levels and abilities of learners within this context. The assessment tasks should be carefully designed to cover the content of the subject as well as the range of major skills that have been specified under the Process skills

The Specific Aims, the topics and content and the range of major skills must be used to inform the planning and development of assessment tasks.



Cognitive levels for the assessment of content in Grades 7, 8 and 9

Setting tests and tasks for different cognitive levels	Knowing science	Understanding science	Applying scientific knowledge	Evaluating, analyzing, synthesising scientific knowledge
Percentages indicating the proportion of low, middle and high order questions in tasks, tests and exams	Low order questions 40%	Middle order questions 45%		High order questions 15%
Useful verbs to use when setting questions	State Name Label List Define Describe and others ...	Explain Compare Rearrange Illustrate Give an example Calculate Make a generalisation and others ...	Predict Apply Use knowledge to demonstrate Solve Implement Judge and others ...	Select Differentiate Analyse Infer Suggest a reason Interpret Discuss Categorise and others ...

4.4 FORMAL ASSESSMENT REQUIREMENTS FOR NATURAL SCIENCES

In any formal assessment, learners should be made aware of what will be assessed and how that will be assessed.

Grades 7, 8 and 9

FORMAL ASSESSMENTS	TERM 1	TERM 2	TERM 3	TERM 4	TOTAL % FOR THE YEAR
School-based assessments	Test 1 *Practical task/ Investigation 1	Test 2 *Practical task/ Investigation 2	Test 3 *Practical task/ Investigation 3	*Practical task/ Investigation 4 ***Project	40%
Exams		**Exam 1 on work from terms 1 & 2		**Exam 2 on work from terms 3 & 4	60%
Number of formal assessments	2	3	2	3	Total: 100%

Notes: * Grade appropriate assessment on aspects of investigation processes should form part of the selected practical tasks in the assessment programme for the year

** Content, concepts and skills across all the topics, including knowledge of investigations and some skills associated with practical work must be assessed in the written exams

*** The project can be done at any time of the year but it is incorporated in the 4th term mark



A note on tests and examinations

Tests and examinations consist of a range of questions that cover the different cognitive levels – knowing science, understanding, and applying scientific knowledge, evaluating, analysing, and synthesising. (See *percentages indicating the weighting of **Cognitive levels for the assessment of content** under **Section 4.3***). The weighting of marks should reflect time allotted to each section in the curriculum content.

A single formal class test in a term will not necessarily provide the most accurate and reliable evidence of every learner's performance. One formal class test in the first three terms is the minimum number that must be recorded.

Learners are required to respond to questions within a specified time under controlled conditions. Since they are generally easy to mark reliably, they are a good way to conduct formal assessment, and can also be a useful informal assessment tool. Examinations are similar to tests; the only difference is that they cover more content.

A note on practical tasks

In carrying out practical tasks learners are required to demonstrate their skills or proficiencies. Learners use materials and equipment to create, produce or investigate something. The teacher observes the learner demonstrate specific practical skills (e.g. measuring the height of a plant, manipulating materials to make models, using a thermometer to measure temperature, etc.). Practical tasks can be very useful for assessing how learners draw on knowledge and values to carry out practical skills (manual and/or behavioural, e.g. safety and handling of equipment).

Any practical task should provide opportunities for learners to demonstrate several different skills - see those listed under **Section 2.7**. These may or may not include **investigation skills**. However, there are some circumstances in which only some of these skills would apply and not every skill can be assessed in every practical task.

Practical tasks include a range of activities where learners communicate what they know and can do. Include a range of tasks to ensure inclusivity and to accommodate different learning styles. These ways to communicate include: acting out, speaking/discussing, drawing, making models, doing science practical work, working in the environment, writing and doing calculations.

Assessment of practical tasks

The assessment may be based on the end-result of the activity (the product), or the carrying-out of the activity (the process), or a combination of both.

Assessment tools of projects could be a combination of rubric, memorandum, checklist, etc.

A note on projects

Projects are tasks in which learners illustrate or apply knowledge that they have gained in class. Projects may involve aspects of investigation and/or research. Learners may collect data to understand a particular set of circumstances and/or



phenomena. In doing this, they can build models, compile reports, essays or posters and even give presentations. Learners can do projects individually or in groups or working alone, but with some support and guidance from the teacher. The teacher directs the choice of the project, usually by providing the learners with a topic or brief for the investigation.

Assessment of projects

Educators can assess different stages of projects separately, or the entire project. Assessment of projects should be based on the understanding of content, application of skills and values applicable in a relevant context and may vary in extent. Projects may be done in class and should be sufficiently diverse to promote inclusivity. Assessment tools of projects could be a combination of rubric, memorandum, checklist, etc. One project per year must be done in the Senior Phase. It can be done in any term, but the marks must be recorded in term 4.

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MODERATION OF ASSESSMENT

Moderation refers to the process that ensures that the assessment tasks are fair, valid and reliable. Moderation should be implemented at school, district and, if necessary provincial levels. Comprehensive and appropriate moderation practices must be in place for the quality assurance of all subject assessments. In Grades 7, 8 & 9 the formal School-based assessment (including the practical assessment tasks) should be moderated by the relevant subject specialist(s) at district level and if necessary at provincial level in consultation with the moderators at school. Moderation serves the following purposes:

1. It should ascertain whether the subject content and skills have been taught and assessed. (sufficiently covered)
2. It should ensure that the correct balance of cognitive demands is reflected in the assessment.
3. It should ensure that the assessments and marking are of an acceptable standard and consistency.



4. It should identify areas in which the teacher may need further development and should lead to support for such development.

5. It should reflect the scope covered by the teacher in line with the term's requirement.

Moderation is therefore an ongoing process and not a once-off event at the end of the year. There is no national moderation in the Senior Phase.

TIME ALLOCATION

Senior Phase

The instructional time in the Senior Phase is as follows:

SUBJECT	HOURS
Home Language	5
First Additional Language	4
Mathematics	4, 5
Natural Sciences	3
Social Sciences	3
Technology	2
Economic Management Sciences	2
Life Orientation	2
Creative Arts	2
TOTAL	27, 5

RECORDING AND REPORTING

Recording is a process in which the teacher documents the level of a learner's performance in a specific assessment task. It indicates learner progress towards the achievement of the knowledge as prescribed in the Curriculum and Assessment Policy Statements. Records of learner performance should provide evidence of the learner's conceptual progression within a grade and her/his readiness to be promoted to the next Grade. Records of learner performance should also be used to verify the progress made by Educators and learners in the teaching and learning process. Records should be used to monitor learning and to plan ahead.

Guidelines on how the major process skills can be recorded for marks in Natural Sciences

Many of these major process skills (*also refer to **Section 2.7***) are combined into one activity. Not every major skill needs to be marked and recorded in each task.



Natural Sciences major investigation process skills	Mark allocation
Writing the topic	
Raising/ writing a question to investigate	
Making a prediction/ hypothesis	
Planning the investigation	
Collecting data	
Recording data	
Evaluating and communicating results	
Total	

Reporting is a process of communicating learner performance to learners, parents, schools, and other stakeholders. Learner performance can be reported in a number of ways. These include report cards, parents' meetings, school visitation days, parent-teacher conferences, phone calls, letters, class or school newsletters, etc.

Educators will record actual marks against the task by using a record sheet; and report percentages against the subject on the learners' report cards. Percentages are reported and may be related to the 7-point rating code.

Schools are required to provide quarterly feedback to parents on the Programme of Formal Assessment, using a formal reporting tool, such as a report card. The schedule and the report card should indicate the overall level of performance of a learner.

CODES AND PERCENTAGES FOR RECORDING AND REPORTING

Rating Code	Description of Competence	Percentage
7	Outstanding achievement	80 – 100
6	Meritorious achievement	70 – 79
5	Substantial achievement	60 – 69
4	Adequate achievement	50 – 59
3	Moderate achievement	40 – 49
2	Elementary achievement	30 – 39
1	Not achieved	0 - 29

Educators will record actual marks against the task by using a record sheet and report percentages against the subject on the learners' report cards.



PRINCIPLES FOR RECORDING AND REPORTING

The following principles underpin the approach to both recording and reporting:

1. Recording of learner performance is against the assessment task and reporting is against the mark obtained in a term, semester or year.
2. Educators should show in their files that they have covered all the formal tasks set.
3. National codes and/or marks, percentages and comments can be used for recording and reporting purposes.
4. The following is applicable to recording and reporting per phase:
 - a. Foundation Phase (Grades R – 3): Record and report in national codes and their descriptions.
 - b. Intermediate Phase (Grades 4 – 6): Record and report in national codes and their descriptions and percentages.
 - c. Senior Phase (Grades 7 – 9): Record and report in national codes and their descriptions percentages.
 - d. Grades 10 – 12: Record in marks and report in percentages.
5. The schedule and the report card should indicate the overall level of performance of a learner.
6. In the case of Languages, each language that the learner offers should be recorded and reported on separately according to the different levels on which they are offered. For example, Home Language – English, First Additional Language – IsiXhosa, Second Additional Language – Afrikaans Second Additional Language.
7. The number of formal assessment tasks to be recorded in each phase is provided in *chapter 4* of the National Curriculum and Assessment Policy Statements.
8. The recorded pieces of evidence should reflect a variety of forms of assessment. More information on this is provided in *chapter 4* of the National Curriculum and Assessment Policy Statements.
9. Educators must report regularly to learners and parents on the progress of learners. Schools are required to provide feedback to parents on the programme of assessment using a formal reporting tool such as a report card.

In addition to the report cards, other reporting mechanisms such as parents' meetings, school visitation days, parent-teacher conferences, phone calls, letters, class or school newsletters, etc. may be used. The school will determine the format of these reporting strategies.



RECORD SHEETS

1. Educators are expected to keep efficient and current mark sheets of the learners' progress. It is expected that carefully compiled records and/or evidence of learner performance be maintained to justify the final rating a learner receives at the end of the year.
2. Educators are expected to keep current records of learners' progress electronically/in files/books/folders or any other form the school has agreed on.
3. Record sheets must at least have the following information
 - a. Subject;
 - b. Grade and class;
 - c. Learners' names;
 - d. Dates of assessment;
 - e. Names of the formal assessment tasks;
 - f. The results of formal assessment tasks; and
 - g. Comments for support purposes when and where appropriate.

The record sheets should be used to compile a schedule that will in turn be used to compile reports once a term. Schools should therefore develop Record Sheets using the criteria specified in *subparagraph 3*.

LEARNERS' WORKBOOKS

- At the beginning of the year each learner should get a workbook to do activities for Social Sciences in and to write or paste notes, etc. in.
- Work as included in the assessment tasks should first be taught thoroughly in the workbooks.
- Workbooks should be covered and kept neat.
- Each educator can make a front page of his or her choice for writing books.
- If a learner loses or damages his or her workbook, his or her parents should replace it themselves.
- Educators should mark learners' workbooks regularly and meticulously or supply the correct answers in the case of self or peer assessment.
- Corrections should be made by the learners where necessary.



INTERVENTION

- Educators should throughout be able to provide evidence of how they accommodate the learners with barriers for learning (e.g. extra activities to address problem areas, errors that are corrected, discussion with EST, letters or discussions with parents).
- Intervention should also be supported by a suitable instrument that proves attempts to support learners.

EDUCATOR'S FILE

1. All Educators are expected to keep a file containing evidence of their teaching and assessment, viz. Annual teaching plan, Assessment plan, Formal assessment tasks and memoranda, Indication of Textbook(s) and any resources used, Record sheet containing learners' marks for each formal assessment task and informal notes or any intervention that is planned by the teacher to assist learners who require additional support (where they exist). It is the Educators' responsibility to ensure that the information in their assessment files is kept up to date.
2. A teacher assessment file may be a file, a folder, a box, or any other suitable storage system.
3. The formally recorded assessment tasks should be clearly marked or indicated in the teacher's file. Stickers, coloured paper, etc. may be used for this purpose.
4. Educators' files should always be available on request for moderation and accountability purposes.

LEARNER PROFILE

A Learner Profile is a continuous record of information that gives a holistic impression of a learner and a learner's progress and performance. It assists the teacher in the next grade or school to understand the learner better and therefore to respond appropriately to the learner.

ADMINISTRATION

1. Learner Profiles should be kept at school and will be moved from one school to the next on the request of the principal of the next school.
2. The school management of the receiving school has an obligation to request the Learner's Profile from the previous school within three months of the learner's admittance.



3. The Learner Profile for every learner must be safeguarded and should accompany learners throughout their schooling career. The security of the Learner Profiles and the updating of required information rest with the school management.
4. The parents and other stakeholders have a right to access and view the Learner Profile on request. However, this should be done in the presence of the school management.
5. The Learner Profile is a confidential document and should be treated as such. Under no circumstances should sensitive information such as the health status of the learner be divulged to anyone without the written permission of the parents or guardians.
6. Under no circumstances should the profile be moved from the school unless it is for reasons mentioned in *subparagraph 1*.
7. The Provincial Departments of Education are responsible for providing pre-printed files /folders for the Profiles.
8. The pre-printed files/folders should be designed such that a Learner Profile includes the following information:
 - a. personal information;
 - b. medical history;
 - c. schools attended and record of attendance;
 - d. participation and achievements in extra-curricular activities;
 - e. areas needing additional support; and
 - f. learner performance.
9. In cases where the files/folders need repair, the school principal concerned should make a request to the district office for a replacement.
10. The compilation of Learner Profiles should be started at Grade R and should continue until the learner completes Grade 12.
11. Once the learner has passed Grade 12 or exited the schooling system for any reason whatsoever, the learner profile should be stored in the last school attended for a period of three years where after it should be destroyed. If the learner within this specified period re-enters the schooling system to further his or her studies, the provisos stated in *subparagraphs 1 and 3* will apply.
12. The Learner Profile replaces all previous continuous record documents that have been used by schools, such as record cards, tutor cards, Edlab cards, etc.



PHASE MEETINGS / DISCUSSIONS

- Meetings should be held at least once per month, but more often if necessary.
- Attendance is compulsory for all the educators of the foundation phase. Written excuses should be submitted the previous day.
- Minutes should be kept at each meeting by a person indicated for the specific meeting and distributed amongst the educators for filing in their educators' portfolios.

This policy was adopted by the School Management on

This policy has been made available to school personnel and is readily accessible to parents and learners on request.

This policy will be reviewed and updated every year.

Signed _____
School Management

Date: _____

Signed _____
Principal

Date: _____

Signed _____
Educator Representative

Date: _____

