



EXAMINATIONS COUNCIL OF ZAMBIA

2022 JUNIOR SECONDARY SCHOOL LEAVING EXAMINATIONS PERFORMANCE REVIEW REPORT

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Foreword



The Junior Secondary School Leaving Examination, which marks the end of Junior Secondary Education, serves as a bridge for learners' transition to Senior Secondary School Education. The examination also provides system level learning achievement information key in evaluating and strengthening teaching and learning at Junior Secondary school level in Zambia. It is for this reason that the Examination Council of Zambia develops examination performance review reports at the end of each examination cycle to provide feedback to internal and external education stakeholders on candidates' performance.

This report presents in-depth analysis of the performance of candidates who sat the 2022 examination. This includes an overview of the 2022 Grade 9 examination and examination of performance by certificate and grade classification, mean scores, gender and subject groupings. Further, a qualitative analysis of learners' performance according to three categories of high, average and low performers is provided.

It is hoped that, this report will provide essential information on which policy as well as instructional decisions, to enhance learner performance could be made. It is further hoped that the report will also serve as an essential tool for research and development, cross-national comparisons and benchmarking.

Dr. Michael Chilala

Executive Director

Examination Council of Zambia

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The ECZ expresses its sincere gratitude to all those who assisted in preparing this report, and special recognition is deserved by the underlisted officers for their extensive experience, knowledge, and expertise in producing and publishing this report:

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1.0 Introduction

This report focuses on the outcomes of the 2022 Grade 9 Internal Junior Secondary School Leaving Examinations. The first section of the report gives an overview of the exam results while the second, provides in-depth analysis of subject areas and performance. The exam results' highlights provide information on a number of performance-related factors, including candidature, absenteeism, certificate division, gender, age, and school type. The report also contains statistical information on candidates with Special Educational Needs (SEN). The review of candidates' performance in each subject was broken down according to their strengths and weaknesses.

This is an overview of the performance, absence, and candidature data from the 2022 Junior Secondary School Leaving (Grade 9 Internal) Examination. Further, the 22 subjects were grouped into the following subject clusters to streamline the analysis:

- i. Languages
- ii. Social Sciences
- iii. Business Studies
- iv. Natural Sciences
- v. Practical Subjects

1.1 Overview of the 2022 Junior Secondary School Leaving Examination (Grade 9 Internal)

The examination was written from Thursday, 24th November to 2nd December 2022. Guidelines to Candidates and Invigilators were given on Wednesday, 23rd November 2022. Marking of answer scripts was undertaken from 12th to 17th December 2022.

It is important to note that the Chinese Language was examined for the third time during the 2022 Examination session. This takes the number of foreign languages being studied at this level up to two (French and Chinese). English is the official language of instruction in Zambia.

In the same line, during the Junior Secondary School Leaving Examination (Grade 9 Internal) session in 2022, St. Jeff College of South Africa submitted candidates for the third time.

1.2 Candidature


Generally, thirty-seven thousand three hundred and one (307,301) candidates registered to take the Junior Secondary School Leaving (Grade 9) Internal Examination in 2022. One hundred forty-seven

thousand three hundred sixty-six (147,366) of them were males, making up 47.95 percent of the total, while 159,932 of them were girls, making up 52.1 percent (see table 1).

The total number of learners registering for Junior Secondary School Leaving (Grade 9) Internal Examination increased by 9.80 percent as compared to the previous year 2021 where the candidature decreased by 1.74 percent. This was also the trend in 2019.

It is also worth noting that in 2022, the percentage increase in candidature for girls was higher than that of boys by 2.63 percentage points.

Table 1: Grade 9 Candidate Entry for 2022 - 2018

Year	Boys	Girls	Total
2018	141,704	142,819	284,523
2019	138,471	139,522	277,993
2020	139,777	144,978	284,755
2021	135,890	143,982	279,872
2022 	147,366	159,932	307,301
Change	11,476	15,950	27,429
% Change	8.45	11.08	9.80

Out of three hundred and seven thousand three hundred and one (307,301) candidates who entered, two hundred eighty-four thousand eight hundred eighty (284,880) sat for the 2022 Examination, representing an increase of 10.61 percent from the 2021 Examination. This represents an increase in the number of candidates that sat this examination in 2020, 2021 and 2022. It is equally worthwhile noting that candidate absenteeism dropped for the 2022 examination session just like it did during the 2020 and 2021 sessions (see figure 1).

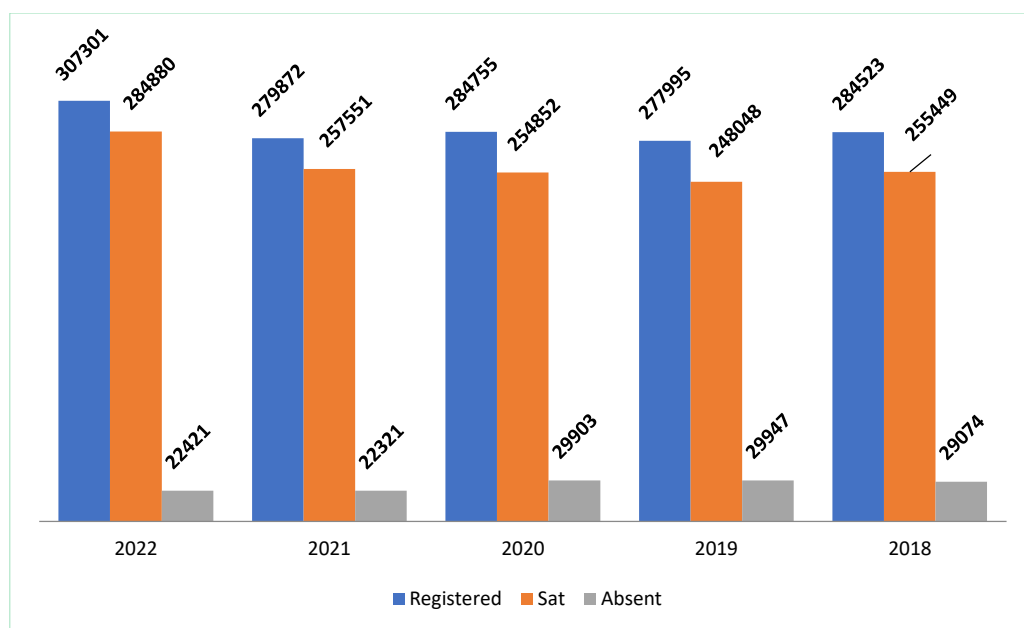


Figure 1: Candidature for 2022, 2021, 2020, 2019 & 2018

1.3 Candidature by Subject

Over 280 000 candidates entered for the core subjects, which had strong entrance numbers. The most entries were in English, Mathematics, Social Studies, and Integrated Science. Following were Business Studies and Religious Education. The least number of entries were recorded in Chinese Language.

As observed in the previous year's more boys entered Design and Technology than girls. The number of boys who entered and those who eventually sat for the subject were almost twice that of girls.

French Language, recorded more girls than boys who entered and actually sat the subjects, a similar to the trend in 2020. Further, Agricultural Science and Design & Technology had more boys than girls who entered and sat the examination. See Table 2.

Table 1: Candidature by Subject

Subject	Entered	Sat	Absent
Agricultural Science	41392	37363	4029
Art & Design	28019	25872	2147
Business Studies	297521	277741	19780
Chinese Language	117	116	1
Chitonga	37197	33948	3249
Cinyanja	46343	41757	4586
Computer Studies	237152	222042	15110
Design & Technology	9231	8856	375
English Language	307292	286348	20944
French	6445	6055	390
Home Economics	64291	59663	4628
Icibemba	86530	79146	7384
Integrated Science	307214	286288	20926
Kiikaonde	10381	9210	1171
Lunda	4299	3972	327
Luvale	3697	3410	287
Mathematics	307220	286247	20973

Musical Arts Education	7023	6476	547
Physical Education	48719	44664	4055
Religious Education	290549	270995	19554
Silozi	17926	16493	1433
Social Studies	307142	286871	20271

Among the Zambian Languages, Icibemba had the highest entries with eighty-six thousand, five hundred and thirty (86, 530) a similar trend observed in 2021. Cinyanja had the second highest candidature followed by Chitonga.

Chinese language had the lowest entries with only One hundred and seventeen (117) candidates. However, it is important to note that only one candidate was absent during this examination.

1.4 Absenteeism

It is common knowledge that student's absence from public examinations has a substantial financial impact on the government as well as on individual families who invest a lot of time, effort and money in preparing their children for examinations. Students who do not show up for examinations after registering as candidates use up precious national resources.

A drop by 0.8 percent in absenteeism rate was observed from the 2021 rate of 7.98 percent. A trends analysis over a period of 6 years revealed that absenteeism has dropped from 12.04 percent in 2017 to 7.30 percent in 2022. Our hope is for the downward trend to continue.

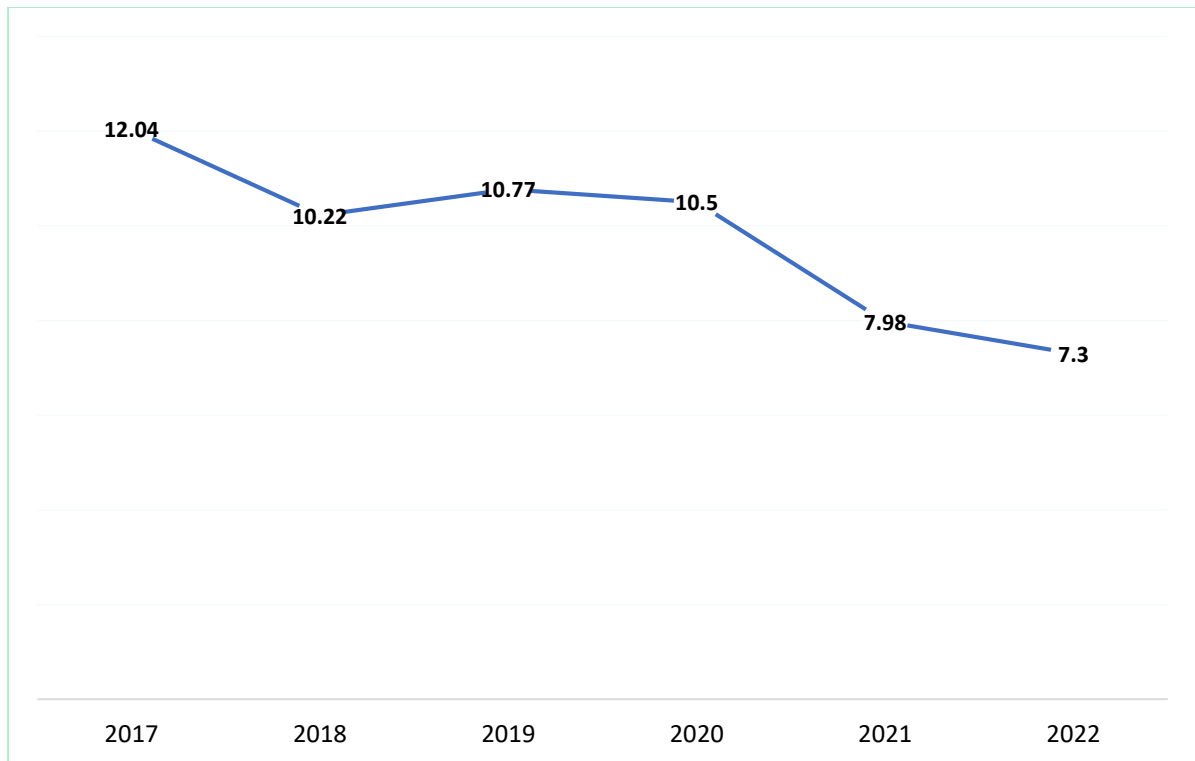


Figure 2: Absenteeism Rate from 2017 to 2022

In 2022, girls' absenteeism rate dropped to 7.28 percent from the 7.70 percent, which was recorded in the previous year, while that of boys was 7.31 percent in 2022 from 8.27 percent in 2021. Generally, boys' absenteeism rate was higher than that of the girls in five provinces of Lusaka, Luapula, Western, Northern and Muchinga while in the other remaining five, more girls were absent than boys (See figure 3)

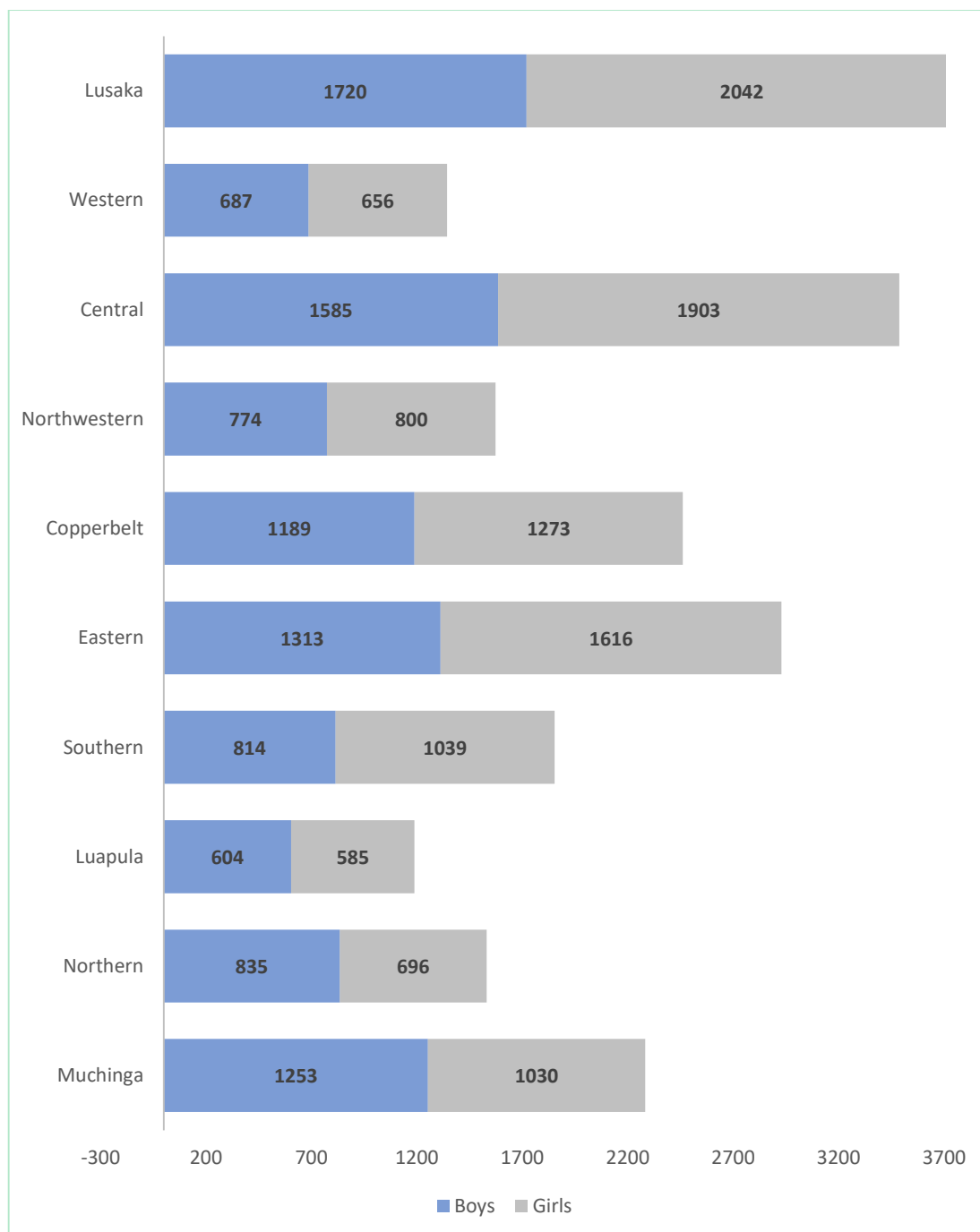


Figure 3: 2022 Grade 9 Absenteeism by Province and Sex

Generally, absenteeism rate in the 2022 Junior Secondary School Leaving (Grade 9 Internal) Examination has shown a decrease in seven provinces except Muchinga, Eastern and Lusaka.

The highest reduction in absenteeism rate was recorded in Northern province followed by Luapula and Central. The least reduction was recorded on the Copperbelt (See Figure 4).

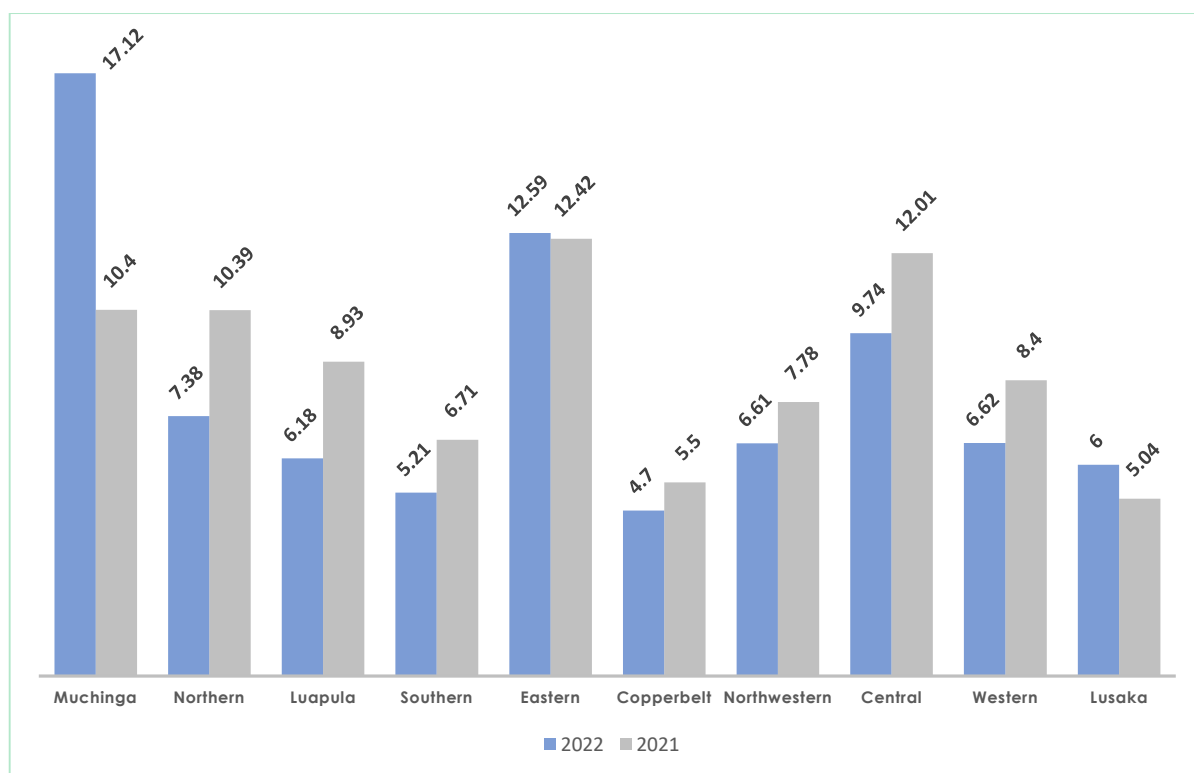


Figure 4: 2022 & 2021 Grade 9 Absenteeism Rates by Province (%)

2.0 General Performance

2.1 Certificate and Grade Classification

The scores for different paper components of the subjects are aggregated to create a subject score for each of the subject area. The certificate awards classification for the Grade 9 Examinations are in three categories: namely; Certificate, Statement and Fail.

- **Certificate:** A candidate who is awarded the Junior Secondary School Leaving Examination (JSSLE) Certificate must score a minimum of 40 percent in at least 6 subjects.
- **Statement:** A candidate who obtains a statement must score a minimum of 40 percent in less than 6 subjects.
- **Fail:** A candidate is considered to have failed if he/she has a score less than 40 percent in all the subjects.

For selection and certification purposes, a candidate's best six subject scores are aggregated. The grade boundaries used for Junior Secondary School Leaving (Grade 9) Internal Examination are as follows:

Table 2: Grade Boundaries Junior Secondary School level

Range	Grade	Grade Description
75% to 100%	Grade 1	Distinction
60% to 74%	Grade 2	Merits
50% to 59%	Grade 3	Credits
40% to 49%	Grade 4	Pass
39% to 0%		Fail

Table 4 compares the performance of candidates by certificate awards in the 2022 Examination session to the 2021 session.

Table 3: Performance by Certificate Awards

		2022			2021		
		Boys	Girls	Total	Boys	Girls	Total
Certificates	Number	73714	80590	154304	68503	71689	140192
	<i>Proportion (%)</i>	53.97	54.35	54.16	54.95	53.94	54.43
Statements	Number	49288	54722	104010	46643	52610	99253
	<i>Proportion (%)</i>	36.09	36.90	36.51	37.42	39.59	38.54
Fail	Number	13585	12981	26566	9510	8596	18106
	<i>Proportion (%)</i>	9.95	8.75	9.33	7.63	6.47	7.03

Of the 284,880 candidates that sat the 2022 Junior Secondary School Leaving Examination (JSSLE), **154,304** candidates (**54.16%**) obtained certificates. This represents a marginal drop from 54.43 percent in 2021 of 0.27 percentage points which was statistically insignificant.

In terms of gender, more girls (**54.35%**) than boys (**53.97%**) received certificates. In comparison to 2021, this implies a rise of 0.41 percentage points for females and a fall of 0.98 percentage points for boys.

Further, **104,010** candidates representing **36.51 percent** obtained statements. In comparison to 2021, the number of candidates that obtained statements in 2022 decreased by **2.03** percentage points from **38.54** percent (See table4).

With reference to candidates failing, **26,566** candidates representing **9.33 percent** failed the 2022 Examination. This represents an increase of **2.3** percentage points from 2021. Gender wise, more boys (**9.95%**) failed the examination than girls (**8.75%**). This was the case during the 2019, 2020 and 2021 Examinations.

The highest failure rate was recorded in Central Province (12.94%) and North-western Province (12.67%). The lowest failure rate was recorded in Eastern Province (5.28%).

2.2 Performance in the Six Core Subjects Mean Score

The mean scores for the six core disciplines: Mathematics, Integrated Science, Social Studies, Business Studies, English Language and Computer Studies, formed a basis for comparing candidates' performance in the Junior Secondary School Leaving (Grade 9 Internal) Examinations over a period of three years (2020, 2021 & 2022). Due to Computer Studies being an optional subject, the performance comparison in Computer Studies is restricted to selected schools.

Therefore, the mean scores for the six subjects in the 2022 Examination ranged from 24.54 (Mathematics) to 42.62 (Business Studies). In the 2021 Examination, the mean scores ranged from 26.22 percent in Mathematics to 43.89 percent in Computer Studies.

Business Studies (42.62), Computer Studies (41.58) and Integrated Science (41.33) recorded mean percentage scores above the pass mark (40%). This is an improvement compared to 2021, where only Computer Studies recorded mean percentage score above the pass mark (40%).

In terms of performance improvement, Integrated Science, Business Studies and Social Studies were the only subjects amongst the six core subjects that recorded improvements in performance from 2021. Integrated Science, Business Studies and Social Studies improved by 11.92, 6.12 and 4.32 percentage points respectively.

English Language, Computer Studies and Mathematics recorded decrease in 2022 performance from 2021 by 5.67, 2.31 and 1.67 percentage points respectively.

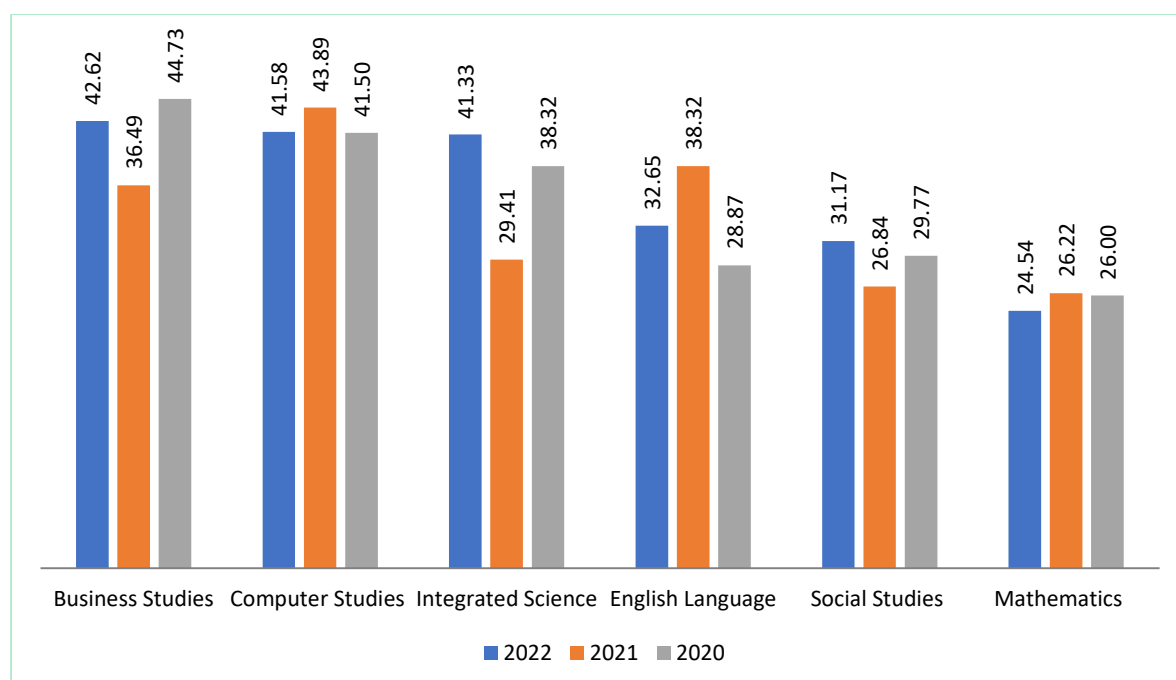


Figure 5: 2022, 2021 & 2020 Percentage Mean Scores Comparison

2.3 Comparison of the 2022 and 2021 School-Based Assessment (SBA) Results

In this section, a comparison of the 2022 and 2021 SBA results is discussed. The mean scores were standardized for comparison purposes. Nine (9) Practical Papers were transformed into School Based Assessments (SBA). This means that schools have been setting and administering these papers since the 2019 examination. SBA contributes towards the final grade by different proportions as carefully determined by the subject experts.

Further, candidate's performance in 2022 when compared to 2021, improved in all the nine SBA papers except Home Economics P2. In 2021, performance improved in all SBA papers from 2020. The highest percentage point increase in SBA papers from 2021 was observed in Art & Design P2 at 5.76 percentage points followed by French P2 at 4.90. The least increase was recorded in Physical Education P2 at 0.97 percentage points. Physical Education also recorded the least increase (0.97) in 2021. Additionally, continuous monitoring of the conduct of School Based Assessments in schools is recommended if adherence to the SBA guidelines and standards is to be ensured.

Table 6: Performance in School Based Assessment (2022 vs 2021)

Practical Papers	2022	2021	Change (%)	2021 to 2022 Movement
Art & Design P2	81.53	75.77	5.76	↑
Musical Arts Education P2	83.56	81.27	2.29	↑
French P2	78.90	74	4.90	↑
Computer Science P2	79.00	77.83	1.17	↑
Agric. Science P2	75.48	73.2	2.28	↑
Integrated Science P2	75.79	72.55	3.24	↑
Home Economics P2	81.23	81.44	-0.21	↓
Design & Technology P2	81.18	78.56	2.62	↑
Physical Education P2	84.04	83.07	0.97	↑

2.4 Performance by Grade Distributions across Subject Groupings

According to the examination of overall performance by grade distributions across all subject disciplines, 44.3 percent of candidates received a grade of "two" or above. While over 37.0 percent of students who took the exams fell into the fail category.

In division one, French had the highest percentage of applicants (26.1%), while Social Studies had the lowest percentage (0.8%). French received the highest grade in the Division Three or higher, coming in at 91.5 percent. With a 29.6 percent percentage, mathematics had the lowest proportions. Similar to 2019 and 2020 and 2021, Mathematics had the highest percentage of unsuccessful candidates (57.03%) and the lowest percentage (Chinese, French, Art and Design, and Design and Technology).

2.4.1 Literature and Languages

The performance of candidates in this subject grouping was as follows:

- French recorded the largest proportion of candidates who obtained division one at 26.08 percent followed by Chitonga at 19.85 percent. Luvale was in the third position at 14.02 percent. In 2021 Luvale was highest while Chitonga which was second. The least was Chinese at 0.86 percent replacing Icibemba which was least in 2021. The proportion of

candidates obtaining division one in English Language increased by 1.68 percentage points from 2021 to 2022 examinations.

- For division three or better category, the highest performance by subject was recorded in French at 93.36 percent followed by Chinese at 76.72 percent while the least proportion was recorded in French at 43.44 percent.
- In terms of failure rate the highest proportion of candidates was recorded in English Language (40.50 percent) similar to 2021. Icibemba was second at 35.85 percent while Kiikaonde was third at 33.47 percent. Refer to figure 10.

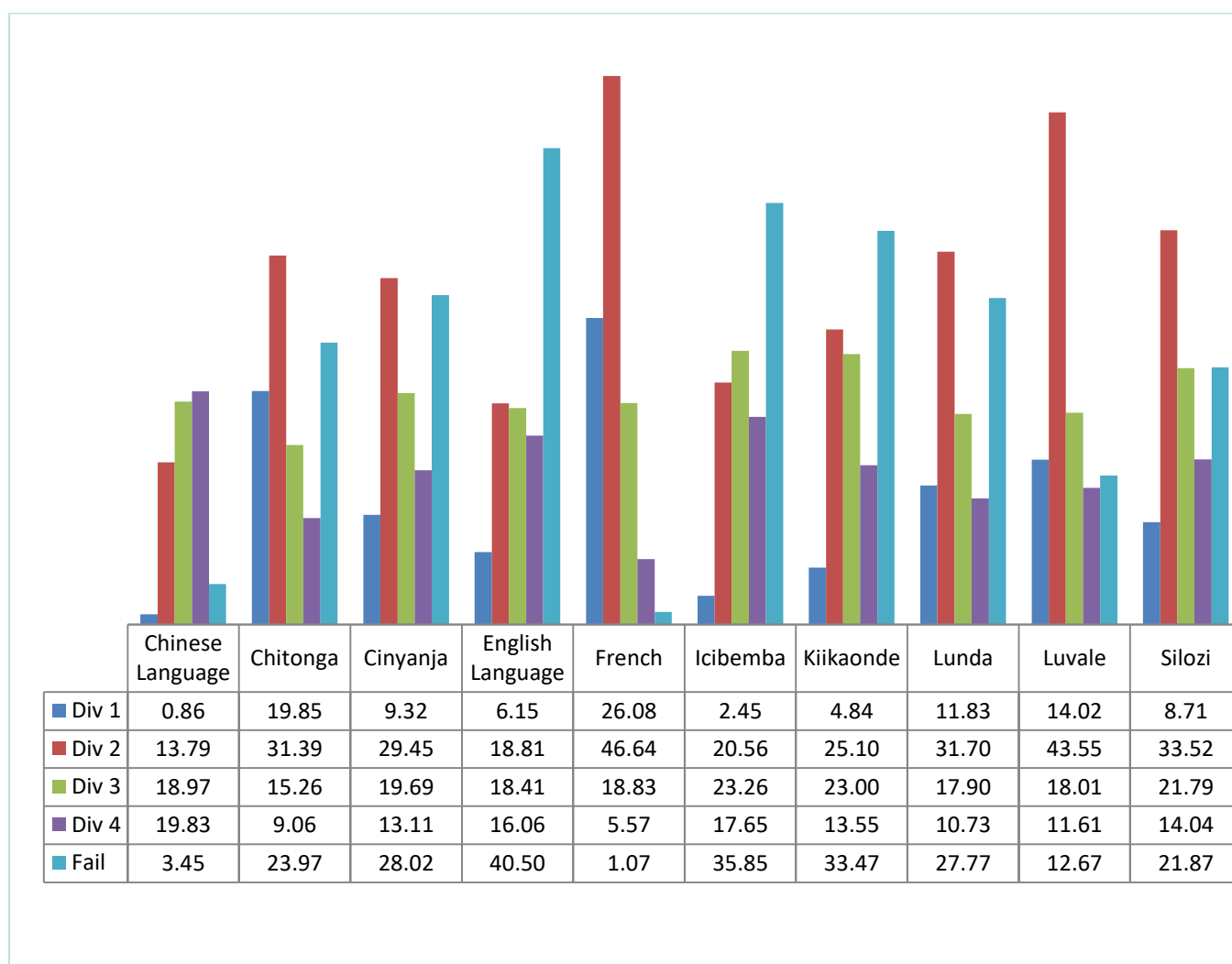


Figure 6: Candidate Performance in Literature and Languages Subjects

2.4.2 Natural Sciences

For this subject grouping the performance of candidates was as follows:

- The largest proportion of candidates who scored Division One was recorded in Integrated Science at 5.94 percent. The least proportion was recorded in Computer studies at 1.08 percent. In 2021, the subject with the least proportion of candidates obtaining division one was Agricultural Science at 1.04 percent while the largest proportion was Mathematics at 3.86 percent.
- The highest performance by subject for Division three or better category was recorded in Integrated Science at 54.38 percent; followed by agricultural science at 45.19 percent while the least proportion was recorded in Mathematics at 29.64 percent. In 2021 the highest proportion was recorded in Computer studies at 52.42 percent.
- The largest proportion of candidates that failed was recorded in Mathematics at 57.03 just like it was in 2021. (See figure 11). It is worth noting that the proportion of candidates who failed Mathematics increased by 1.53 percentage points compared to the increase rate of 0.24 percentage points observed in 2021.

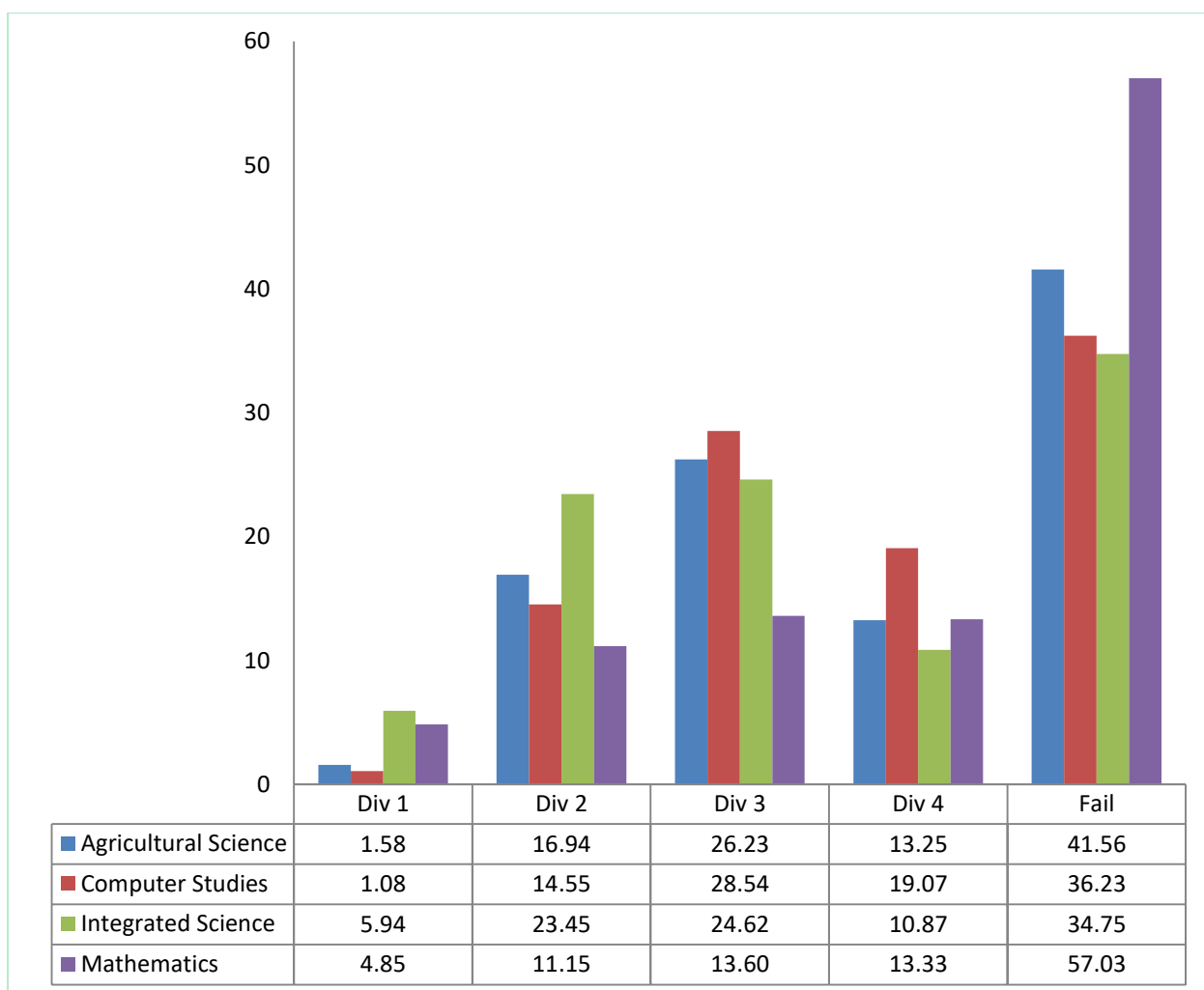


Figure 7: Candidate Performance in Natural Science Subjects

2.4.3 Social Sciences and Business Studies

The performance of candidates in Religious Education; Social Studies and Business Studies was as follows:

- The largest proportion of candidates who obtained Division One was recorded in Business Studies at 10.57percent. The least proportion was recorded in Social Studies at 0.75 percent. The two subjects took the same positions even in the 2021 examinations. It is worth noting that the performance during the 2022 examinations in Business Studies increased by 7.51 percentage points compared to 2021examinations.
- The highest proportion of candidates obtaining Division Three or better was recorded in Business Studies at 46.30 percent; followed by Religious Education at 38.61 percent while the least proportion was recorded in Social Studies at 35.79 percent. In the 2021 examinations the highest performance in this category was recorded in Religious Education while the least was recorded in Social studies.

- The largest proportion of candidates that failed was recorded in Religious Education at 37.62 percent of those who sat the examination (See figure 12). In 2021 Social studies was the highest.

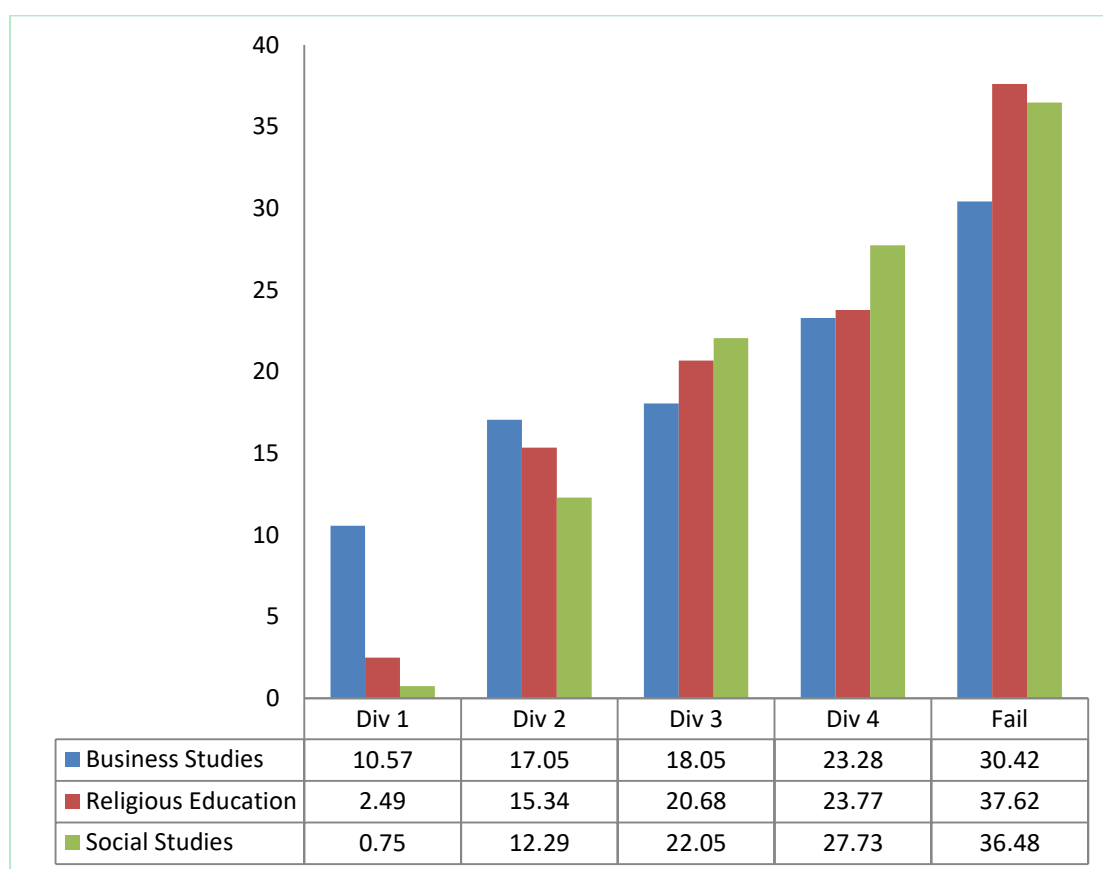


Figure 8: Candidate Performance in Social Sciences and Business Studies subjects

2.4.4 Vocational & Technology Pathway Subjects

Candidates' performance in Art and Design; Design and Technology; Home Economics; Musical Arts Education and Physical Education were as follows:

- The largest proportion of candidates who scored Division One was recorded in Design and Technology at 18.25 percent; followed by Art and Design at 12.55 percent. The least proportion was recorded in Physical Education at 4.95 percent. This ranking is similar to that of 2021. Design and Technology was highest even in 2021 while the least was Home economics.
- The highest performance by subject for Division Three or better category was recorded in Art and Design at 85.10 percent; followed by Design and Technology at 84.42

percent while the least proportion was recorded in Physical Education at 60.89 percent. In 2021 Design and Technology was highest while Home Economics was the least.

- The largest proportion of candidates that failed was recorded in Physical Education at 33.62 percent of those who sat the examination. It's worth noting that the proportion of candidates who failed Physical Education increased by 15.68 percentage points from 2021 to 2022. (See figure 13).

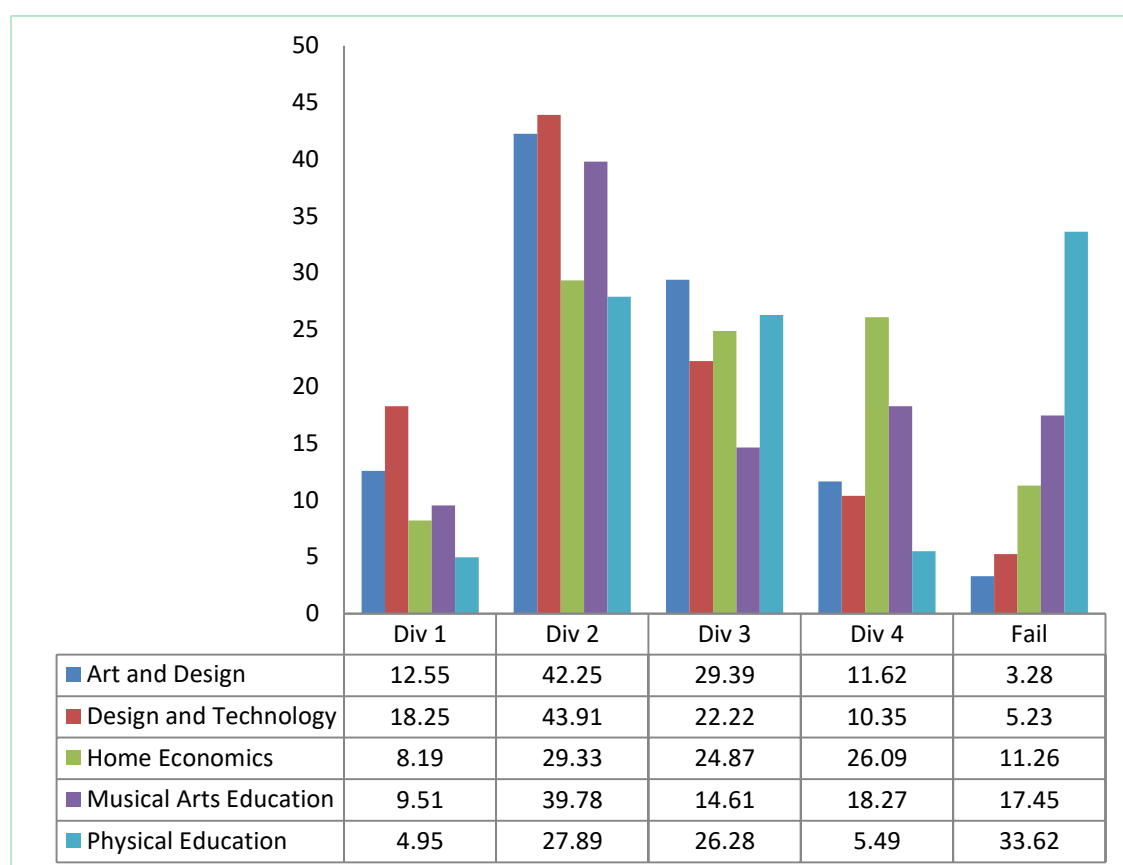


Figure 9: Candidate Performance in Vocational Subjects

2.5 Performance According to Grade Distribution by Sex across all Subject Groupings

In this section the analysis of performance of candidates across subject has been evaluated by gender.

2.5.1 Literature and languages

Generally, female candidates performed better than their male counterparts in the Literature and Languages subject grouping except in Luvale and Cinyanja.

The proportion of females getting Division One was higher than males in six (6) out of the ten (10) subjects. More males obtained Division four than females across the subjects in this grouping.

Female candidates had the highest proportion of failure in English language at 37.12 while males had the highest failure rate in Cinyanja at 37.49 percent.

In comparison to 2021 examinations the failure rate had dropped in most subjects across males and females with English recording a 1.25 and 2.44 percentage points for males and females respectively. (See figure 14).

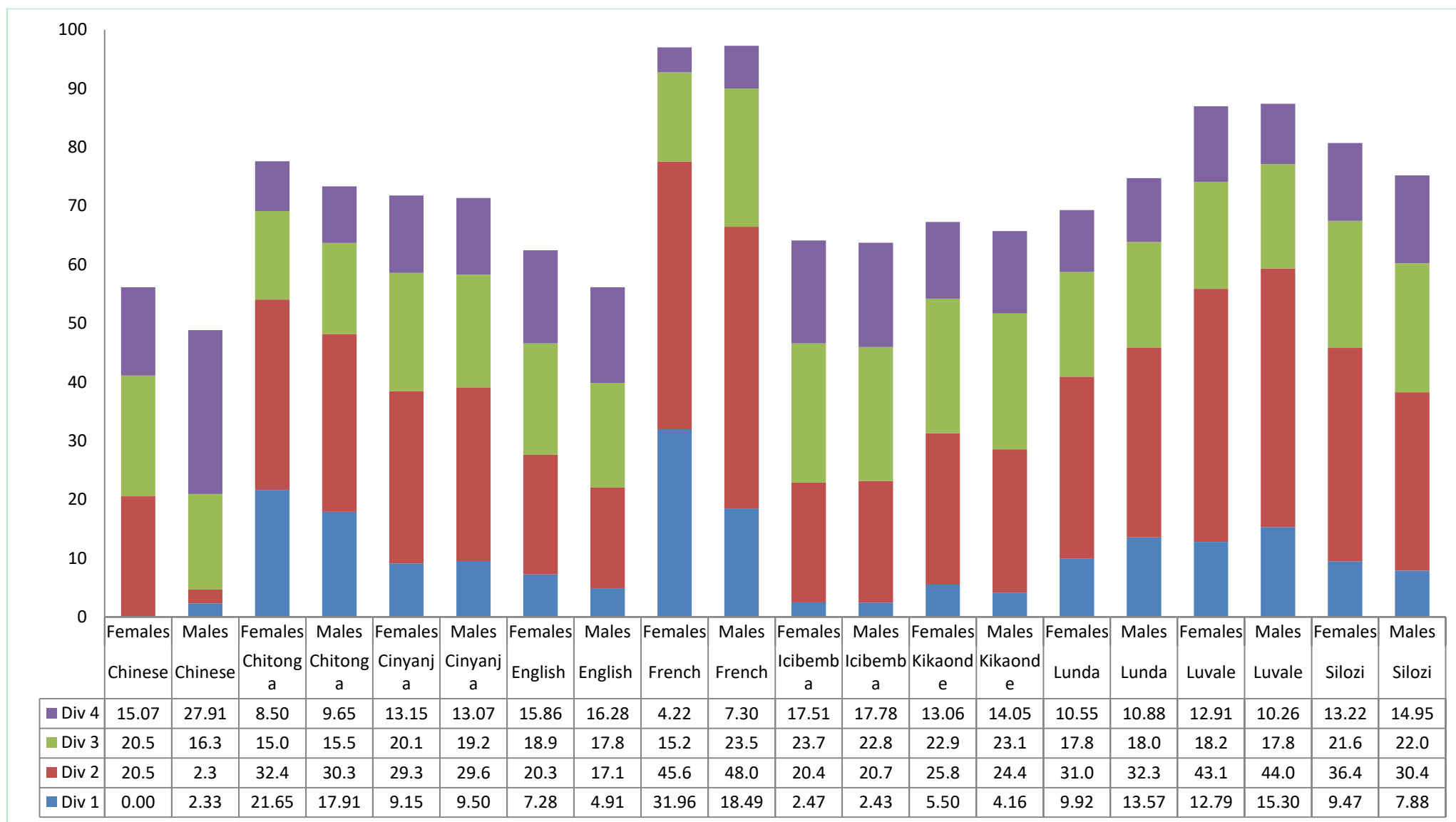


Figure 10: Performance of boys and girls in Literature and languages subject grouping

2.5.2 Natural Sciences

In the Division one category, males performed better than their female counterparts in the entire four Natural Sciences subjects. In 2021 males outperformed females in three out of the four subjects except in Integrated Science.

The proportion of males getting Division three or better was higher than females in all the subjects.

Male candidates' best performance was recorded in Agriculture Science at 47.17 percent for the division three or better category. The females equally performed better in Agricultural science at 42.16 percent.

Like in 2021, both male and female candidates had their highest proportion of candidates failing in Mathematics 59.72 and 54.10 percent for females and males respectively (See figure 15).

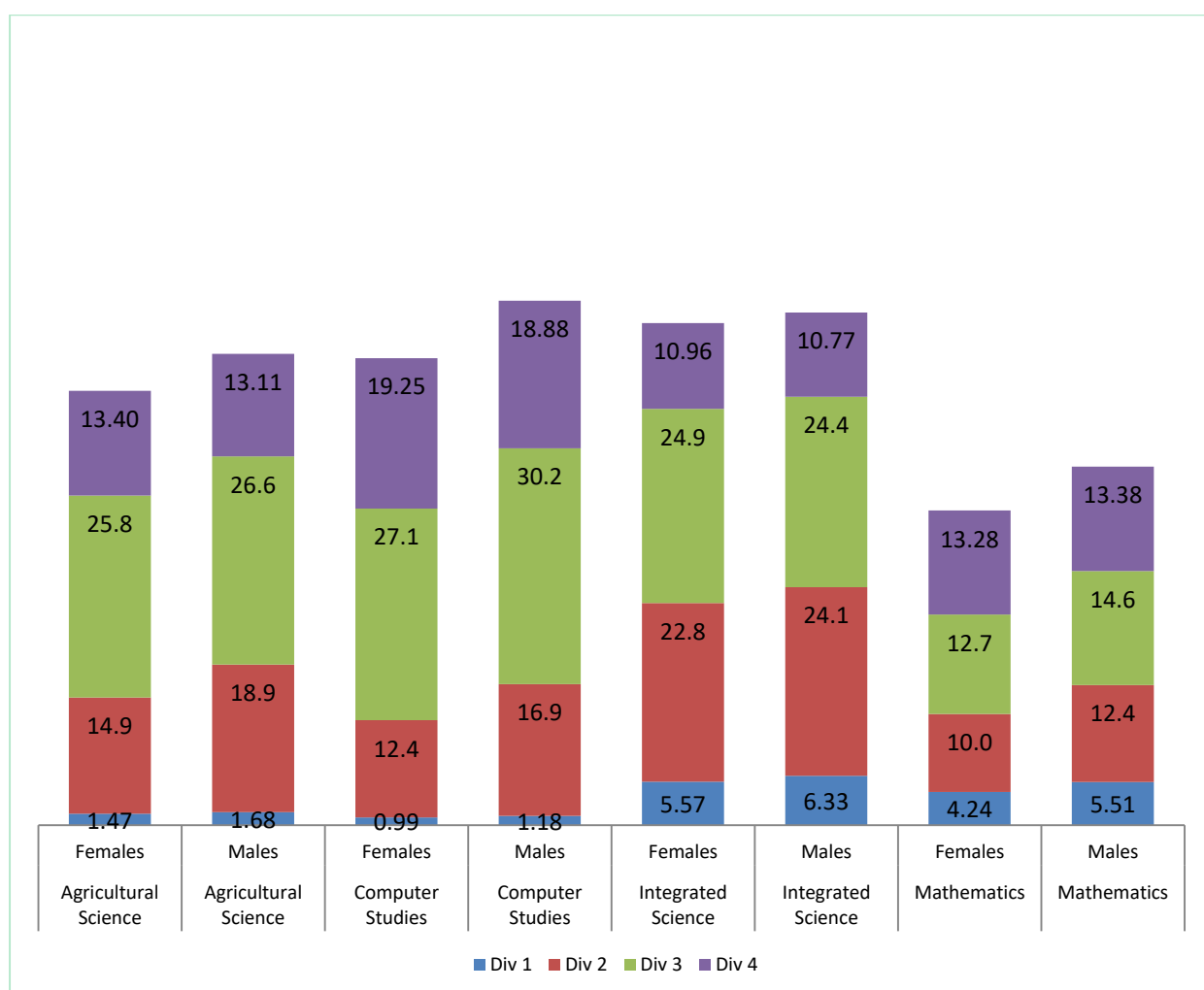


Figure 11: Performance of boys and girls in Natural Science grouping

2.5.3 Social Sciences and Business Studies

In the Division One category female candidates performed better than male in Business studies and Religious Education while male counterparts outperformed the males in Social Studies

The pass rate for female candidates was highest in Religious Education at 76.83 percent while for males it was highest in Business studies at 77.31.

Male candidates recorded their highest failure rate in Religious Education at 40.23 percent while female candidates recorded their highest failure rate in Social studies at 36.71percent similar to last year.

It is worth noting that the proportions of boys and girl's failure rate dropped in percentage points with 2022 averaging 34.88 percent compared to 2021 examinations whose failure rate averaged 33.83 across all subjects in this group. (See figure 16).

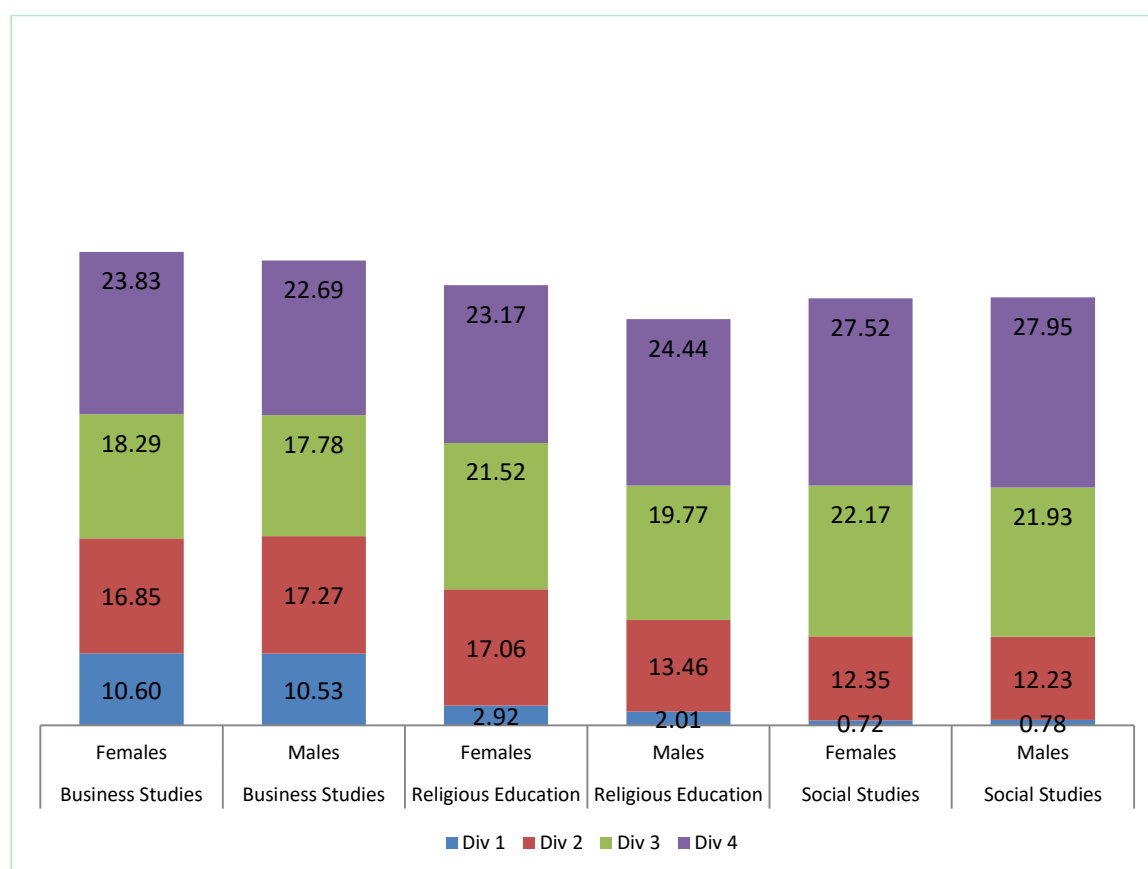


Figure 12: Performance boys and girls in Social Sciences and Business Studies

2.5.4 Vocational Pathway Subjects

For Art and Design; Design and Technology; Home Economics; Musical Arts Education and Physical Education; performance by gender was as follows:

Generally, performance across the four subjects was equally split with males performing better than females in Art and Design and Design and Technology while females outperformed their male counterparts in Home Economics and Musical arts Education. This was the case even in the 2021 examinations.

The proportions of female and male candidates getting division three or better was highest in Design and Technology (86.39%) for male and in Art and Design (83.89%) for females.

For division three or better, the lowest performance for males was in Home economics (54.87%) while for females it was in Musical Arts (64.27 %)

The highest proportion of candidates failing was recorded in Musical Arts for both female and male at 16.48 percent and 18.57 percent respectively. (See figure 17).

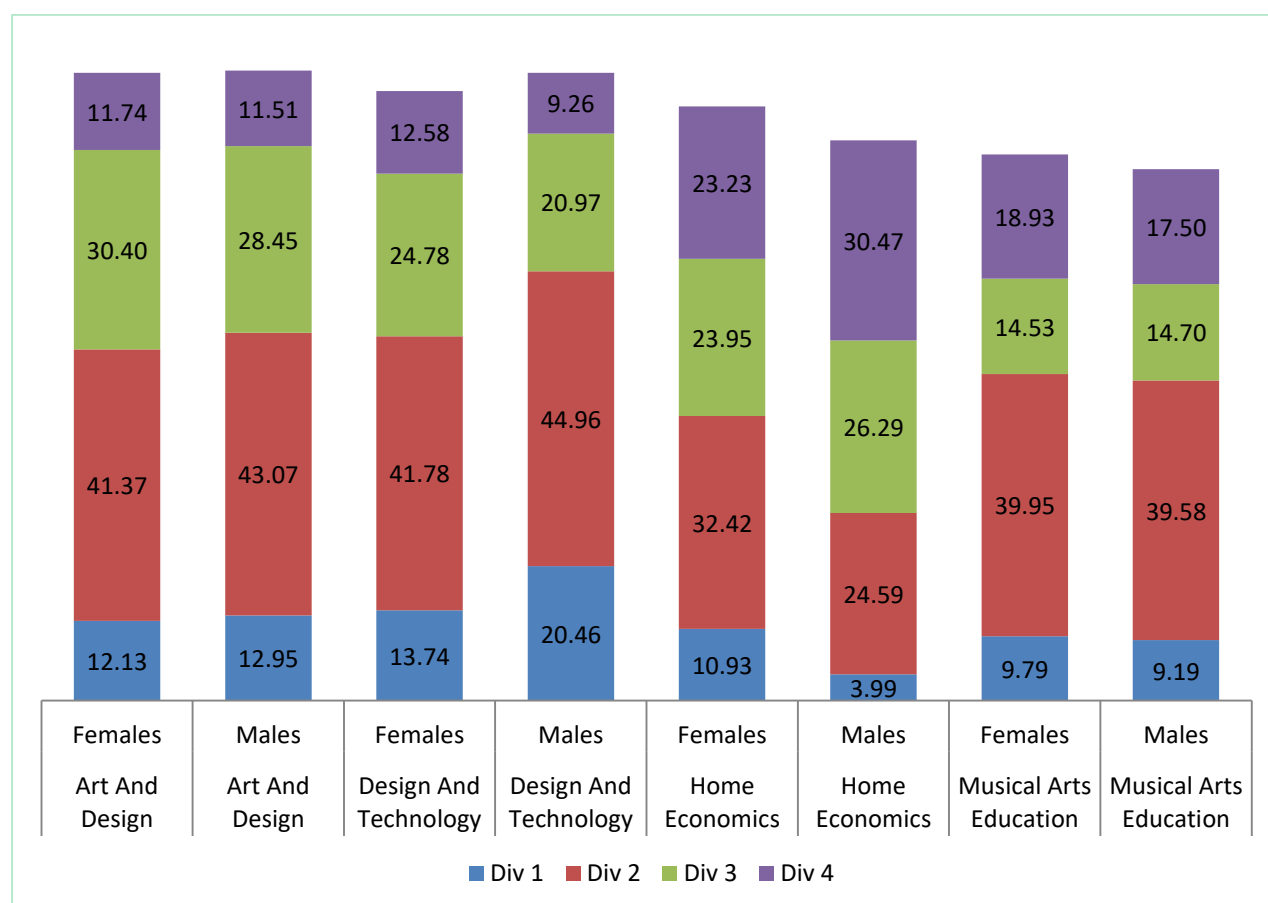


Figure 13: Candidate Performance in Vocational Subjects

3.0 Performance analysis for Learners with Special Educational Needs (LSEN)

The 2022 Junior Secondary School Leaving Examination had a candidature of 658 of learners with special educational needs. 313 of the learners with SEN were girls while, 345 were boys.

The grade 9 candidature population had 120 visually impaired, 324 hearing impaired and 214 physically impairment among them.

3.1 Provincial Participation in Examination (Entries)

At provincial level northern province entered 94 learners with special educational needs of which 42 were girls and 52 were boys. Muchinga province had a total of 41 candidates consisting of 15 girls and 26 boys. A total of 62 learners came from Luapula with 23 girls and 39 boys. Southern region entered 64 candidates comprising 31 girls and 33 boys.

Eastern province had a total number of 67 candidates among them 31 girls and 36 boys. Copperbelt presented 114 learners with 54 girls and 60 boys. Northwestern had 50 learners with 26 girls and 24 boys. Central presented 53 learners with 28 girls and 25 boys. Western entered 51 learners with 34 girls and 17 boys while, Lusaka region had a total number of 113 learners comprising 57 girls and 56 boys.

3.2 Selection to Grade 10 (LSEN)

- Muchinga province had 39 learners out of which 30 (11.7%) qualified to Grade 10.
- In Northern province 36 learners sat for the examination of which 19 (6.8%) progressed to grade 10.
- Luapula had a total number of 59 learners of which 34 made it to grade 10 (20%).
- Southern presented 56 learners out of which 22 made it to grade 10 (12.3%).
- The Eastern region had 60 learners of which 30 progressed to grade 10 (18.6%).
- Copperbelt had 112 learners out of which 81 qualified to go to grade 10 (90.7%).
- Northwestern had 43 learners out of which 27 made it to grade 10 (11.6%).
- Central province had 45 learners of which 14 made it to grade 10 (6.3%).
- Western presented 76 learners out of which 18 successful progressed to grade 10 (13.6%).
- Lusaka had 107 learners out of which 52 made it to grade 10 (55.6%).

4.0 Subject Specific Level Performance Analysis

The analysis of performance in English Language included examining sample scripts and Chief Markers' reports. Mean and zero scores were also utilized in the analysis of the subjects.

4.1 Literature and Languages Subjects

4.1.1 English Language

The purpose of the English Language Examination is to measure candidates' linguistic competencies and proficiency from Grade 8 to 9 as outlined in the syllabus (CDC, 2013). It also serves the purpose of certification and selection.

Assessment Objectives

Candidates are assessed based on the following five objectives:

AO1 Knowledge and Application of Communication Skills

- Communicating effectively using British Standard English appropriate to different situations
- Applying the rules of grammar correctly in speech in different situations

AO2 Reading and Comprehension of Texts

- Explaining unfamiliar words/phrases according to the context in which they are used
- Reading and understanding different types of reading material
- Responding correctly to questions based on a given passage
- Summarising the main idea of a given passage
- Extracting specific information from tables, charts, diagrams or maps
- Interpreting specific information from passages to tables, charts and diagrams
- Making comparisons and cross-references appropriately
- Developing and sustaining interpretations of the writers' ideas and perspectives

AO3 Knowledge and Application of Language Structure

- Applying the various rules of grammar to the various language structures
- Demonstrating knowledge and comprehension of the rules of grammar in both speech and writing
- Applying lexical and grammatical rules correctly

AO4 Analysis and Synthesis of Information (Composition)

- Producing different types of writings creatively and imaginatively with lexical and grammatical accuracy
- Writing in appropriate style suitable for a particular audience or purpose
- Producing different kinds of writings which will be expected of them in other subjects

- Writing personal ideas, thoughts, opinions, and feelings with clarity and fluency
- Selecting relevant material from given source and organising the information effectively into a piece of writing for a particular purpose

AO5 Evaluation and Synthesis of Information (Summary)

- Summarising simple written texts according to instructions
- Composing or identifying an appropriate title
- Identifying and writing the topic sentence
- Writing a single sentence summary
- Tabulating information from passages into tables, charts and diagrams
- Extracting specific information from various print sources
- Writing note summaries
- Writing prose summaries

Analysis of Performance

In English Paper 1, a large percentage of candidates presented challenges in handling the composition section. Candidates merely reproduced the letter instead of offering a reply. The summary section however, was better handled although candidates use of notes and, non-observance of the word limit were common. In Paper 2 however, all the sections were generally well handled by candidates. Challenges were however observed in rewrites and cloze.

Generally, candidates performed poorly on a number of questions in both Paper 1 and 2. These were on the following areas: Composition; Phrasal Verbs; Reported Speech; Synonyms and Vocabulary.

Characteristics of high performing candidates

The high performing candidates exhibited the following characteristics:

- Good understanding of questions
- Good understanding and application of tenses
- Good presentation of composition and summary
- Ability to construct grammatical sentences
- Good usage of punctuation marks
- Ability to stick to the rubric demands
- Usage of a wide vocabulary

Characteristics of average performing candidates

The candidates in this category exhibited the following common traits:

- Fair understanding of questions
- Fair exhibition of punctuation skills
- Minor spelling errors
- Fairly good handling of tense
- Minor rubric infringement
- Reasonably good presentation of composition
- Limited knowledge of structures

Characteristics of low performing candidates

Traits of the low performing candidates were observed as:

- Failure to construct good sentences
- Poor punctuation
- Low spelling competency
- Reproduction of the question (letter) as opposed to answering it
- Presentation of blank answers (composition)
- High levels of rubric infringement (compositions either too long or too short)
- Poor handling of tense
- Poor summary and comprehension skills
- Low comprehension of structures

Recommendations

- i. Teachers should ensure that all aspects of English language syllabus are taught
- ii. Teachers should ensure that tenses and paragraphing are taught adequately
- iii. Teachers should expose learners to composition regularly
- iv. Teachers should emphasise on the need for learners to follow instructions i.e. word limit and note/prose
- v. Teachers should provide remedial lessons on areas identified to be challenging to learners.

4.1.2 French Language

The Junior Secondary School French Examination focuses on assessing candidates' proficiency in the areas of language namely: oral, aural, reading comprehension, summary and translation, language structure and basic composition writing.

French is assessed both at school level as School Based Assessment (SBA) and as a centrally set theory paper. The purpose of assessing French Oral and Aural as School Based Assessment from Grade 8 to 9 is to measure speaking and listening comprehension competences achieved by learners. While the theory paper assesses language structures, reading comprehension, summary, translation and composition.

Assessment Objectives

Theory (Written)

Candidates were assessed based on the following four objectives:

AO1 Reading Comprehension

- Reading and understanding different types of reading material
- Responding correctly to questions based on a given passage or spoken material
- Selecting material appropriate to purpose
- Organising information from a given text
- Making comparisons and cross-references as appropriate

AO2 Summary and Translation

- Summarising simple written texts according to instructions
- Composing or identifying an appropriate title from a given text or table / schedules / diary / calendar
- Identifying the topic sentence
- Locating specific information
- Extracting specific information from tables, charts and diagrams
- Given a passage followed by sentences containing blanks, learners add relevant information so as to make an adequate summary
- Filling in missing details in a table using information obtained from the passage

AO3 Structure

- Knowledge of the various language structures, lexical items and rules of grammar
- Understanding the rules of grammar
- Applying correctly the lexical and rules of grammatical concepts

AO4 Composition

- Producing short different types of writings e.g. guided, situational
- Rearranging of sentences or paragraphs, free style compositions
- Writing in appropriate style on a particular topic
- Producing short different kinds of writings on different topics from other subjects
- Expressing in writing their hobbies, their likes and dislikes
- Writing short friendly formal or semi-formal letters
- Selecting relevant material from given information and organising this effectively into a piece of writing for a particular purpose.

School Based Assessment (SBA)

Candidates were assessed based on the following four objectives:

AO1 Contextual Communication (Oral)

- Communicating effectively using basic French appropriate to different situations that they are likely to meet
- Listening to and understanding different types of spoken material and responding to questions based on the given material
- Listening to and interpreting simple sentences from French to English and vice versa

AO2 Aural (Listening Comprehension)

- Listening to and understanding read material
- Responding to questions based on the reading

Analysis of Performance

French is a two-paper subject; Paper 1 which is theory focuses on language structure, grammar, reading comprehension, summary, translation and composition writing. Paper 2 is School Based Assessment which focuses on oral and aural. Each paper balances the receptive and productive elements of language.

Characteristics of a High Performer

A candidate in this category demonstrated the following characteristics:

- Masterly of French structure and grammar
- Good exhibition listening comprehension skills
- Usage of appropriate vocabulary
- Exhibition good spelling and grammatical skills

- Ability to summarise effectively
- Good and well-presented compositions

Characteristics of an Average Performer

A candidate in this category demonstrated the following characteristics:

- Fairly good knowledge of French structure and grammar
- Good sentence construction though with noticeable spelling errors
- Below average performance on section dealing with jumbled words
- Average comprehension skills
- Good presentation of compositions

Characteristics of a Low Performer

A candidate in this category demonstrated the following characteristics:

- Very low spelling skills
- Incorrect application of language structures
- Little understanding of grammar and sentence construction
- Failure to arrange jumbled words
- Very low listening comprehension skills
- Inaccurate translation skills (from French to English and vice versa)
- Poor presentation of composition

Recommendations

- i. Schools should ensure that the language is well supported through among others acquisition of teaching aids
- ii. Teachers should ensure that basic French structures are taught concretely and thoroughly
- iii. Teachers should teach summary and translation as stipulated in the syllabus
- iv. Schools to ensure that they have qualified teachers for the language

4.1.3 Chinese Language

The purpose of the Grade 9 Chinese Language assessment is to measure learners' acquisition of knowledge, skills, values and competencies in the four skills of listening, speaking, reading and writing.

Assessment Objectives

Candidates were assessed based on the following four objectives:

AO1 Listening and Speaking

- Identifying initials, finals and tones
- Pronouncing Chinese words correctly and clearly, using the right tones
- Comprehending four distinctive tonal patterns of Chinese language
- Conveying personal information
- Conversing in simple Chinese Language
- Correlating what they have listened to and answer the questions
- Reading simple dialogue fluently with the help of Pinyin

AO2 Reading

- Reading simple Chinese texts with the help of Pinyin with understanding
- Recognising Chinese characters as prescribed at Junior Secondary School level
- Responding correctly to questions based on a given text

AO3 Writing

- Demonstrating knowledge of basic strokes, radicals and characters of the Chinese language writing system
- Writing Chinese characters as prescribed in the Junior Secondary School Chinese Language syllabus

AO4 Structure

- Demonstrating knowledge and understanding of Chinese Language structure

Analysis of Performance

Characteristics of Candidates' Performance

Candidates' performance was qualitatively analysed using sample scripts as well as Chief Examiners' reports. These characteristics are categorised as high, average and low performers.

Characteristics of a High Performer

A candidate in this category demonstrated the following characteristics:

- Very good reading and comprehension skills
- Very good recognition of characters
- Good vocabulary

- Very good writing of characters
- Accurate writing of strokes and correct order
- Excellent arrangement of characters and Pinyin

Characteristics of an Average Performer

A candidate in this category demonstrated the following characteristics:

- Fairly good reading and comprehension skills
- Good recognition of characters
- Fairly good use of vocabulary
- Average writing of characters
- Fairly good writing of strokes and some level correct order of strokes
- Average arrangement of characters and Pinyin

Characteristics of a Low Performer

A candidate in this category demonstrated the following characteristics:

- Very poor reading and comprehension skills
- Very poor recognition of characters
- Low range of vocabulary
- Poor writing of characters
- Inaccurate writing of strokes and incorrect order of strokes
- Disarrangement of characters and Pinyin

Recommendations

- i. The Ministry should ensure that more teachers are trained in Chinese Language
- ii. Teachers should teach Chinese Language in accordance with the Syllabus.
- iii. Teachers should give a lot of practise and homework to learners in reading and writing of Chinese characters.
- iv. Learners should practise more in reading and writing of Pinyin and Chinese characters.

4.2 **Zambian Languages**

The purpose of the Grade 9 examination in Lunda, Luvale, Kiikaonde, Ibibemba, Chitonga, Cinyanja and Silozi is to measure candidates' competencies and proficiency in composition, literature, language structure, translation, reading comprehension, proverbs and sayings, and summary. All these components assess the four language skills, which are: listening, speaking, reading and writing.

Assessment Objectives

Candidates were assessed based on the following assessment objectives:

AO1 Reading

- Reading a given passage from a selected subject area with understanding
- Responding correctly to questions based on a given passage
- Locating required information using appropriate reference skills - reference skills
- Explaining unfamiliar words/phrases according to the context in which they are used

AO2 Writing

- Writing various types of compositions and essays e.g. autobiographies, narratives, explanatory, reports, descriptions etc
- Writing guided and unguided compositions
- Writing informal, semi-formal and formal letters
- Interpreting in writing information presented in tables, charts, diagrams
- Writing procedures on how to send mails on internet
- Summarising given texts
- Writing adverts, notices or posters using good features
- Using appropriate language for entrepreneurship
- Making notes from a given passage

AO3 Language Structure

- Demonstrating knowledge of noun classes
- Using affixes as tools of word building
- Identifying and stating different types of nouns
- Identifying and using different types of pronouns
- Identifying and associating idiophones and onomatopoeia with appropriate semantic fields

- Using the positive and negative forms of simple and continuous tenses
- Identifying and using adverbs of time, manner, place and frequency
- Writing compound words in sentences
- Identifying and using appropriate features of direct speech
- Identifying and using appropriate features of indirect speech
- Deriving nouns from verbs and verbs from nouns (word formation)
- Identifying and using words which function both as adjectives and adverbs
- Using reduplication to intensify adverbs
- Identifying and using adverbial phrases

AO4 Translation

- Using appropriate translation techniques to translate given texts from English into a Zambian Language
- Using techniques for translating borrowed words from the source language into the target language
- Translating complex ideas, phrases and terminologies from English into a Zambian Language
- Using techniques for translating borrowed words from the source into the target language

AO5 Literature

- Classifying proverbs according to situations
- Identifying and giving contextual meanings of figures of speech
- Analysing books they have read using devices like plot, setting, theme and characterisation
- Expressing their personal opinions having read a work of literature
- Explaining the meaning of common literary terms
- Stating a writer's purpose after reading a work of literature

Analysis of Performance

Each Zambian language comprises two papers namely; Paper 1 which focuses on composition and literature and Paper 2 focusing on language structure, translation, reading comprehension, proverbs and sayings and summary.

Characteristics of Candidates' Performance

Candidates' performance was qualitatively analysed using sample scripts as well as Chief Examiners' reports. These characteristics are categorised as high, average and low performers.

Characteristics of a High Performers

A candidate in this category demonstrated the following characteristics:

- Excellent reading and comprehension skills
- Outstanding interpretation of comprehension questions
- Outstanding composition writing skills with very good punctuation
- Engaging introduction and applicable conclusion (for composition writing)
- Correct use of approved Orthography
- Excellent use of a variety of sentence structures
- Accurate use of grammar
- Precise spelling
- Usage of wide vocabulary
- Exceptional interpretation of literature questions
- First-rate translation skills
- Outstanding summary skills
- Accurate interpretation of proverbs

Characteristics of an Average Performer

A candidate in this category demonstrated the following characteristics:

- Fairly good composition writing skills but with a number of minor and some notable gross errors
- Fairly good introduction and conclusion
- Fairly good use of sentence structures
- Limited use of grammar
- Inaccurate punctuation and poor paragraphing skills
- Some incorrect spellings and wrong use of words
- Narrow vocabulary
- Some correct use of approved Orthography, with some notable mistakes
- Average reading and comprehension skills

- Fairly good interpretation of comprehension questions
- Limited summary skills
- Observable rubric infringement
- Simple and literal interpretation of literature questions
- Average to below average translation skills and/or verbatim translation
- Literal interpretation of proverbs

Characteristics of a Low Performer

A candidate in this category demonstrated the following characteristics:

- Very low summary skills
- Very poor reading and comprehension skills
- Misinterpretation and misunderstanding of comprehension questions
- Little or no knowledge of formats for different types of compositions
- Very poor composition writing skills with a lot basic and gross errors with inaccurate punctuation and poor paragraphing
- Poor or no introduction nor conclusion
- Little or no knowledge of sentence structures
- Little or no knowledge of the approved Orthography
- Misspelling, wrong sentence constructions, use of wrong words
- Total rubric infringement
- Misinterpretation of literature questions
- Inability to translate from English Language to a Zambian Language
- Poor interpretation of proverbs and sayings
- Incorrect use of grammar/misapplication of rules of grammar
- Mixed usage of tenses
- Lack of vocabulary and cutting of words

Observations

- Good performance in most scripts was noted in literature

- Some candidates did not have adequate translation and summary skills.
- The poor performance by some candidates was due to failure by teachers to cover the syllabus fully.
- Orthography seemed to be a problem to most of the candidates
- It was observed that some schools did not have adequate text books and literature materials for candidates to use

Recommendations

- i. Summary was observed to be challenging and as such teachers are encouraged to teach summary thoroughly.
- ii. Secondary schools to be conducting joint CPDs with primary schools that do not have qualified staff to teach the *Zambian Languages*
- iii. Schools to ensure that they have qualified teachers of *Zambian Languages*
- iv. Teachers should use the approved orthography for each language
- v. Teachers should teach all the types of compositions as stipulated in the Syllabus
- vi. Teachers should teach literature in detail covering all the components and not just concentrating on novels
- vii. Schools are encouraged to procure all prescribed literature and language books
- viii. Government through the Ministry of Education to sponsor fast track programmes for teachers of *Zambian Languages*
- ix. CDC is encouraged to ensure quality prescribed books needed in schools, especially grammar and literature books, are available.

4.3 Natural Sciences Subjects

4.3.1 Mathematics

The purpose of the Grade 9 Mathematics assessments is to measure learner achievement against the set competencies as well as acquisition of reasoning and problem-solving skills as outlined in the syllabus. Candidates are assessed based on the following objectives: Knowledge and Comprehension, Application and Analysis of concepts and skills acquired from Grade 8 to 9.

Analysis of Performance

The mean performance in Mathematics at Grade 9 in 2022 was 24.54 percent. There was a marginal decline in performance of 1.70 percentage points in 2022 from 26.22 percent in 2021

to 24.54 in 2022. Candidates performed slightly better in Mathematics Paper 1 in 2022 with a mean of 28.30 percent compared to Mathematics Paper 2 which recorded a mean of 20.75 percent.

A total of 281 107 candidates sat the examination in 2022. There were 369 (0.13%) of the candidates that sat who got zero in Mathematics. When segregated by paper, Mathematics Paper 1 recorded 698 (0.25%) of the candidates obtaining a zero score and Mathematics Paper 2 recorded 35 388 (12.56%) candidates obtaining a zero score.

The qualitative analysis of candidates' performance across the three categories of high, average and low, was based on Mathematics paper 2 Question 3. The question read as follows:

3 (a) Simplify $5(2 - x) + 2(3x - 7)$. (2)

(b) A bag contains 3 red and 9 green balls. One ball is picked at random from the bag. Find the probability that the ball picked is green.
(2)

(c) A sales agent has a salary of K1 800.00 per month. He also receives a commission of 5% on all sales. If the total sales for a month was K40 000.00, calculate his income for that month. (3)

Characteristics of high performing candidates

High performing candidates exhibited the following characteristics:

High performing candidates were able to answer correctly question 3 on simplification of an algebraic expression, probability, commission and volume of a prism and earned all the marks.

- Mastery of most of the concepts on the topics.
- Good interpretation of word problems.
- Mastery of the prerequisites to a given topic and applying them correctly.
- Application of formulae correctly.
- Understanding of how to draw graphs.
- Showing essential working in finding solutions to problems.
- Used mathematical instruments correctly in construction questions.
- Presentation of work was very good.
- Demonstrated understanding of all the concepts of solving the whole question.

- Demonstrated understanding simplifying algebraic expressions by removing the brackets and collecting the like terms and simplifying them.
- Had good understanding of concepts in probability.
- Mastered the concepts of social and commercial arithmetic involving finding commission given the rate of commission as a percentage of the total sales in order to find the total income.
- Had good understanding of the concepts of finding volume of a prism.
- Had prerequisite knowledge of finding area of a triangle.
- Stated and applied correctly the formula for volume of a prism.
- Replaced correctly the values for the base and height of the right-angled triangle.
- Calculations were correctly done and full marks were earned.
- Showed all the necessary working and earned full method and accuracy marks.
- Some candidates did not use the correct units for volume.
- Presentation of work was very good.

Characteristics of average performing candidates

Candidates with average performance exhibited the following characteristics:

Average performing candidates were able to answer three parts (a, (b) and (c) only correctly of question 3 on simplification of an algebraic expression, probability and commission. Part (d) on volume of a prism and earned all the marks.

- Understanding of some concepts on the topics.
- Interpreted correctly some parts of the word problems.
- Applied some of the formulae correctly.
- Had knowledge of prerequisites to some topics but not all.
- Understanding of how to draw graphs.
- Omission of essential working on some topics.
- Used mathematical instruments correctly but not accurately.
- Presentation of work was not very good.
- Demonstrated understanding of most of the concepts of solving the whole question.
- Demonstrated understanding of simplifying algebraic expressions by removing the brackets and collecting the like terms and simplifying them.

- Had good understanding of concepts in probability.
- Mastered the concepts of social and commercial arithmetic involving finding commission given the rate of commission as a percentage of the total sales in order to find the total income.
- Did not have good understanding of the concepts for finding volume of a prism.
- Stated and applied incorrectly the formula for volume of a prism.
- Used the formula for the area of a triangle to find the volume of a prism
- Replacement of values in the stated formula was incorrect.
- Method marks could not be earned because the working was incorrect and there was no accuracy.
- Presentation of work was not very clear in some cases.

Characteristics of low performing candidates

Candidates with average performance exhibited the following characteristics:

- Lacked mastery of most of the concepts on the topics.
- Could not interpret correctly most of the word problems.
- Failure to apply correctly formulae
- Could not draw graphs correctly
- Omission of essential working on some topics
- Could not use mathematical instruments correctly and used free hand in some cases.
- Presentation of work was not very good

Low performing candidates were unable to answer correctly question 3 (a), (b), (c) and (d).

- Did not understand all the concepts of solving the whole question.
- They could not simplify algebraic expressions by removing the brackets and collecting the like terms and simplifying them.
- Did not understand concepts in probability.
- Concepts of social and commercial arithmetic involving finding commission given the rate of commission as a percentage of the total sales in order to find the total income was a challenge.
- Added the salary to the sales for the month to find total income and did not earn method and accuracy marks.

- Understanding of the concepts for finding volume of a prism was a challenge.
- Most questions could not be answered and as such they were not attempted.
- Most questions were left blank.

Challenges experienced by candidates in Mathematics

The majority of candidates found it difficult to understand some of the new concepts, such as computer (flowcharts), prisms, functions, and binary numbers. Most candidates did not respond to these questions, the ones who tried to respond were unsuccessful.

For some candidates, using geometrical tools in construction presented a challenge. While some candidates could build the triangle, they were unable to divide angles or draw a perpendicular line. On this issue, candidates chose to skip the building section.

Some candidates employed the Pythagoras theorem to calculate the length of a triangle's side in place of similarity concepts, however, the majority of candidates didn't try to respond to questions.

Some of the challenges faced by candidates in certain topics have been reported every year. Construction, bicimal numbers, computers are some topics that have been challenging to the candidates over the years.

Recommendations

In order to improve candidates' performance in Mathematics at Grade 9, the following are some of the recommendations:

- Teaching and learning of mathematics should be from a practical point of view and, applied to real life. This will make mathematics interesting to the learners and in turn develop a positive attitude of learner towards the subject.
- Teachers to ensure that meaningful feedback that includes working, is provided to learners. This will help learners identify correct working and errors in their work.
- Misconceptions and errors in learners work should be used positively by teachers to improve performance of learners in mathematics.
- Teachers should ensure that learners have mathematical instruments that each one of them should make use of on topics involving construction.
- Professional Development (CPD) meetings to be used in enhancing teachers' performance on topics that are found challenging.

4.3.2 Integrated Science

The purpose of the Integrated Science assessment is to measure learners' competencies and achievements as outlined in the Grade 8 to 9 Integrated Science syllabus. The assessment is also used for certification of learners' achievements as well as placement into senior secondary level and the engagement in entrepreneurial activities.

Analysis of Performance

The assessment is based on two components of Integrated Science namely; Paper 1 and Paper 2 which is School Based.

Paper 1 consisted of 20 multiple choice items carrying a total of 20 marks and 10 long questions carrying a total of 60 marks. The mean score in 2021 was 27.5 percent.

The following questions were well scored by candidates:

- Question 1: The human body (parts and functions of the female reproductive organ)
- Question 2: The environment (types, effects and prevention of pollution.
- Question 6: Materials and Energy-Density (calculation of the density from the given diagrammatic representation.
- Question 7: Health (Sexually Transmitted Diseases)

Candidates did not perform well in:

- Question 3: Plants and animals (Plant growth and nutrients-plant cell;
- Question 4: Materials and energy (Separation techniques)
- Question 6: The Human Body (Respiration).

Characteristics of high performing candidates

Candidates with high performance exhibited the following characteristics:

Section A:

- Identified correctly the parts, organs and structures which perform various functions such as the reproductive organs in humans which produce hormones during puberty.
- Placed in correct order and sequence the outlined event: such as movement of semen in the organs of the female reproductive system.
- Interpreted the numbered structures correctly to show knowledge on Reproductive Systems.
- Correctly identified the nutritional deficiency diseases and the main type of pollution in the garbage area.
- Identified the correct terms used for the described situation such as phototropism.

- Applied science facts to show which statement is correct about the importance of photosynthesis to the atmosphere.
- Manipulated figures and units to calculate required variables such as weight.
- Demonstrated knowledge on diagrams using science facts to calculate variables such as density.

Section B:

- Ability to identify correctly organs L: Uterus and M: Cervix.
- State the effects of pollution on the environment and living things
- Understanding of functions of parts or organs labelled.
- Recall of facts on organs which produce hormones.
- Demonstrate knowledge for Science instruments and apparatus.
- Q4: Diagram was used to name part and functions of labelled apparatus.
- Q4 (ai): Apparatus W-Condenser.
- Q4a(ii): Apparatus V – To condense the vapor to liquid.
- Mention with understanding illustrated method of separating mixtures.
- Q4b) Simple Distillation.
- Use science facts to state the terminologies correctly
- Recall science knowledge to define terms such as mass and weight.
- Demonstrate knowledge of scientific principles to explain what happens to mass and weight when moved from place to place.
- Explain causes of change in shape of H: Diaphragm in diagram A and B of Q6(c).
- Explain the way the named intercostal muscles in Q6 (e) help in the breathing mechanism.
- Relate and explain ways in which HIV and AIDS has negatively impacted on the population of a country.
- Mention one use of the type of lens used in the experiment.
- Use information to calculate pressure exerted on the floor Q9a).
- Relate in Q9bi) whether the pressure exerted on the floor will increase, reduce or remain the same when the block is turned as shown in the diagram 2.
- Q10c) Explain one negative effect of energy generation on the environment.

Characteristics of average performing candidates

Candidates with average performance exhibited the following characteristics:

Section A:

- Identified correctly the labelled parts of the heart.
- Used facts to correctly identify human activities which present high risk of spreading HIV and AIDS.
- Named methods which are used to treat water at a water purification plant.
- Selected correctly the form of energy which is stored in water at the Hydro Electric power station.

They were however not able to:

- Use diagrams to deduce the correct identification of: Q9) Types of heat movement, calculate the required angle in the experiment with light rays.
- Demonstrate understanding of concepts and facts involved in chemical reactions of given compounds.
- Q15) products of reacting sodium chloride and silver nitrate.
- Recall expected colours obtained in the experiments on light filters using ray boxes.
- Lack of understanding of formulas used in Electricity to calculate resistance.
- Analyse correctly the features associated with analogue transmission.

Section B:

- Identify parts of reproductive organs and causes of types of pollution.
- Relate organ functions of parts labelled on the diagram.
- State functions of labelled apparatus and the method of separation in the diagram.
- Name using science knowledge the muscles found between the ribs.
- Relate the instrument used to measure mass and weight.
- Mention two common sexually transmitted infection in Q7 (a).
- Describe ways by which HIV and AIDS can be prevented in Q7(c).
- Use of science facts and knowledge to state.
- Recall two factors which affect pressure in gases.

They were however not able to:

- Failure to identify the importance of observing hygiene in reproductive systems.
- Inability to describe one way of reducing air pollution.
- Identify the apparatus labelled in the diagram. Q4 (ai): Apparatus W- Condenser.
- State the method of separating mixtures in the diagram for Q4.

- Mention one industrial application of the separation method and the method to separate water and ethanol.
- Relate the diagram showing that inspiration has taken place. Q6(a): Diagram B.
- Identify the type of image produced by the lens in the diagram.
- Mention the letter showing the Optical Centre.

Characteristics of low performing candidates

Section A:

Candidates with low performance exhibited the following characteristics:

- Failure to correctly identify labelled parts on diagrams such as the Human Heart.
- Failure to identify parts, structures and components of systems in living organisms.
- Interpret correctly arrangement of particles in matter.
- Lacked understanding of various diseases associated with deficiencies and main types of pollution in several situations.
- Select the correct meanings of terminologies.
- Lack of understanding of science facts and principals involved in calculating variables.
- Lack of knowledge on components of geostationary in communication systems done through satellite.

Section B:

- Inability to identify parts, organs and types of pollution.
- Inability to state functions of the structures labelled in cells and organs. Such as Q3c) P: Protects the cell and R: Site for cell activities.
- Failure to distinguish a plant cell from an animal cell.
- Failure to recall the facts on the parts of a cell, and, the omitted structure in cell T: Chloroplast(s).
- Inability to explain one structural difference between cell T and cell U.
- State the functions of the apparatus in the diagram.
- Identify the labelled apparatus in the diagram.
- State the type of lens used in the experiment.
- Mention one use of the type of lens used in the experiment.
- Use science knowledge to define the term energy, state one form of energy.
- Describe two ways by which energy can be conserved and how one form of energy can be changed into another in Q10d) and Q10e).

Common Challenges observed

- Limited understanding of the concepts leading to misinterpretation of information
- Poor Presentation of work was common among Low performers
- limited application of skills in related contexts especially in the Physics component
- Misrepresentation of concepts and relationships among quantities and among principles
- Some candidates' failure to express in English and resorting to local languages

Recommendations

- Need for in-depth coverage of the syllabus.
- The teaching/learning process must include more practical work to compliment theory.
- Consistent, adequate and quality assessment that covers higher order thinking skills is needed at school level (Teaching Process).
- More science trained teachers to replace the seconded non-science trained teachers

4.3.3 Computer Studies

Purpose

The purpose of the Grade 9 Computer Studies examination is to measure the candidates' achievements against the set competencies as outlined in the Grade 8 to 9 Syllabus. The examination is also used for certification and selection to senior secondary school level.

Assessment Objectives

Candidates were assessed against the following assessment objectives:

A01 Remembering and Understanding

- Parts of a computer system and peripherals
- Input-process output operations
- Recall of facts on computers and associated electronic devices used in everyday life Including household Appliances, Computer based learning (CBL) Computers in banking and ecommerce Point of Sale Magnetic and smartcards
- Understanding of operating systems and generic application software
- Health and safety Care for Computer Systems
- Recall and understanding of facts on computer networks and security
- Understanding of the social, economic and environmental effects of computers on society

A02 Application

- Use a computer in productivity tools such as Word-processing, Desktop publisher, Power-point.
- Apply knowledge of multimedia files to control presentations.
- Apply the knowledge and use of emails, the Internet and social networks
- Apply knowledge of viruses to safeguard data and provide other security measures
- Apply knowledge of multimedia files graphics and video
- Apply knowledge of computer devices to everyday applications such commercial, industrial and office use of computers and microprocessor-controlled devices.

AO3 Analysis

- Determine application package to use in system for a given situation to solve a problem at hand.
- Apply logical thinking and make connections between topics in Computer Studies and other learning areas.

A04 Synthesis

- be able to assemble major components of a general computer system
- connect a PAN or a simple LAN wireless or wired

Analysis of Performance

The Computer Science examination consists of Section A, B and C. Section A consists of multiple-choice questions (MCQs), Section B of Semi structured short answer while section C structured questions. Higher proportion of candidates performed well in section A than B and C.

The following question were poorly answered by candidates.

Section A:

Question 2: On protection of data being transferred on a network. Candidates missed the catchy phrase in this question, which was “data being transferred.”

Question 3: Bytes in the code 10110011. This question required recall and understanding binary representation system of data. There was no calculation required but simply to count the digits in the given question and apply the rule for 1 byte = 8bits or 8 binary digits.

Section B:

Question 6: Suitable printers for printing magazines and identity cards

Question 12: ... is a device used to convert hardcopy into softcopy.

Section C:

- Low performing candidates found Section C very challenging.

Characteristics of high performing candidates

Candidates in high performing category were able to:

- Recall various applications, and understand their operations.
- Recall and apply binary numbering system knowledge to data representation
- Recall knowledge of various devices and
- Recall, understand and apply knowledge about Graphical User Interfaces (GUI)
- Recall, understand and apply knowledge about Computer Networks

Characteristics of average performing candidates

Candidates exhibiting average performance were able to:

- Recall some of the applications, and understand their operations.
- Apply knowledge of binary digits to computer representation.
- Recall limited knowledge of various devices
- Recall, understand and apply some aspects about Graphical User Interfaces (GUI)
- Recall a few concepts in data and Computer Networks

Characteristics of low performing candidates

Candidates exhibiting low performance had the following difficulties:

- Not able to recall applications, and understand their operations.
- not able to apply knowledge of binary digits to computer representation.
- Not able to recall limited knowledge of various devices
- able to recall, understand and apply some aspects about Graphical User Interfaces (GUI)
- Able to recall very few or non-about concepts in data and Computer Networks

General Challenges exhibited by candidates

- Inability to fully recall and understand basic operations of computers.
- Inability to recall bits and bytes to represent data.
- Not able to recall knowledge of various devices such as types of printers and uses; cameras and bar scanners.

- Not able to recall, understand and apply some aspects about Graphical User Interfaces (GUI).
- No knowledge about concept in data and Computer Network

Recommendations

- Teachers should cover the entire topic on binary digits and number representation
- Using search engines and videos expose learners to different kinds of printers where not available.
- Only experienced teachers should be given to the grade 8s because these are foundation grades. Afterward any Computer teacher can take them on following the syllabus.
- Utilize the power of the Internet as a tool for exposing learners to different unavailable kinds of devices through videos.
- The Ministry of Education should deliberately provide support and facilitate the flourishing of CPD-driven interventions to enhance teacher capacity in content competence.

4.4 Social Sciences Subjects

4.4.1 Social Studies

Purpose

The purpose of examining Social Studies at Grade 9 level is to assess the learners' understanding of the economic, political, civic, cultural, geographical and historical factors that influence social development. It is also important for selection and certification purposes.

Assessment Objectives

The Grade 9 Social Studies examinations assesses candidates' performance against the following learning expectations:

AO1 Knowledge with Understanding

- Civic, historical, geographical, political, cultural and economic factors, theories, and concepts and their related challenges
- Social principles, values and belief systems
- Relationships between humans and the environment

AO2 Information Handling and Problem Solving

- Reading and interpreting of maps, charts, diagrams, and statistical data.
- Relating, demonstrating and applying knowledge of historic, civic, cultural, geographical and political nature
- To use the Social Studies knowledge and identify challenges/implications and offer solutions

AO3 Evaluating social phenomena and value systems

- Analyse and evaluate the following cross cutting issues such as slave trade, slavery, mining industry, weather and climate, population and colonialism
- Analyse, interpret and evaluate the past and present evidence, points of view, opinions and related judgements (e.g. consequences of Western European colonialism, human rights and technological advances).

Analysis of Performance

Competencies (skills) exhibited by High performers:

- Were able to identify, measure, interpret and locate named features on maps and diagrams.
- Understood map reading.
- Were able to write essay with clear points as per questions.
- They observed instructions and the demands of the questions.
- Displayed understanding of geographical, historical and civic education facts.
- They scored fairly across all the sections of the examination.

Competencies (skills) exhibited by Average performers:

- Presented challenges in some cases on map reading and interpreting features.
- Did not score fairly across different sections.
- In some cases, did not adhere to instructions.
- Failed to explain facts fully.
- Did not possess strong understanding of facts.

Competencies (skills) exhibited by Low performers:

- In some cases, completely failed to understand the information required by questions.
- Let many questions unanswered thereby losing marks.
- Lack of coherence in essay questions.
- Failed to read, identify and indicate named features.
- Did not score well on map reading.

Challenges observed:

- Candidates were found to have had challenges identifying and interpreting features on the map.
- Candidates had challenges with four and six figure grid reference and measuring distance and bearings.
- Identification and location of places on the map was observed to be challenging.
- Candidates displayed lack of geographical knowledge.
- Unconnected answers were observed in responses to history questions which may indicate challenges with understanding of questions and/or lack of historical understanding.
- Candidates failing to provide answers to low order question in Civic Education.

Recommendations:

- Teachers are encouraged to expose learners to hands on exercise on map reading and aspects such as identification of map features.
- Teachers are encouraged to ensure that representations such as maps, diagrams and tables are utilised in teaching processes.
- Teachers to ensure that all aspects of the Social Studies syllabus are covered adequately.

4.4.2 Religious Education

Purpose

To assess the learning outcomes of the Spiritual, moral, religious and cultural behaviour as drawn from the four main religions in Zambia. These are Christianity, Hinduism, Islam and Zambian Tradition. The examination will be used for certification, selection and placement.

Assessment objectives

The Grade 9 Religious Education examination will assess candidates' performance against the following four assessment objectives:

AO1 Knowledge and understanding

- recall the previous learnt content
- explain the meaning of life
- demonstrate understanding of the universal teaching about human rights

AO2 Application and analysis of learnt material

- demonstrate understanding of the components of human development
- analyse the behaviour of human beings as the basis for decision making
- analyse different teachings of the four religions
- analyse past experiences, faith and beliefs as basis for hope

AO3 Evaluation of facts and information

- compare the beliefs, customs and practices of the four religions and Zambian Modern society?
- evaluate human organizations, socialisation and group/individual expectations.
- demonstrate understanding of the content, structure, and the meaning of the teachings of the Bible
- compare and predict events in the holy scriptures of religions

AO4 Acquisition of values

- ability to apply positive attitudes to human beings
- ability to apply positive attitudes towards the environment.

Analysis of Performance

Competencies (skills) exhibited by High performers:

- Demonstrated comprehensive knowledge and understanding of questions
- Showed strong ability and understanding of customs and practices of various religions and Zambian Modern society.
- Showed understanding and ability to recall information and characters of bible passages
- They were able to comprehend information from provided passages.

- They scored very well across all the sections of the paper.

Competencies (skills) exhibited by Average performers:

- Showcased challenges with section D where passages linked to the questions was provided.
- Demonstrated partial understanding of the content, structure, and the meaning of the teachings of the Bible
- Showcased ability to recall information on customs and practices of the four religions and Zambian Modern society.
- Scored fairly across the four sections of the examination.

Competencies (skills) exhibited by Low performers:

- Showcased little ability to recall information.
- Demonstrated very little to no understanding of the content, structure, and the meaning of the teachings of the Bible
- Struggled with question linked to passages.
- Scored poorly across the four sections of the examination.

Observations

The overall analysis of candidates' performance indicated that candidates performed well in section **A**, (multiple-choice questions) but presented challenges in other sections especially section **D**, which comprised comprehension questions.

5.0 Conclusion

The total number of learners that registered for the 2022 Junior Secondary School Leaving (Grade 9 Internal) Examination increased by 9.80 percent as opposed to the previous year 2021 where the candidature decreased by 1.74 percent. Two hundred eighty-four thousand eight hundred eighty (284,880) sat for the 2022 Examination, representing an increase of 9.54 percent from the 2021 Examination. A drop by 0.8 percent in absenteeism rate was observed from the 2021 rate of 7.98 percent. Generally, absenteeism rate in the 2022 Junior Secondary School Leaving (Grade 9 Internal) Examination has shown a decrease in seven provinces except Muchinga, Eastern and Lusaka.

The highest reduction in absenteeism rate was recorded in Northern province followed by Luapula and Central. The least reduction was recorded on the Copperbelt. The 2022 Grade 9 Examination recorded a marginal decrease in performance compared to 2021. The proportions of candidates obtaining Certificates decreased from 54.43 percent in 2021 to 54.16 percent in 2022. There has been swings in ranking of provinces from 2021 to 2022. This will be studied to understand the factors behind these swings. In terms of Statements, 104,010 candidates representing **36.51%** obtained statements. In comparison to 2021, the number of candidates that obtained statements in 2022 decreased by **2.03** percentage points from **38.54** percent.

With reference to failure rate, 26,566 candidates representing 9.33 percent failed the 2022 Examination. This represents an increase of **2.3** percentage points from 2021. Gender wise, more boys (**9.95%**) failed the examination than girls (**8.75%**). This was the case during the 2019 2020 and 2021 examinations. Similar to 2019, 2020 and 2021, Mathematics had the largest proportion of candidates who failed at 57.03 percent while Chinese, French, Art and Design, and Design and Technology had the least number of candidates who failed, all recording below 10 percent. Lastly the 2022 Grade 9 Internal Examination was successfully conducted and processed.

With regards to Special Educational Needs candidates, the 2022 Junior Secondary School Leaving Examination recorded 658 (313 girls and 345 boys) candidates. There were 214 with physical limitations or impairments, 324 hearing impairments, and 120 vision impairments. Of the 658 candidates with Special Educational Needs, 327 candidates advanced to grade 10.

The qualitative analysis of candidates' performance indicated varying levels of performance. The majority of the challenges identified rested on candidates lack of understanding of what

is demanded by the questions. This could be attributed to learners' lack of subject content matter and instructions associated to the questions. Schools and teachers are encouraged to ensure that subject syllabi are adequately covered and that learners are provided with hands-on experiences and remedial work where need arises.

Further, schools are encouraged to nurture the use of school-based assessments to enhance and promote meaningful instruction and learning. Additionally, teachers are encouraged to utilise demonstrations and teaching aids such as maps, tables, diagrams and graphs to promote concrete learning. Last but not the least, it is important for teachers to ensure that expressive feedback is provided to help learners understand what they are doing well and not.

6.0 Appendices

Appendix 2: Subject Grade Distribution

Subject	Candidature	Distinction	Merit	Credit	Pass	Fail
English Language	286348	6.15	18.81	18.41	16.06	40.50
French Language	6055	26.08	46.64	18.83	5.57	1.07
Chinese Language	116	0.86	13.79	18.97	19.83	3.45
Chitonga	33948	19.85	31.39	15.26	9.06	23.97
Cinyanja	41757	9.32	29.45	19.69	13.11	28.02
Icibemba	79146	2.45	20.56	23.26	17.65	35.85
Kiikaonde	9210	4.84	25.10	23.00	13.55	33.47
Lunda	3972	11.83	31.70	17.90	10.73	27.77
Luvale	3410	14.02	43.55	18.01	11.61	12.67
Silozi	16493	8.71	33.52	21.79	14.04	21.87
Mathematics	286247	4.85	11.15	13.60	13.33	57.03
Integrated Science	286288	5.94	23.45	24.62	10.87	34.75
Agricultural Science	37363	1.58	16.94	26.23	13.25	41.56
Computer Studies	222042	1.08	14.55	28.54	19.07	36.23
Social Studies	286871	0.75	12.29	22.05	27.73	36.48
Business Studies	277741	10.57	17.05	18.05	23.28	30.42
Religious Education	270995	2.49	15.34	20.68	23.77	37.62

Design & Technology	8856	18.25	43.91	22.22	10.35	5.23
Art & Design	25872	12.55	42.25	29.39	11.62	3.28
Home Economics	59663	8.19	29.33	24.87	26.09	11.26
Musical Arts Education	6476	9.51	39.78	14.61	18.27	17.45
Physical Education	44664	4.95	27.89	26.28	5.49	33.62
Overall		5.20	18.13	21.01	18.38	36.90