



# Assessment Documentation of Student's Learning in Mathematics

## Grades (5-12) – Bilingual Private Schools



September 2024

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## 1 Introduction

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The Ministry of Education stresses the importance of teacher planning and preparation for implementing the formative and summative assessment tools throughout the academic year 2023/2024. The teachers need to carefully plan and prepare assessment tools that align with the teaching methods being employed traditional face-to-face teaching methods or on-line learning.

The aim of assessment is to provide useful information about students' learning. Therefore, assessment focuses on the learning outcomes which students are expected to achieve. Assessment of students' achievement of these learning outcomes is based on the conscious and systematic gathering of information. A wide variety of sources of information are available. Each of these sources has its own strengths and weaknesses, so to arrive at a properly balanced picture, teachers should make use of as many different sources as possible.

## Summative Assessment

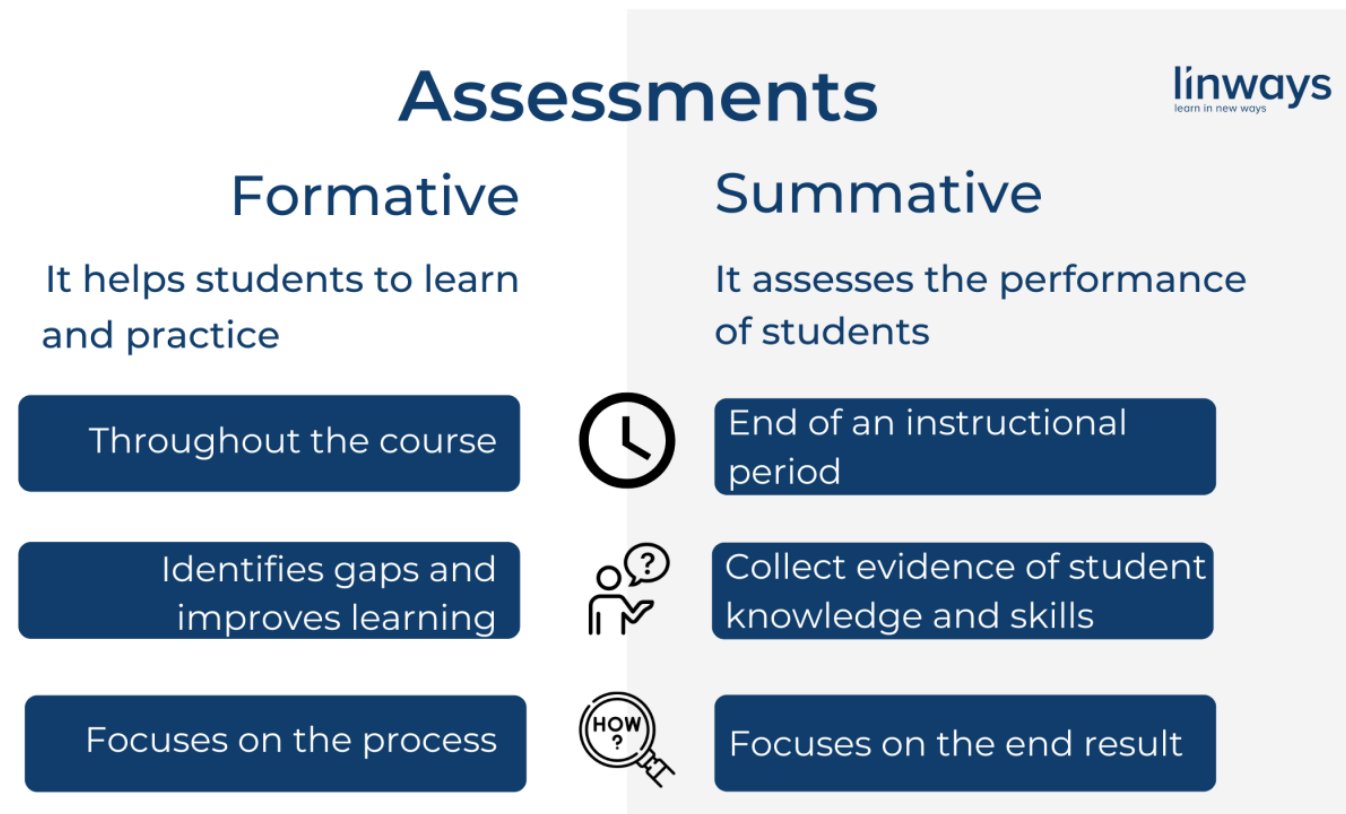
Assessment for student's learning. Its purpose is to improve students' learning. Typically done by giving feedback through different tools such as of tests, quizzes, homework, oral work, projects, etc.

## E-Assessment

Defined as: the process of employing information networks, computer equipment, educational software and materials from multiple sources, as well as using assessment to collect and analyze student responses, which in return help teachers to discuss the impacts of programs and activities on educational process and define them to reach a codified judgment based on quantitative or qualitative data related to academic achievement.

By using a combination of formative and summative assessments, teachers can ensure that students are meeting the learning goals and objectives and can provide valuable information to guide instruction and support student learning.

The brief differences between formative and summative assessments are showing in the following figure<sup>1</sup>:



<sup>1</sup> [Formative and summative assessments in higher education: an overview. \(linkedin.com\)](https://www.linkedin.com/pulse/formative-and-summative-assessments-higher-education-overview/)

### 3 Formal Moderation

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Moderation is defined as the follow-up process to ensure the proper application of continuous assessment tools, and the credibility of the marks given to students considering the technical standards and specifications contained in the student learning assessment documents. Moderation will be applied in this academic year in accordance with the previous objectives and mechanisms set out in the general document for the evaluation of students' learning.

### 4 Performance Reports and Certificates

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The student's performance level is monitored continuously throughout the year as follows:

Grades	Report
(5-12)	<ul style="list-style-type: none"> <li>✓ A descriptive report on the student's performance in the middle of each semester.</li> <li>✓ Student grades are revealed at the end of each semester.</li> <li>✓ Successful learners in the 10<sup>th</sup> grade are awarded a certificate (General Study of Basic Education).</li> <li>✓ Successful learners in the 12<sup>th</sup> grade are awarded the "General Education Diploma" and its level.</li> </ul>

## 5 Assessment Objectives

When achieving learning goals/objectives, students will be able to acquire assessment objectives, and these objectives can be organized as follows

Grades	Assessment Objectives		
	Knowledge AO1	Application AO2	Reasoning AO3
(5-10)	30%	50%	20%

Grades	Assessment Objectives	
	Knowledge & Understanding AO1	Application & Reasoning AO2
(11-12)	50%	50%

The abilities within these objectives include the necessary processes in the teaching of mathematics subjects that are taught at this stage, while at the same time representing the basic skills that the student is required to acquire by studying the course in any class and thus form the basis for assessing the students' performance.



The branching abilities of assessment objectives for grades (5-10)



The branching abilities of assessment objectives for grades (11-12)

## 6 Levels of Demand

Each item will be designated as low (L), medium (M) or high (H) demand. The purpose of this is to enable differentiation between students. The table below describes the three levels of demand.

Item Demand's Level	Description
<b>Low (L)</b>	<p>It is expected that most students will be able to answer low demand questions correctly.</p> <p><b>Items may have one or more of the following features:</b></p> <ul style="list-style-type: none"> <li>➤ Test the least demanding aspects of a learning objective.</li> <li>➤ Involve a small number of steps.</li> <li>➤ Involve the use of routine procedures.</li> <li>➤ Specify explicitly what the student needs to do involve simple problems.</li> </ul>
<b>Medium (M)</b>	<p><b>Items may have one or more of the following features:</b></p> <ul style="list-style-type: none"> <li>➤ Test the more demanding aspects of a learning objective.</li> <li>➤ Require the selection and use of techniques and procedures to solve a problem.</li> <li>➤ Involve several steps.</li> </ul>
<b>High (H)</b>	<p>It is expected that a minority of students will be able to answer high demand questions.</p> <p><b>Items may have one or more of the following features:</b></p> <ul style="list-style-type: none"> <li>➤ Test the most demanding aspects of a learning objective.</li> <li>➤ Involve the application of techniques and procedures to solve challenging multi-step problems.</li> <li>➤ There may be little guidance in the question.</li> </ul>

There is no restriction on the combination of assessment objective and level of demand for an item. It is possible to have a high demand AO1 item or a low demand AO2 item.



## 7 Types of Items for Grades (11-12)



### Multiple Choice Items

This type of item provides a set of options from which the correct answer should be selected. A student can retrieve information from their memory by searching for information contained in tables or graphs or thinking about options one by one. It does not require clarification of the way in which the correct answer is found.



### Short Answer Items

Items that requires only a few steps, such as using simple algebraic phrases, retrieving information from a student's memory or searching for information contained in tables or graphs. The steps to find the answer, which are usually simple, are required to be written



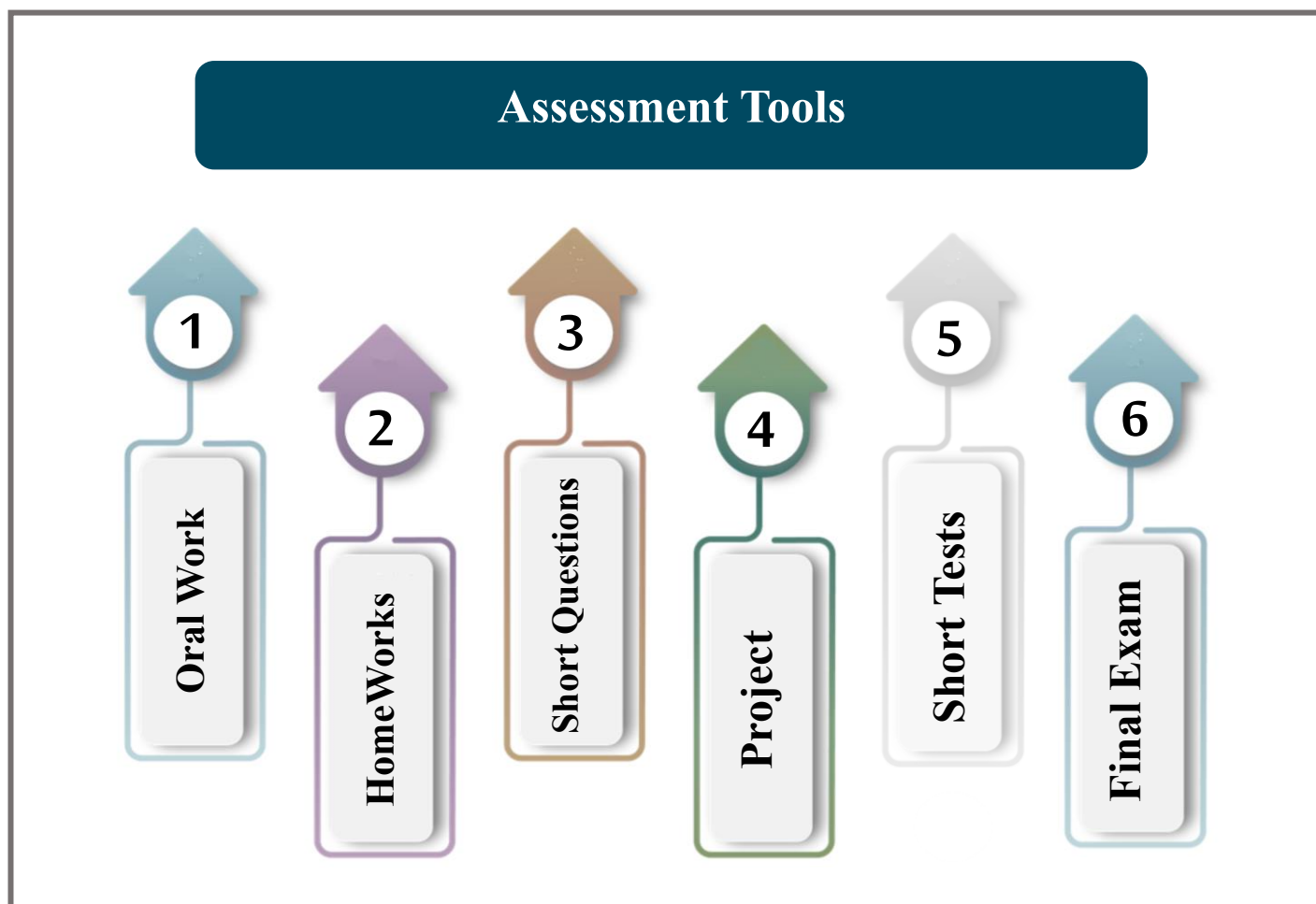
### Long Answer Items

Items that students take longer time to answer and requires many steps. Students may need to formulate and deal with more complex phrases to reach results. The inclusion of steps to find the answer will be required and worth marks. Students may need to model a situation computationally and prove the result or show it supported by reasons.



## 8 Assessment Tools

This Section provides information and explanation regarding the various tools and techniques, which can be used for assessment purposes in Mathematics during the academic year 2024/2025:



9 Mark Distribution of Assessment Tools

The marks of the continuous assessment tools along with the final exam marks of the academic year 2024/2025 for the grades (5-12) are illustrated in the following tables

Continuous Assessment		Mark	
		Grades (5-9)	Grade 10
Continuous Assessment Tools	Oral Work	10	5
	Homework	10	5
	Short Questions	10	10
	Project	10	-
	Short Tests	20	20
Final Exam		40	60
Total		100	100

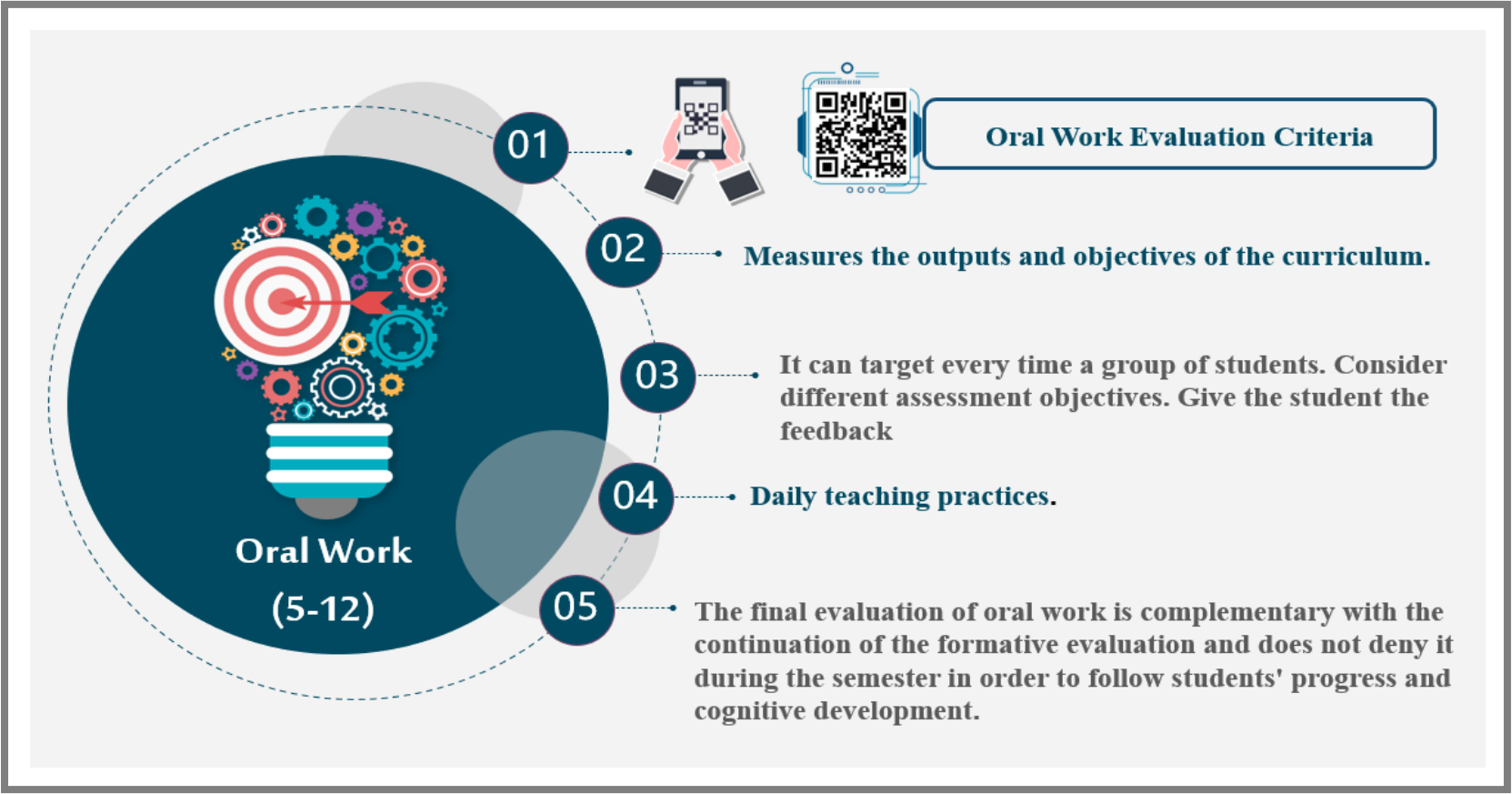
Continuous Assessment		Mark	
		Grade 11	Grade 12
Continuous Assessment Tools	Oral Work	5	5
	Homework	5	-
	Short Questions	10	5
	Short Tests	20	20
Final Exam		60	70
Total		100	100

10 Assessment Tools Specifications

10-1: Oral work

One of the targeted methods of collective thinking that helps to develop the student's expressive ability, along with self-confidence, ability to listen, dialogue, express opinion and respect for other opinion. This tool is applied through different educational attitudes to obtain oral responses from students on an issue or subject, usually between two or more parties (either between the teacher and the student or between the teacher and a group of students or between the student and his colleague or between the student and a group of students).

Tool Application



Customize Marks

The oral work is assessed as a summative continuous assessment tool through each semester as follows:

Grades	Total Marks	Assessing periods	Remark
5-9	10	2	The student is assessed <b>twice</b> each with <b>5marks</b> during the semester
10-12	5	2	The student is assessed <b>twice</b> each with <b>5marks</b> during the semester. Then take the <b>average</b>

Notes

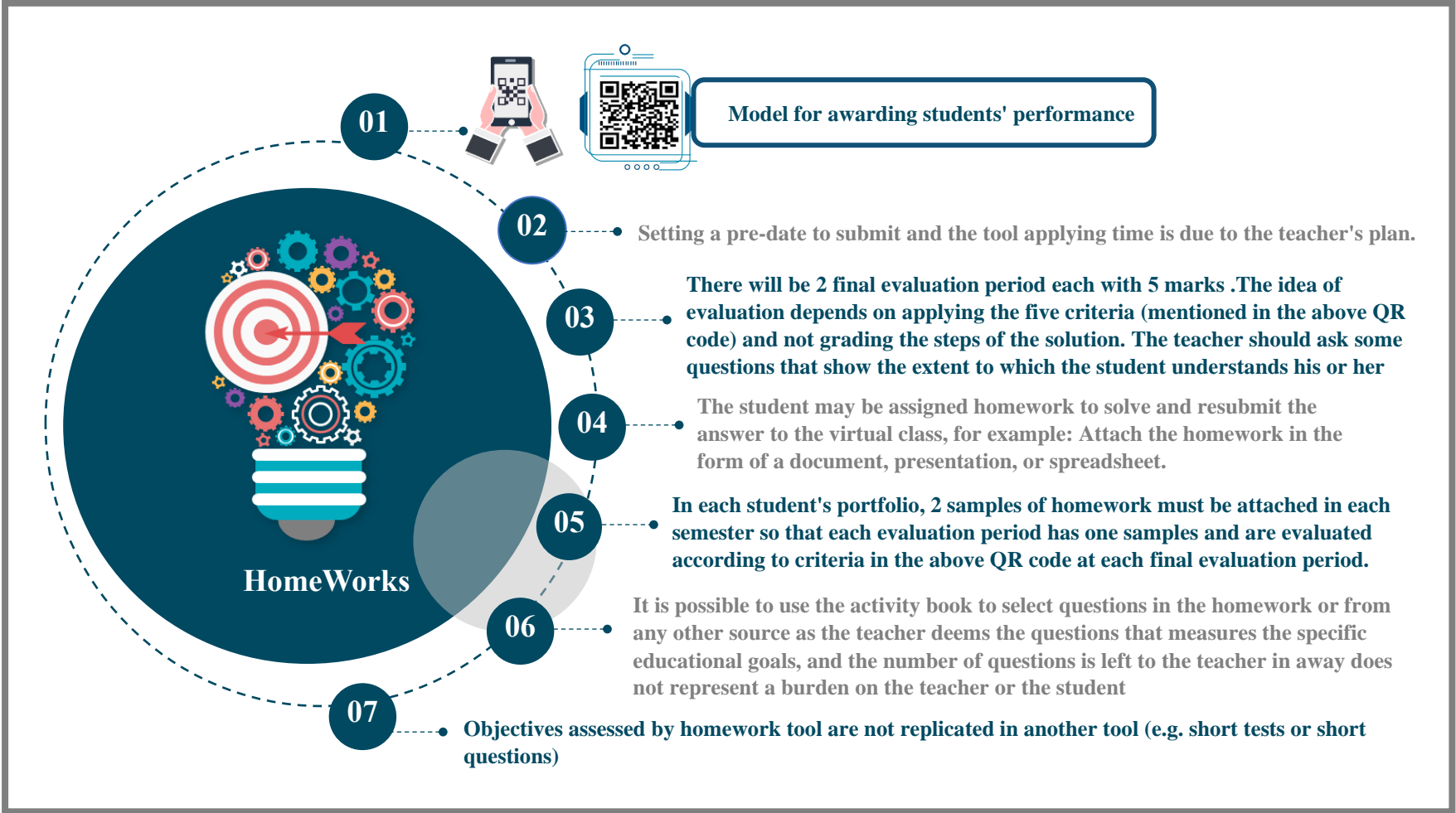
**In the oral work tool, the student is not award grades based on:**

- ✗ Student behaviour in the class.
- ✗ The student's attendance and absence from school.
- ✗ Written works such as the organization of the notebook ,the preparation of teaching methods or solving homework.

10-2: HomeWorks

Defined as one of the assessment tools that assigned to students by their teachers to be done in their spare time at school or home. The homework must be planned, and the method of student's performance should be clear through the instructions provided by the teacher, and the teacher must focus on the role of homework in learning and the appropriate amount of homework for his\her students, and the correction of the homework should be accompanied by feedback and appropriate guidance to help the student build, configure and modify his knowledge and skills.

Tool Application



Customize Marks

The homework is assessed as a summative continuous assessment tool through each semester as follows:

Grades	Total Marks	Assessing periods	Remark
5-9	10	2	The student is assessed <b>twice</b> each with <b>5marks</b> during the semester
10-11	5	2	The student is assessed <b>twice</b> each with <b>5marks</b> during the semester. Then take the <b>average</b>
12	-	-	Evaluated continuously but it will not be monitored in the assessment sheet

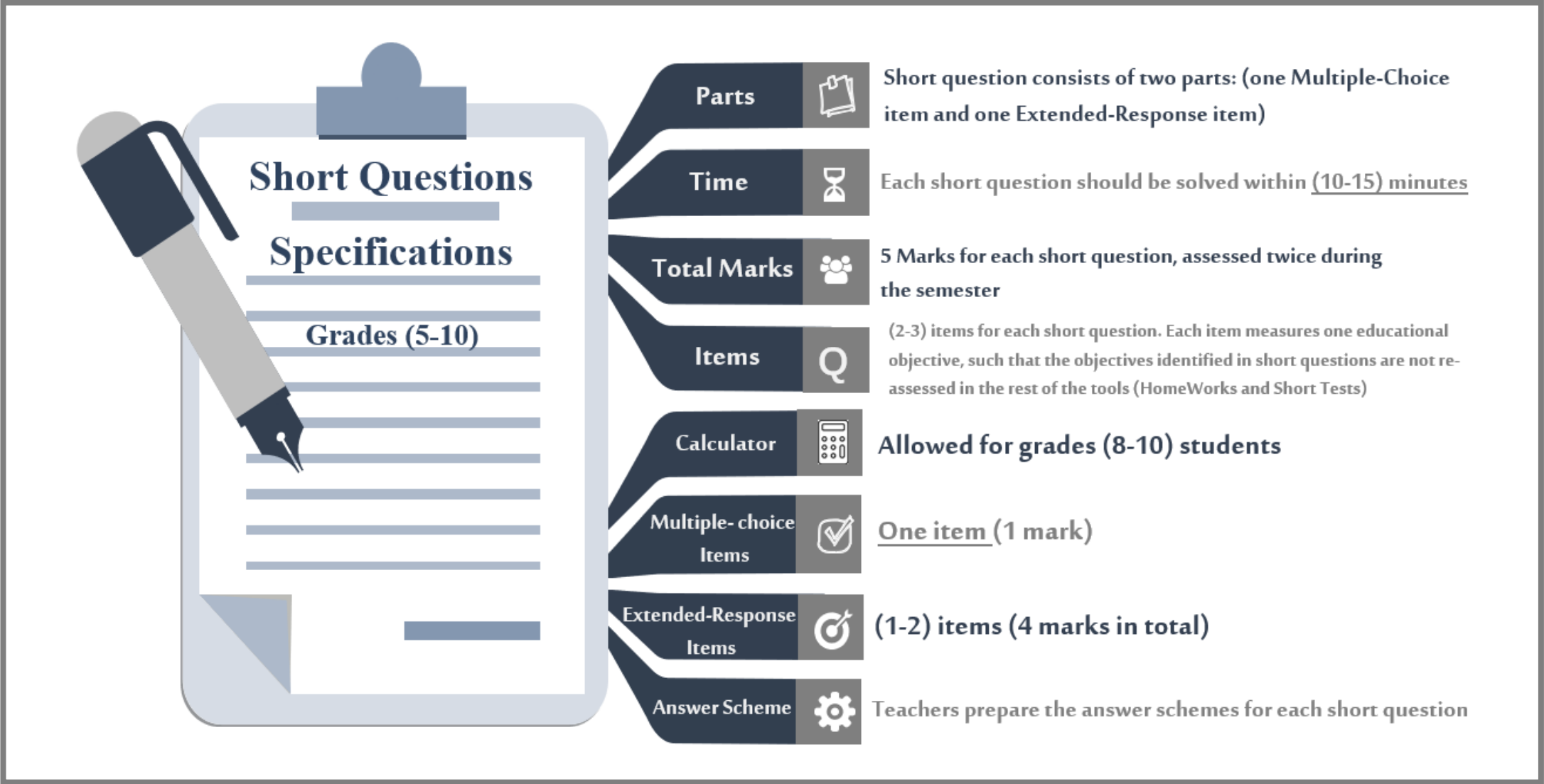
Notes

- The homework grand total must be clearly shown on the student paper.
- Grade 11** : Marks must be as a whole number without half (like 5 or 4 are accepted but 4.5 is not accepted).
- The final evaluation of homework is complementary with the continuity of the formative evaluation and does not negate it during the semester and promotes the monitoring of students' progress and academic development.

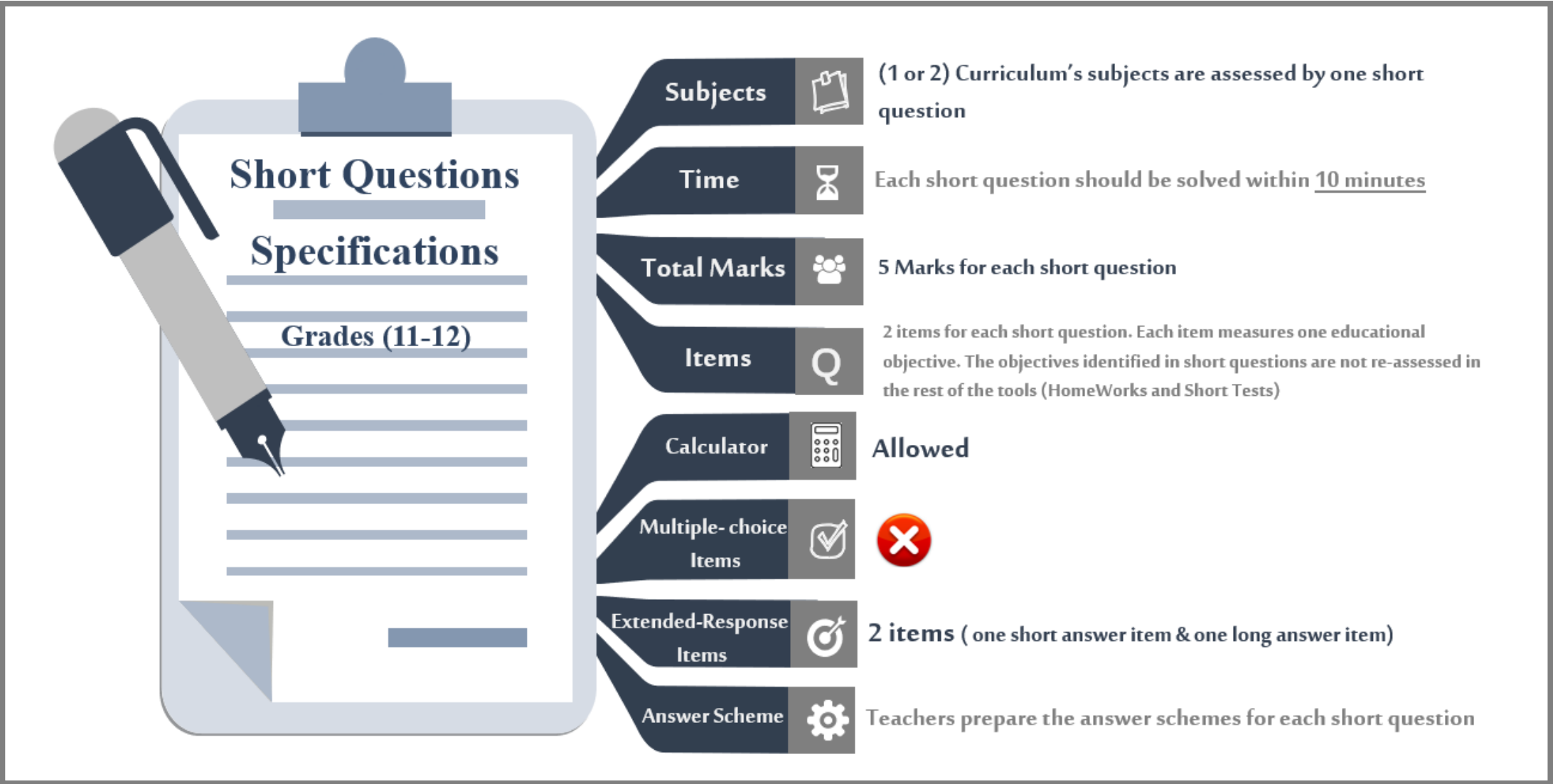
10-3: Written Short Questions

An evaluation tool that is used continuously during class to ensure that student has achieved the required educational outcomes, followed by appropriate feedback.

Written Short Question Specification for Grades (5-10)



Written Short Question Specification for Grades (11-12)



Customize Marks

The short question marks are distributed as a summative continuous assessment tool as follows:

Grades	Total Marks	Assessing periods	Remark
11	10	2	The student is assessed <b>twice</b> each with <b>5marks</b> during the semester
12	5	1	The student is assessed <b>once</b> with <b>5marks</b> during the semester

Items Types

For each short question, the types, number and scores assigned to each item are shown below:

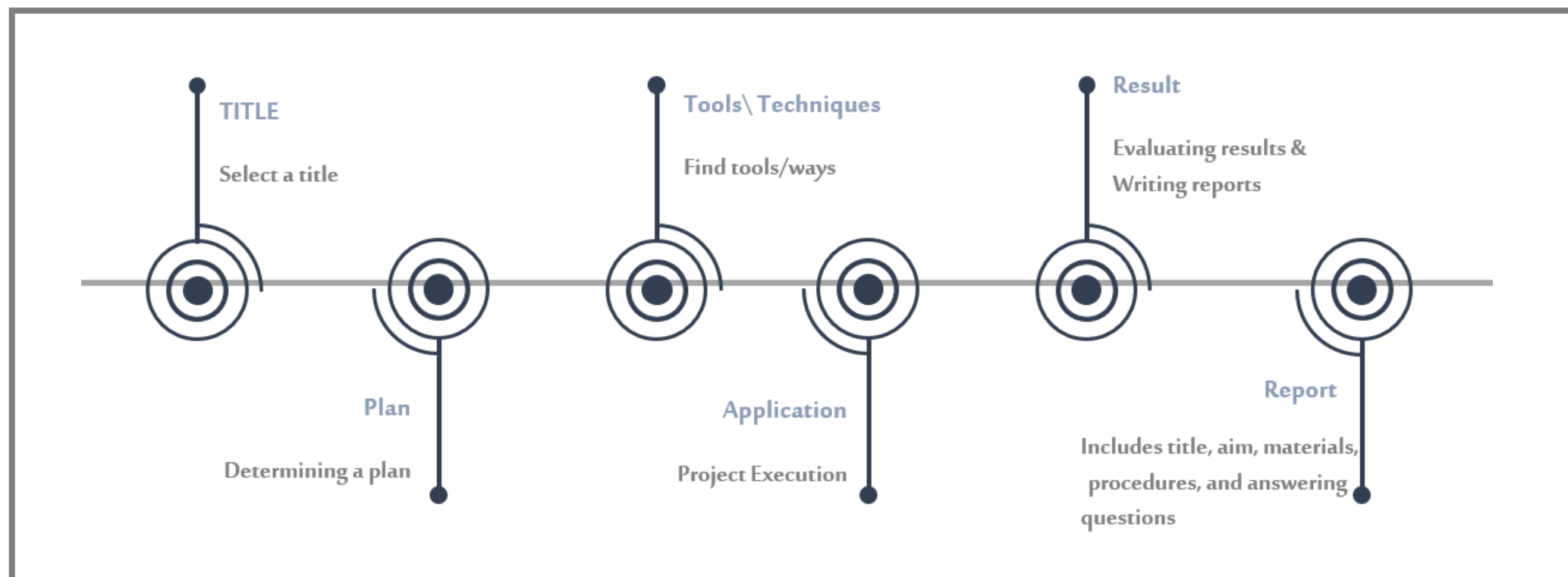
Grades	Item Types		Number of Items	Marks
(11-12)	Extended Response Items	Short Answer Items	1	(1-2) Marks
		Long Answer Items	1	(3-4) Marks



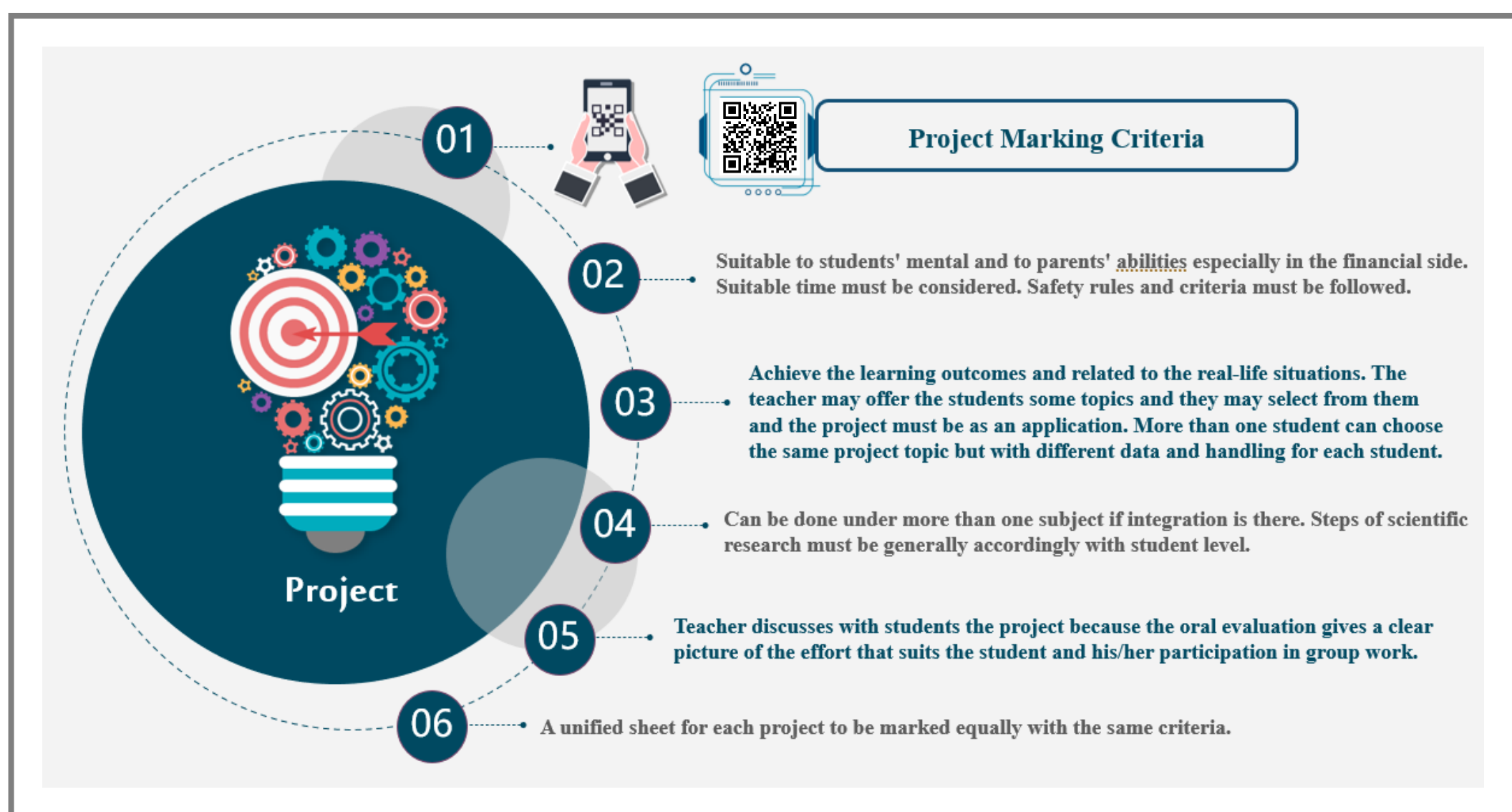
## 10-4: Project

School Project is one of the assessment tools that depend on investigation and practical skills to reach scientific results & explanations can be done by one student or more.

### Project Steps



### Project Specification



### Customize Marks

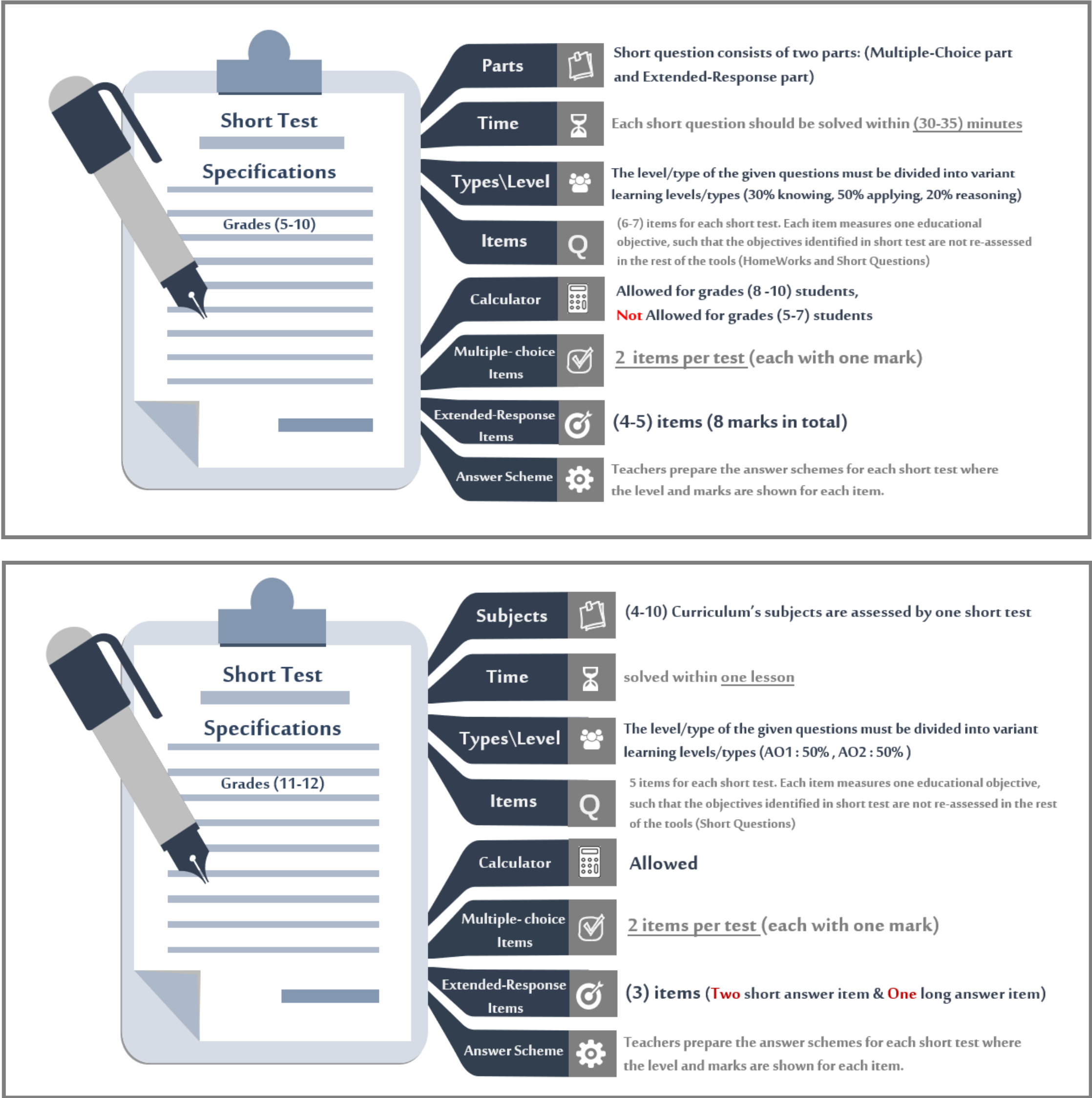
The project marks are distributed as a summative continuous assessment tool as follows:

Grades	Assessing periods	Marks
(5-9)	Once during the semester	10 marks

10-5: Short Test

Defined as one of the assessment tools that prepaid by the teacher during the year applied at the end portion of the content. The feedback should be given to the students directly after the short test.

Written Short Test Specification for Grades (5-12)



Customize Marks

The short test marks are distributed as a summative continuous assessment tool as follows:

Grades	Assessing periods	Marks
(5-12)	2	20 marks and the students are assessed <b>twice</b> during semester each with <b>10 marks</b>

Mark Distribution Grades (11-12)

Mark Distribution		AO1 (50%)	AO2 (50%)
10 Marks	Assessment Objectives	5 Marks	5 Marks

Mark Distribution		L (40%)	M (40%)	H (20%)
10 Marks	Levels of Demand	4 Marks	4 Marks	2 Marks

Items Types Grades (11-12)

Item Types		Number of Items	Marks
Multiple Choice Items		2	1 Mark per item
Extended Response Items	Short Answer Items	2	2 Marks per item
	Long Answer Items	1	4 Marks

Notes

- The **short test** grand total must be clearly shown on the student paper.
- Items in the short test paper should be arranged ascending order according to the assessment objectives and demand’s level so that low knowledge items come first, ending with high reasoning items.
- Grades (11-12)** : Marks must be as a whole number without half only (like 10 or 9 are accepted but 8.5 is not accepted).
- The question paper and its answer scheme must be prepared for each short test.

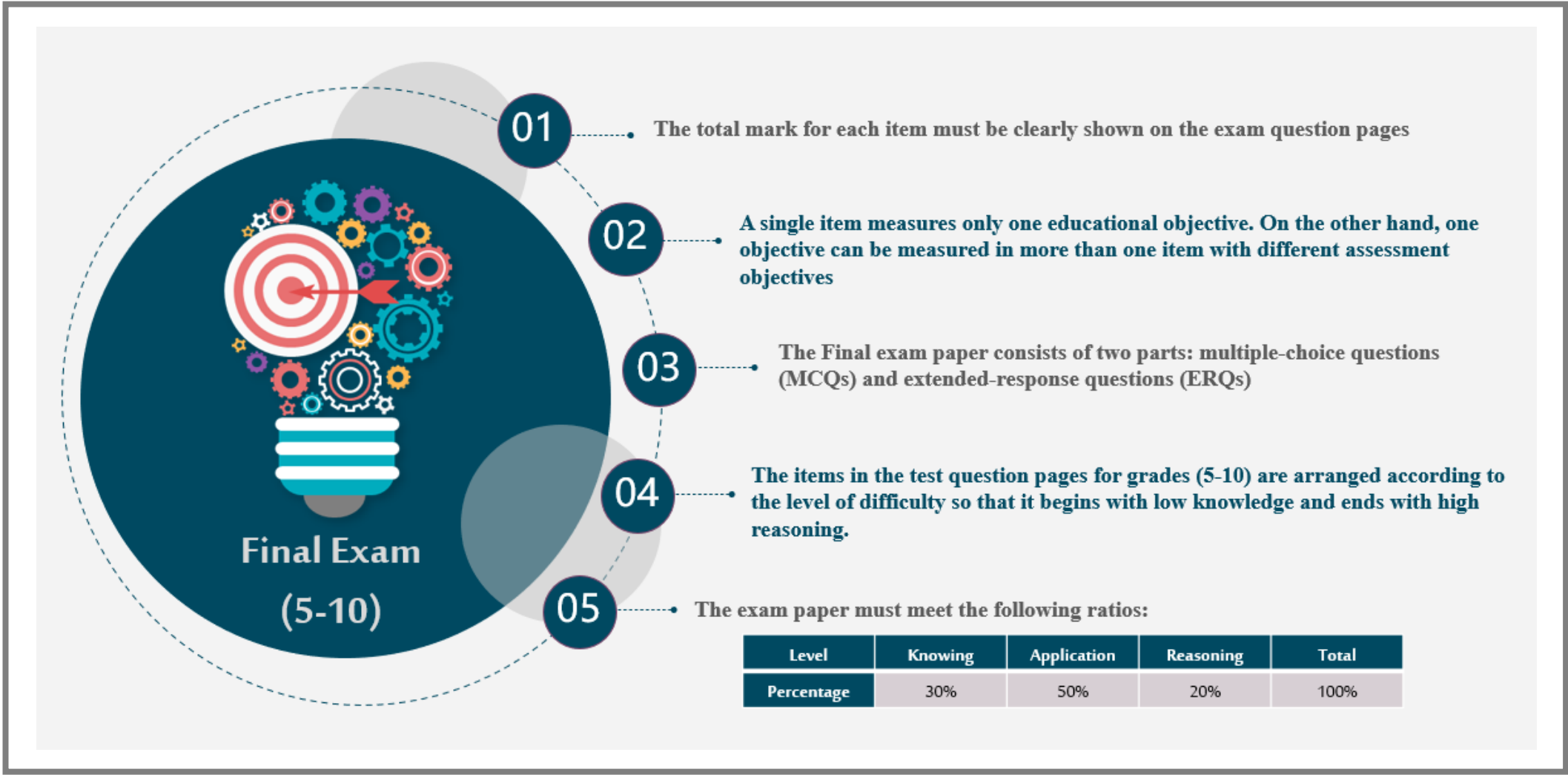


11 Final Exam for Grades (5-10)

Defined as one of the assessment tools that are administered at the end of each semester. Final exam is valued according to the following table:

Grade	(5-7)	8 & 9	10
Calculators	Not allowed	Allowed	Allowed
Marks	40		60
Prepared by	Schools		Schools
Duration	1h 30min		2h 30min

Specification of Final Exam Paper for The End of The Academic Year for Grades (5-10)



Distribution of marks for grades (5-10) on final exam paper questions

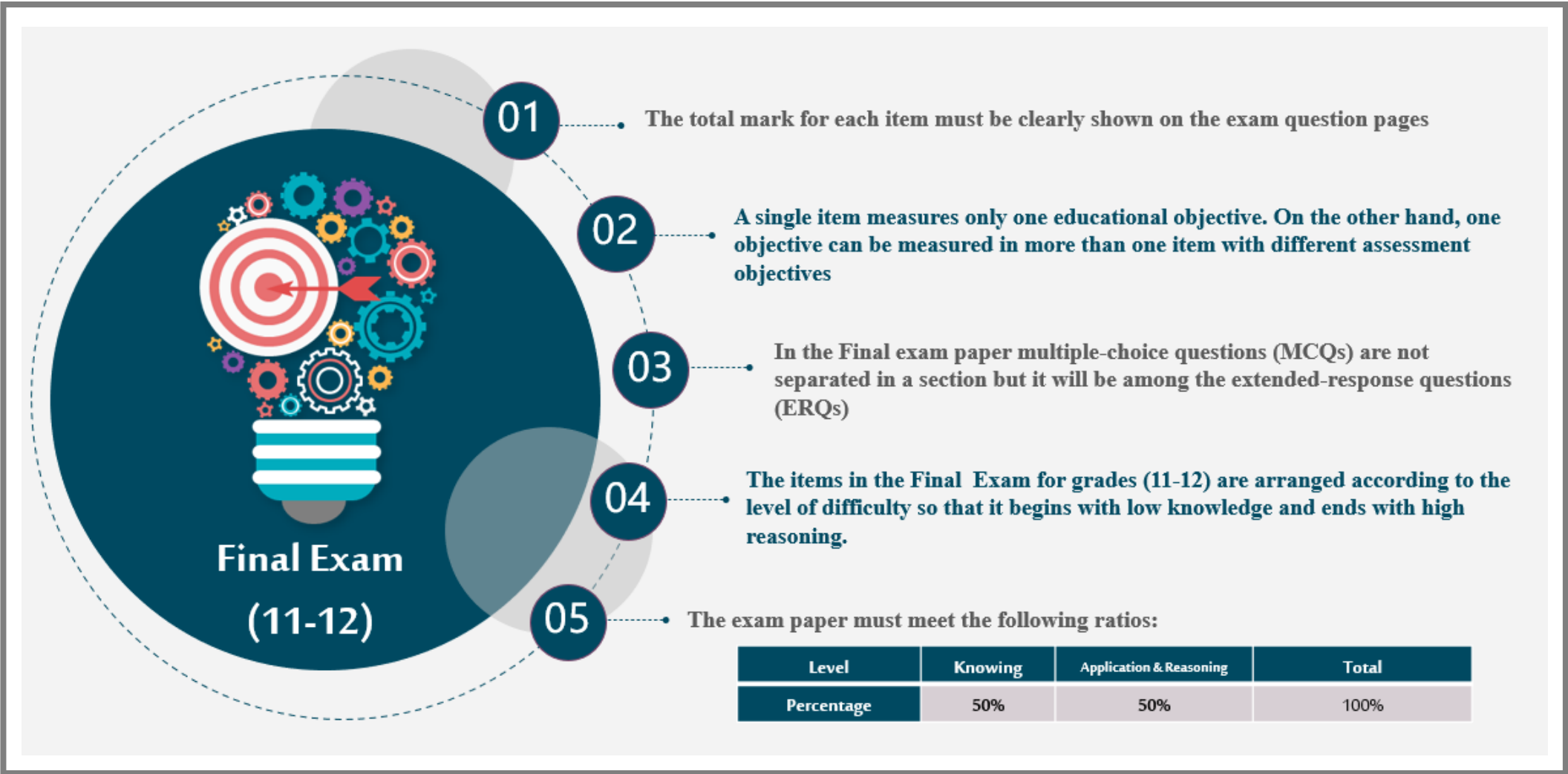
Grades		(5-9)	10
Marks	Question 1 (MCQ)	8 (8 items)	12 (12 items)
	Question 2 (ERQ)	12	12
	Question 3 (ERQ)	10	12
	Question 4 (ERQ)	10	12
	Question 5 (ERQ)	-	12
	TOTAL	40	60

Ratios of assessment items and distribution of marks are considered when the questions are prepared in the final exam paper

Grades	Level			Total
	Knowledge (30%)	Application (50%)	Reasoning (20%)	
(5-9)	12	20	8	40
(10)	18	30	12	60

13 Final Exam Specification for Grades (11-12)

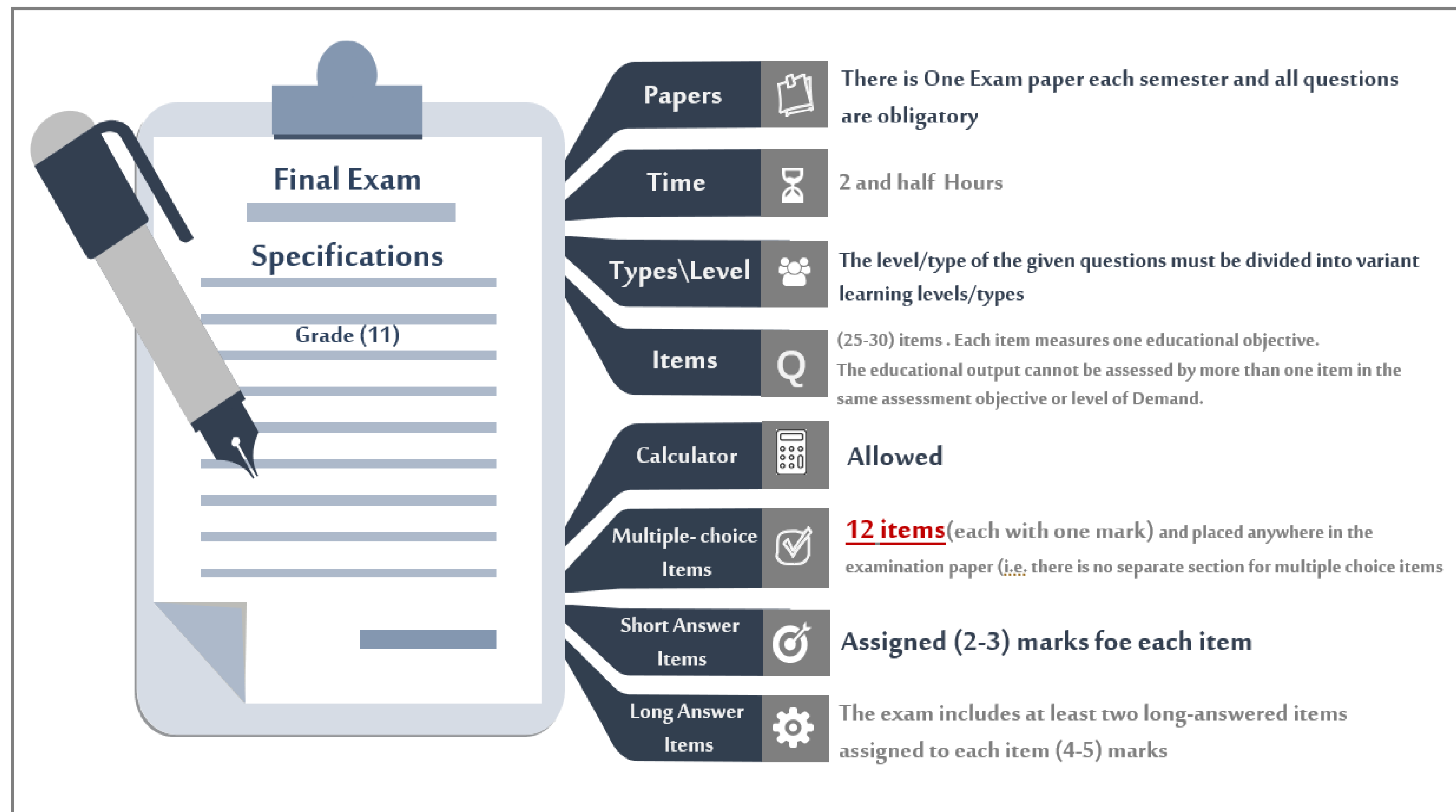
Specification of Final Exam Paper for The End of The Academic Year for Grades (11-12)



Ratios of assessment items and distribution of marks are considered when the questions are prepared in the final exam paper

Grade 11	Mark Distribution							
	60 Marks	Assessment Objectives	AO1 (50%)			AO2 (50%)		
			30 Marks			30 Marks		
		Levels of Demand	L (40%)	M (40%)	H (20%)	L (40%)	M (40%)	H (20%)
			12	12	6	12	12	6

Grade 12	Mark Distribution							
	70 Marks	Assessment Objectives	AO1 (50%)			AO2 (50%)		
			35 Marks			35 Marks		
		Levels of Demand	L (40%)	M (40%)	H (20%)	L (40%)	M (40%)	H (20%)
			14	14	7	14	14	7



Final Exam Specification for Grade 11 (Advance Math)

1<sup>st</sup> Semester

Unit	Weight (%)	Multiple-choice Questions	Extended-response Questions	Total
		Marks	Marks	
Quadratics (PM1 <sup>*</sup> )	16%	2	8	10
Functions (PM1 <sup>*</sup> )	17%	2	8	10
Algebra (PM2&3 <sup>*</sup> )	25%	3	12	15
Differentiation (PM1 <sup>*</sup> )	25%	3	12	15
Representing of Data (P&S1 <sup>*</sup> )	17%	2	8	10
TOTAL	100%	12	48	60

2nd Semester

Unit	Weight (%)	Multiple-choice Questions	Extended-response Questions	Total
		Marks	Marks	
Coordinate Geometry (PM1 <sup>*</sup> )	12%	1	6	7
Circular Measure and Trigonometry (PM1 <sup>*</sup> )	21%	3	10	13
Series (PM1 <sup>*</sup> )	17%	2	8	10
Integration (PM1 <sup>*</sup> )	25%	3	12	15
Probability, Permutations and Combinations (P&S1 <sup>*</sup> )	25%	3	12	15
TOTAL	100%	12	48	60

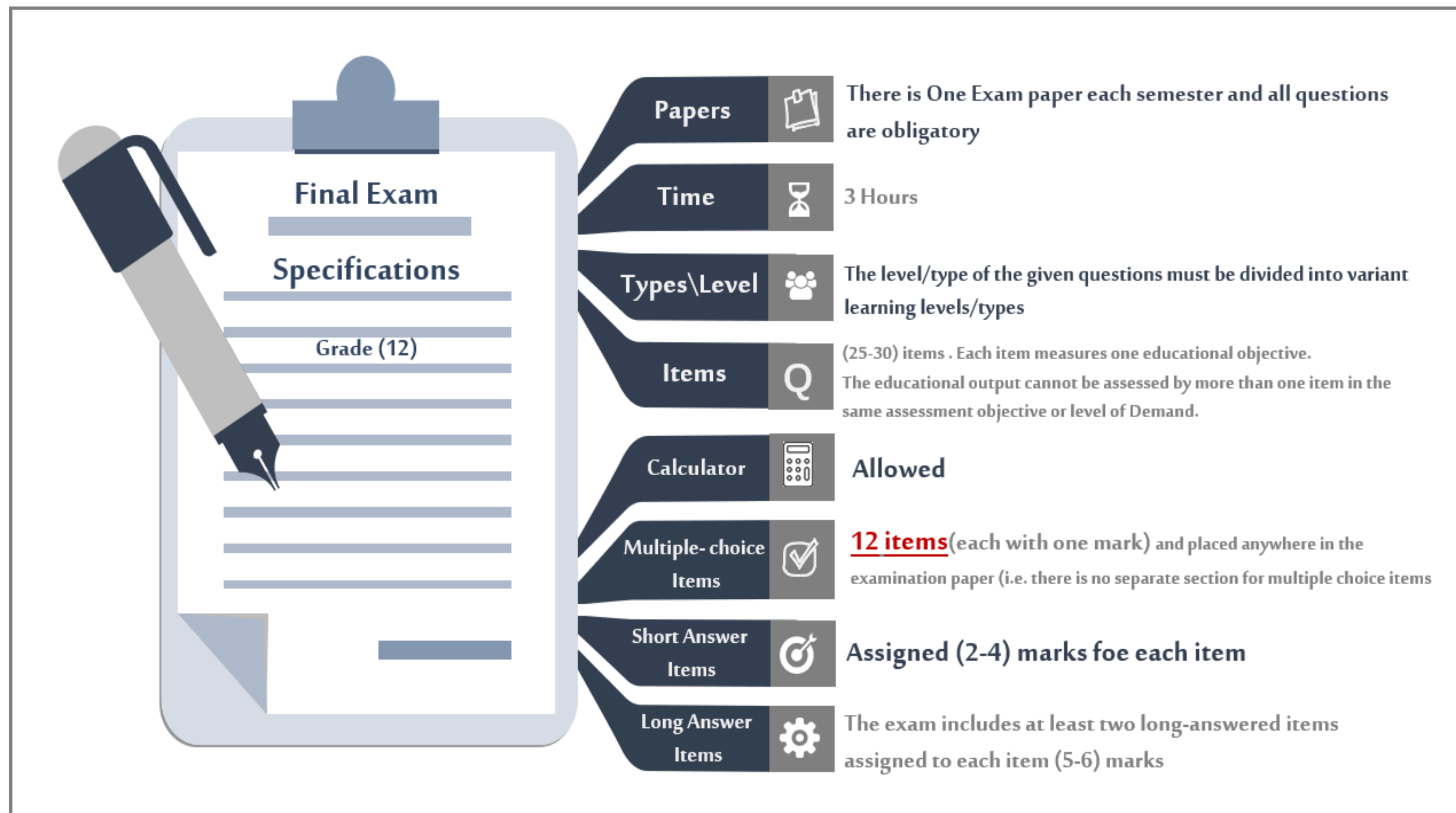
Final Exam Specification for Grade 11 (Basic Math)

1st Semester

Unit	Weight (%)	Multiple-choice Questions	Extended-response Questions	Total
		Marks	Marks	
Algebraic Expressions	25%	3	12	15
Quadratics	33%	4	16	20
Equations and Inequalities	25%	3	12	15
Straight Line Graphs	17%	2	8	10
TOTAL	100%	12	48	60

2nd Semester

Unit	Weight (%)	Multiple-choice Questions	Extended-response Questions	Total
		Marks	Marks	
Trigonometric Ratios	33%	4	16	20
Radians	13%	2	6	8
Differentiation	33%	4	16	20
Integration	21%	2	10	12
TOTAL	100%	12	48	60



17    Customize Marks of Final Exam of the final Exam for Grade (12)

Final Exam Specification for Grade 12 (Advance Math)									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
Unit	Weight (%)	Multiple-choice Questions	Extended-response Questions	Total	Unit	Weight (%)	Multiple-choice Questions	Extended-response Questions	Total
		Marks	Marks				Marks	Marks	
Logarithms and Exponential Functions (PM2&3 <sup>*</sup> )	25%	3	14	17	Integration (PM2&3 <sup>*</sup> )	33%	4	19	23
Trigonometry (PM2&3 <sup>*</sup> )	33%	4	19	23	Vectors (PM2&3 <sup>*</sup> )	17%	2	10	12
Differentiation (PM2&3 <sup>*</sup> )	25%	3	15	18	Complex Numbers (PM2&3 <sup>*</sup> )	25%	3	15	18
Discrete Random Variables (P&S1 <sup>*</sup> )	17%	2	10	12	Normal Distribution (P&S1 <sup>*</sup> )	25%	3	14	17
TOTAL	100%	12	58	70	TOTAL	100%	12	58	70

Final Exam Specification for Grade 12 (Basic Math)									
1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
Unit	Weight (%)	Multiple-choice Questions	Extended-response Questions	Total	Unit	Weight (%)	Multiple-choice Questions	Extended-response Questions	Total
		Marks	Marks				Marks	Marks	
Algebraic methods	29%	3	17	20	The Binomial Expansion	25%	3	14	17
Exponential and Logarithms	25%	3	15	18	Sequence and Series	29%	4	16	20
Differentiation	17%	2	10	12	Integration	21%	2	13	15
Measures of location and spread	29%	4	16	20	Representations of data	25%	3	15	18
TOTAL	100%	12	58	70	TOTAL	100%	12	58	70

# Appendices



Assessment Objectives in Mathematics



Model for awarding students' marks - homework



Project Marking Criteria



The specifications table form



Example of specifications table form



Answer Form of The Final Exam



Mathematics Assessment Sheet for Grades (5-9)



Mathematics Assessment Sheet for Grade (10)



Mathematics Assessment Sheet for Grade (11)



Mathematics Assessment Sheet for Grade (12)



Short test Grid Samples Grades (11-12)





