Bahrain

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Introduction

Overview of Education System

The Kingdom of Bahrain pays great care and attention to the right to education, as it is considered the gateway to the future. Article 7 of Bahrain's Constitution stipulates that education is a right guaranteed to all citizens in the Kingdom of Bahrain,[1] and according to the Education Law,[2] the main objective of the education policy in the Kingdom is to offer to all citizens equal opportunities to receive good education. In fact, Bahrain provides free basic and secondary education for all students in public schools. Schooling is compulsory at the basic education stage for 9 years, from ages 6 to 15. However, parents may choose to educate their children in private schools, which are fee based.

According to Article 4 of Education Law No. 27, "The Ministry of Education is the responsible body for directing the educational system in the country, drawing its policy within the framework determined by the Kingdom, supervising its progress, determining its quality standards, and cooperating with other public and private bodies and institutions for its development and linking it to the needs of the individuals and society."[3] The Ministry of Education (MoE) is also responsible for determining the general objectives of basic and secondary education, as well as for determining instruction time for all subjects.[4]

Overall, public school systems operate with a centralized approach. For example, teachers, education leaders, administrators in schools, and even specialists at the different MoE directorates are employed centrally by the Civil Service Bureau. However, detailed criteria and procedures for the employment process are created by the Ministry's human resources (HR) department. After teachers are employed, the HR department at the MoE places them at schools based on the schools' needs. The MoE's Policies and Curricula Development Directorate is responsible for developing, reviewing, and adapting curricula and textbooks for all subjects taught in public schools. The development and adaptations are carried out with consideration of national and global events, issues, and changes. Hence, students in public schools are exposed to the same curricula and similar resources.[5]

The official language in Bahrain is Arabic, and it is the language of instruction in all public schools where English is taught as a compulsory foreign language and French is taught as an

elective second language. The curricula for all subjects in most private schools are presented in English, and in some schools, subjects are taught in Arabic or French.

The MoE also supervises private schools through the Licensing and Monitoring Private Schools Directorate and supports them in different ways, such as by providing training workshops or involving them in competitions and national or international events. However, each private school has its own curricula, teaching plans, training programs, examinations, and recruitment criteria. Although private schools operate independently, their curricula and textbooks are approved by the MoE's Policies and Curricula Development Directorate. Additionally, all private schools are obliged to use MoE-approved curricula, especially in the areas of Arabic language, Islamic studies for Muslim students, Bahrain's history and geography, and citizenship.

Leaders in the Kingdom of Bahrain believe that education is crucial to developing a "just and thriving society." Therefore, the Kingdom of Bahrain's Economic Vision 2030 aspires to secure a "first-rate education system [that] enables all Bahrainis to fulfil their ambitions."[6] Hence, much attention has been given to developing the education system, especially in the last decade, and several education initiatives and projects have been implemented. Examples include the implementation of the Digital Empowerment in Education Project, which falls within His Majesty King Hamad Schools of the Future Project; the restructuring of the MoE (2020); and, importantly, the formation of the Supreme Council for the Development of Education and Training (SCDET), which was established in 2015[7] and has been headed by the Prime Minister since 2023.[8] This council oversees the continuous development of education and training in the Kingdom and seeks to improve the quality of education by setting policies and strategies and outlining national education standards to ensure they meet international standards. This is added to the initiative of developing the education assessment system, piloted in 2022, where more weight has been given to formative assessment in the basic education stage.[9]

The education system in Bahrain public schools consists of basic education and secondary education. Basic education, for students ages 6 to 15, takes 9 years and comprises two main stages: the primary stage, which includes Cycle 1 (Grades 1 to 3) and Cycle 2 (Grades 4 to 6), and the intermediate (middle) stage, which includes Cycle 3 (Grades 7 to 9). As mentioned, Bahrain education law stipulates that education is compulsory in these three cycles of basic education. Upon completion of the intermediate stage and passing a series of examinations, students receive the Intermediate Education Certificate.

Secondary education lasts for 3 years (Grades 10 to 12), in which two tracks are offered: a unified academic track (scientific, literary, and commercial) and a technical and vocational track. Successful students are granted a General Secondary Certificate at the end of the secondary stage in each of their majors and are therefore eligible to enter university or join the labor market.

Overall, public schools in Bahrain are gender specific, where male teachers teach in boys' schools and female teachers teach in girls' schools. There is an exception in some primary schools where boys' schools have female teaching and administrative staff. Almost all

private schools are coeducational, and all subjects are taught by male or female teachers. All preschools are coeducational, and attendance is noncompulsory. Exhibit 1 shows the types of schools in Bahrain in academic year 2022–2023.

Exhibit 1: Distribution of Schools in Bahrain in Academic Year 2022–2023

	Type of School	Total Number of Boys' Schools	Total Number of Girls' Schools	Total Number of Schools
Public Schools	primary	58	54	112
	primary/ intermediate	15	7	22
	intermediate	16	21	37
	secondary	11	20	31
	comprehensive[a]	—	1	1
	vocational[b]	4	0	4
	religious institutes[c]	3	—	3
Private Schools	preschool (ages 3–5)			166
	coeducational national schools			39
	foreign schools			37
	foreign community schools			1

Use and Impact of TIMSS

Bahrain participated in TIMSS 2003 and TIMSS 2007 with Grade 8 only. TIMSS 2011 marked Bahrain's first participation with both Grades 4 and 8, which was repeated in subsequent cycles, enabling comparisons over time of mathematics and science achievement among Grade 4 and Grade 8 students. What characterized Bahrain students' participation in TIMSS 2015 was the notable increase (45 points) in Grade 8 students' mathematics performance. In TIMSS 2019, Bahrain students' performance in both mathematics and science moved from the Low International Benchmark to the Intermediate International Benchmark for both Grades 4 and 8. TIMSS 2023 marked Bahrain's first participation in the digital assessment. For reasons of comparison, a sample of schools also participated in the paper assessment in TIMSS 2023.

a Comprehensive schools cater to all age groups in Grades 1 to 12.

b Vocational schools are secondary schools designed to provide vocational education or technical training.

c Religious institutes are boys' schools that have Islamic studies as the core education component while also providing general education.

Bahrain's TIMSS 2019 results in mathematics and science were close to the TIMSS scale centerpoint. However, like most other participating countries, there was a gender-based difference in both mathematics and science achievement results. Bahrain's TIMSS national reports included analysis of achievement results, which revealed important findings. Based on the indicators obtained from these analyses, enrichment activities were prepared and shared with schools. The results analysis also detected additional factors that may have affected students' achievement in TIMSS 2019, including areas that needed improvement in teaching and learning mathematics and science, and students' and parents' lack of awareness about the importance of TIMSS in enhancing students' mathematics and science skills.

Mathematics and science competencies and topics in the national curricula were compared with TIMSS 2023 competencies and topics, taking into consideration the analysis of Bahrain students' results in TIMSS 2019. This process was intended to determine topics and competencies not fully included in the national curricula or in need of reinforcement. Based on the findings of this comparison, some topics were moved to be taught in a different grade, and enrichment activities were prepared by curricula specialists and shared with schools.

It is worth mentioning that the MoE has made great efforts toward the digital empowerment of Bahrain's students. These students are already familiar with using digital tools, but since TIMSS 2023 marked Bahrain's first participation in the digital assessment, efforts were made to improve e-learning by preparing activities to familiarize students with digital assessments. Especially during the years affected by COVID-19, education was converted to online platforms, and teaching and learning were happening online and in a digital format.

The Mathematics Curriculum in Primary and Lower Secondary Grades

Mathematics is a core subject throughout basic (primary and intermediate) education in Bahraini public schools. Since 2008, Bahrain's mathematics national curriculum has been a McGraw-Hill series that was adapted and translated by the MOE's Policies and Curricula Development Directorate specialists. This national curriculum was adapted to cover almost all the competencies required for basic education, and it is made available in paper format in the student's book and in an electronic format on the MoE's website.[10]

This curriculum was introduced in schools for the first time in academic year 2009–2010. However, it was revised in academic year 2014–2015, as well as in academic year 2015–2016, by adding a mental arithmetic booklet and by providing teachers with a teacher's guide and detailed lesson plans. The last revised version was introduced in 2017 when teachers received training on the strategic principles of mental arithmetic, teaching fractions, addressing conceptual errors, and using images and models in mathematics instruction.

The mathematics curricula for fourth and eighth grades cover five content areas: Numbers and Operations, Algebra, Geometry, Measurement, and Data Analysis and Probability (in addition to these five content areas, the fourth-grade mathematics curriculum includes

mental calculation competencies). Each content area contains topics that are well defined and include mathematical knowledge of concepts, facts, and procedures. In addition, subject matter competencies are specified in such a way that they cover aspects of the cognitive domain. Students should be able to develop and apply mathematical skills and abilities, use mathematical operations and problem-solving strategies, and apply mathematical knowledge and conceptual understanding to solve any mathematical or real-life problem. The mathematics content areas and competencies in Grades 4 and 8 national curricula are presented in Exhibits 2 and 3, respectively.

Exhibit 2: Grade 4 Mathematics Content Areas and Competencies in the National Curriculum

Content Area	Competencies
Numbers and Operations (whole numbers up to seven digits, fractions and decimals)	• read, write, and express whole numbers up to 1,000,000 • represent whole numbers in different ways • understand place value and the relationship between whole numbers • order and compare whole numbers • solve problems involving odd and even numbers • multiples and factors of numbers • recognize fractions as parts of a whole unit or parts of a collection • read, write, identify, and determine equivalent fractions • compare and represent fractions on a number line • understand decimal place value and rounding • define decimals using words and numbers • represent decimals on a number line • compare, read, and write decimals • identify the relationship between decimals and fractions • understand the four basic arithmetic operations (+, -, ×, ÷) and how they relate to one another • compare arithmetic operations in terms of properties used in calculations • add and subtract simple fractions with like denominators • add and subtract decimals • solve problems including those set in a real-life context • compute with numbers and estimate using the four arithmetic operations

Exhibit 2: Grade 4 Mathematics Content Areas and Competencies in the National Curriculum (Continued)

Content Area	Competencies
Algebra	• identify number patterns and the relationship between patterns (numbers or terms) • extend and generate patterns • recognize variables • write simple algebraic expressions to solve for one unknown missing number or operation in a number sentence • represent real-life situations using models, symbols, pictures, and words
Geometry	• identify and draw points, lines, rays, line segments, angles, triangles, and quadrilaterals • draw and distinguish between parallel, perpendicular, and intersecting lines • explore the properties of two- and three-dimensional geometric shapes • determine the line of symmetry in two-dimensional shapes • recognize congruence with and distinguish between geometric transformations (e.g., translation, reflection, and rotation)
Measurement	• recognize measurement units • choose the appropriate units to measure and estimate length, mass, and volume, and to solve problems involving perimeter, area, and volume for simple figures like a polygon • identify certain types and sizes of units • read scales
Data Analysis and Probability	• collect, organize, represent, and display data in graphs • read and interpret data in pictographs, bar graphs, line graphs, and pie charts • explore and differentiate among certain, possible, and impossible events • conduct probability experiments • observe and record experiment results
Mental Calculation Competencies	• count forward or backward in repeated steps of 1, 10, and 100 • count up through the next multiple of 10, 100, or 1,000 • reorder numbers in a calculation • add three or four small numbers, finding pairs totaling 10 • add three two-digit multiples of 10 • partition into tens and units, adding the tens first • bridge through 100 • use knowledge of number facts and place value to add or subtract any pair of two-digit numbers

Exhibit 2: Grade 4 Mathematics Content Areas and Competencies in the National Curriculum (Continued)

Content Area	Competencies
Mental Calculation Competencies	• add or subtract 9, 19, 29, 11, 21, or 31 by rounding and compensating • add or subtract the nearest multiple of 10, then adjust • identify near doubles • use the relationship between addition and subtraction double any two-digit number by doubling tens first • use known number facts and place value to multiply or divide, including multiplying and dividing by 10 and then 100 • use partition to carry out multiplication • use doubling or halving • use closely related facts to carry out multiplication and division • use the relationship between multiplication and division

Exhibit 3: Grade 8 Mathematics Content Areas and Competencies in the National Curriculum

Content Area	Competencies
Numbers and Operations (integers, rational numbers, and real numbers)	• develop and understand integers • recognize rational, irrational, and real numbers • distinguish between fractions and decimals • represent numbers on a number line • classify, compare, and order numbers • understand ratios, proportions, and percentages • carry out operations when solving problems • use factors and multiples in solving problems • calculate powers of numbers and square roots • compute and estimate using equivalent fractions and percentages; use these computations and estimations in solving problems • compute length, including side lengths of similar triangles, and in solving real-life problems
Algebra	• extend and generalize numeric, algebraic, and geometric patterns or sequences, including finding the missing terms • use relations and functions • simplify and evaluate algebraic expressions • explore properties of linear functions in tables, words, equations, inequalities, and graphs • solve linear equations, linear inequalities, and simultaneous linear equations algebraically in two variables including real-life situations • interpret, relate, and generate representations of nonlinear (quadratic) functions in tables, graphs, or words

Exhibit 3: Grade 8 Mathematics Content Areas and Competencies in the National Curriculum (Continued)

Content Area	Competencies
Geometry	• recognize the geometric properties of angles and geometric shapes (e.g., triangles, quadrilaterals, and other common polygons) • differentiate between two- and three-dimensional shapes and use their properties in solving problems • use geometric transformations to explore the properties of symmetry, similarity, and congruence • use the Pythagorean theorem and properties of shapes in solving problems • use geometric models to represent numerical and algebraic relationships
Measurement	• recognize metric and customary units • demonstrate understanding of relationships among units • identify appropriate units for measuring angles, lines, area, circumference, and volume • compute and estimate area, circumference, perimeter, and volume
Data Analysis and Probability	• read and represent data displayed in different forms (e.g., line plots, tables, and bar graphs) • describe and compare different representations of the same data • calculate the mode, median, and range from a set of data • determine and estimate theoretically and empirically the probability of an outcome • use the probability of a particular outcome to solve problems

The Science Curriculum in Primary and Lower Secondary Grades

Like mathematics, science is a core subject throughout basic education in Bahrain. The science national curriculum in Bahrain is also from a McGraw-Hill series that was adapted and translated by the MOE's Policies and Curricula Development Directorate specialists in 2008 and was first introduced in schools in academic year 2008–2009.[11] Revisions and updates to this curriculum were made in 2016–2017, and the last updated version was introduced in schools in academic year 2020–2021. These revisions and updates included removing all Human Health topics from the Grade 8 national science curriculum since they already appear within another Grade 8 subject (family education). Similarly, some earth science concepts were omitted since they appear within Grade 8 social studies.

The science curriculum for fourth grade covers four content areas: Nature of Science, Physical Science, Human Health, and Life and Environmental Science, while the science curriculum for eighth grade covers five content areas: Nature of Science; Life and Environmental Science; Science, Technology, and Society; Physical Science (physics and chemistry); and Earth and Space Science. Each content area contains topics that are well defined and

include scientific knowledge of concepts, facts, and procedures. In addition, subject matter competencies are specified in such a way that they cover aspects of the cognitive domain. Students should be able to develop and apply scientific skills and abilities, use inquiry and problem-solving strategies, and apply scientific knowledge and conceptual understanding to solve any scientific or real-life problem. Exhibits 4 and 5 show the science content areas and competencies in the Grade 4 and Grade 8 national curricula, respectively.

Exhibit 4: Grade 4 Science Content Areas and Competencies in the National Curriculum

Content Area	Competencies
Nature of Science	• develop understanding of the nature of science • use scientific processes and procedures to explore and explain events and phenomena
Physical Science (physics and chemistry)	• identify concepts related to motion and its relationship to force and work, energy, energy forms, and sources • relate energy transfer to the state of matter • describe the nature of light • relate physical phenomena (shadows, reflections, and rainbows) to the behavior of light • describe physical phenomena's relationship to the behavior of sound (echoes, object vibrations) • demonstrate knowledge relating to electricity and simple electrical systems • recognize how simple electrical circuits generate heat, light, and sound • identify electrical conductors and isolators • describe a variety of mixtures • explain how mixtures can be prepared physically • define the states and characteristics of matter • explore changes in matter (e.g., through heating and cooling) • define all states of matter to consist of atoms from which elements are formed • understand the chemical change of matter that results in new material • acquire an appropriate amount of knowledge about Earth, its components, resources, and the changes that occur on its surface • understand the relation between Earth, the Sun, and the Moon • describe the solar system
Human Health	• relate transmission of common contagious diseases to human contact, symptoms, and prevention

Exhibit 4: Grade 4 Science Content Areas and Competencies in the National Curriculum (Continued)

Content Area	Competencies
Life and Environmental Science	• describe differences between living and nonliving things • identify the structures and functions of living things, including common characteristics such as reproduction, heredity, growth, and the need for water and air • recognize physical and behavioral characteristics, diversity, and adaptation • classify living things into major groups (e.g., mammals, insects, birds, plants) • develop basic knowledge of human life and the surrounding environment • identify the effects of the environment on physical features of animals and plants • recognize and compare the life cycle stages and reproduction in plants and animals • demonstrate knowledge about plant and animal reproduction and their characteristics • determine and describe strategies that enable plants and animals to reproduce and increase their offspring for their species to survive in different environments • specify features of plants and animals inherited from their parents and acquired

Exhibit 5: Grade 8 Science Content Areas and Competencies in the National Curriculum

Content Area	Competencies
Nature of Science	• develop understanding of the nature of science • use scientific processes and procedures to explore and explain events and phenomena
Life and Environmental Science	• identify the characteristics of different groups of organisms and their inherited features • recognize the basics of classifying body structures that help organisms survive in their environment • describe the major organ systems • acquire basic knowledge in the physiological processes in animals • recognize animals' responses to their environment and external responses that maintain stable body conditions • acquire knowledge regarding structure and functions of cells • explain an organ system forming from groups of cells with specialized structures and functions

Exhibit 5: Grade 8 Science Content Areas and Competencies in the National Curriculum (Continued)

Content Area	Competencies
Life and Environmental Science	• understand photosynthesis and cellular respiration • recognize variations as the basis for natural selection • identify fossils as evidence of changes in life over time • explain similarities and differences among species and fossils defining changes that have occurred in living things over time • define and understand the life cycles and patterns of growth and development of different kinds of organisms • recognize sexual reproduction, inheritance, and characteristics in plants and animals • define organisms' genetic traits (DNA) • identify and describe the flow of energy in ecosystems
Science, Technology, and Society	• understand the interaction among science, technology, and society
Physical Science (physics and chemistry)	• identify concepts related to motion, its relationship to force, and its effects • recognize simple machines and their mechanisms • define speed as change in position (distance) and acceleration as change in speed over time • define the relationship between speed and direction • recognize the effect of different forces (e.g., pressure, floating, sinking) • identify Newton's first and second laws of motion and how friction affects motion • explain Newton's third law of motion describing the phenomenon of weightlessness • develop understanding of forms of energy, conservation of energy, heat transfer, and thermal conductivity • identify the properties of light and sound • describe processes involved in changes in states of matter • relate states of matter to distance and movement among particles • identify particles and molecules • recognize the periodic table of elements • differentiate between the physical and chemical properties of matter • classify substances according to their physical properties • recognize the characteristics of chemical changes, matter and energy, and chemical bonds • describe a variety of mixtures and explain how they can be prepared physically

Exhibit 5: Grade 8 Science Content Areas and Competencies in the National Curriculum (Continued)

Content Area	Competencies
Physical Science (physics and chemistry)	• identify the properties of conductors and the flow of electricity in electrical circuits • recognize the properties of sound and relate them to common phenomena, such as echo • identify and describe the properties of magnets and electromagnets • describe the use of permanent magnets and electromagnets in daily life • describe the concept of energy, its forms, sources, and transformations • describe the law of conservation of energy • describe advantages and disadvantages of renewable energy and nonrenewable energy • recognize the properties of acids and bases
Earth and Space Science	• develop understanding of Earth's internal structure and the physical characteristics of the distant parts involved, including the distribution of water on Earth in terms of its physical state • recognize the components of Earth's atmosphere and its atmospheric conditions • describe the general geologic processes in the rock cycles • specify changes to Earth's surface resulting from geologic events and the formation of fossils and fossil fuels • acquire the concepts of weather and climate • interpret weather map patterns to identify different climates • relate climate and seasonal relations in weather patterns to global and local factors and describe evidence for climate change • demonstrate knowledge about managing Earth's resources and discuss the advantages and disadvantages of different energy sources such as coal • define methods of conserving Earth's resources and waste management • identify the use of land and water and explain the importance of water conservation • describe the observable phenomena from Earth resulting from the movement of Earth and the Moon • identify the properties of the Sun, Earth, stars, and the Moon

As mentioned, each private school has its own curricula. Therefore, the mathematics and science content taught might be slightly different from one school to another. However, since all private schools' curricula should be approved by the MoE, the mathematics and science content taught in all private schools should cover almost all the competencies in the mathematics and science national curricula.

Teacher Professional Development Requirements and Programs

The MoE provides continuous professional development programs for all teachers and school leaders in public schools regardless of their years of experience. Organized training is designed and supervised by the Training and Career Development Directorate in cooperation with the Education Supervision Center and the Policies and Curricula Development Directorate.

Furthermore, the Education & Training Quality Authority (BQA), an independent authority, conducts regular school reviewing visits, after which it provides school leadership and the MoE with reports about the reviewed school's overall effectiveness and its capacity to improve by detailing the main positive points and recommendations for improvement. Based on BQA feedback and recommendations about teaching and learning and students' personal development standards, training programs are prepared and conducted by specialists from the Education Supervision Center.

The Education Supervision Center plays an important role in the development of teachers' teaching and learning strategies. In fact, it leads in a collaborative manner the fulfillment of the ongoing professional development needs of teachers through the following educational supervisory cycle stages:

- diagnosis and specification of needs
- fulfillment of professional development needs through the implementation of various ongoing supervisory styles
- measurement of impact and follow-up of performance after professional development

Education Supervision Center specialists also provide teachers with a set of supervisory methods that aim to raise professional competence in the specialized subject in relation to teaching mathematics and science.

Ongoing professional development programs in mathematics and science available for new teachers are conducted through the following:

- determining teachers' training needs by reviewing the training plan of the Training and Career Development Directorate
- preparing induction programs
- designing training programs by the Education Supervision Center and the Policies and Curricula Development Directorate to enhance teachers' professional performance
- localizing training in schools through training workshops in teaching strategies provided by senior and middle leadership

One of the most important requirements for professional development for mathematics and science teachers is to participate in some of the 70 training programs relevant to those subjects. The training programs undertaken by the teacher depend on the teacher's professional development needs. All of the programs are approved by the Training and Career Development Directorate. The mathematics and science training programs include the following:

- mathematics
  - 21st-century skills in mathematics (10 credit hours)
  - effective mathematics teaching strategies (15 credit hours)
  - problem-solving skills in mathematics (15 credit hours)
  - manipulatives in teaching mathematics (10 credit hours)
  - designing and preparing mathematics e-learning activities (25 credit hours)
  - discovery learning strategy in mathematics (10 credit hours)
  - lesson planning in mathematics (10 credit hours)
- science
  - knowledge of scientific concepts and principles (5 credit hours)
  - problem-solving skills in science (10 credit hours)
  - using digital tools in the teaching and assessment of science (15 credit hours)
  - inquiry and discovery strategies in teaching science (10 credit hours)
  - 21st-century skills in science (10 credit hours)

Monitoring Student Progress in Mathematics and Science

The MoE in Bahrain developed the education assessment system in public schools in academic year 2022–2023. This newly implemented system determines two types of assessment: formative assessment and summative assessment.

Formative assessments are conducted in schools where teachers apply several methods to measure student performance, competencies, skills, values, and attitudes in specific subjects. The certified methods are diagnostic tests, classroom observations, students' portfolios, school tests, and projects or reports in science.

Summative assessments are conducted by the MOE as central examinations to be consistent in all public schools in the Kingdom of Bahrain.

Exhibit 6 shows how the education assessment system categorizes the relative weight of assessments in mathematics and science.

Exhibit 6: Relative Weight of Assessments in Mathematics and Science

Grade	Semester 1		Semester 2		
	Formative assessment (conducted by school)	Summative assessment (final exams conducted by the MOE)	Formative assessment (conducted by school)	Summative Assessment	
				Final exams (conducted by the MOE)	National exams (conducted by the BQA)
1, 2, and 4	100%	—	100%	—	—
3	100%	—	75%	25%	—
6–8	100%	—	50%	50%	—
9–11	40%	60%	40%	60%	—
12	40%	60%	40%	60%	(Only mathematics is a requirement for university entry.)

Exhibit 7 shows which formative and summative assessments are conducted.

Exhibit 7: Formative and Summative Assessments

Grade	Formative Assessment					Summative Assessment		
	Diagnostic test	Classroom observation	Student's portfolio	School tests	Project or report (science)	Final exams conducted by the MOE		National exams conducted by the BQA (end of school year)
						End of first semester	End of second semester	
1, 2, 4, and 5	Y	Y	Y	Y	Y	—	—	—
3, 6–8	Y	Y	Y	Y	Y	—	Y	—
9–11	Y	Y	Y	Y	Y	Y	Y	—
12	Y	Y	Y	Y	Y	Y	Y	Y

In academic year 2022–2023, the BQA conducted national examinations for Grade 12 in mathematical skills, English, and Arabic for the first time, with future plans to conduct national examinations for Grade 9, in mathematics, science, English, and Arabic at the end of the second semester starting with the 2023–2024 academic year.

The MoE conducts final examinations in several subjects and grades for various purposes, while the BQA conducts a national exam in Grade 12 for university entry purposes.

It is important to note that the minimum required percentage to pass each subject is 50%. Exhibit 8 summarizes each exam given to students in public schools in the Kingdom of Bahrain.

Exhibit 8: Final and National Exams

Grade	Final exams conducted by the MOE		National exams conducted by the BQA	Subjects	Purpose	Consequence
	End of first semester	End of second semester	End of school year			
3	—	✓	—	mathematics, science, English, and Arabic*	training for future exams	—
6	—	✓	—	mathematics, science, English, and Arabic	requirement to pass subject	entry to the intermediate stage of education (Grade 7)
7	—	✓	—	mathematics, science, English, and Arabic	requirement to pass subject	graduation from Grade 7
8	—	✓	—	mathematics, science, English, and Arabic	requirement to pass subject	graduation from Grade 8
9	✓	✓	—	all subjects	requirement to pass subject	entry to secondary school (Grade 10)
10	✓	✓	—	all subjects	requirement to pass subject	progression to Grade 11
11	✓	✓	—	all subjects	requirement to pass subject	progression to Grade 12

Exhibit 8: Final and National Exams (Continued)

Grade	Final exams conducted by the MOE		National exams conducted by the BQA	Subjects	Purpose	Consequence
	End of first semester	End of second semester	End of school year			
12	✓	✓	✓	MOE: all subjects	MOE: requirement to pass subject	MOE: exit secondary school
				BQA: mathematics, English, and Arabic	BQA: evaluate students' learning progress	BQA: partial requirement for university entry

* Mathematics, science, English, and Arabic are considered core subjects throughout the entirety of basic education.

Special Initiatives in Mathematics and Science Education

As part of its continuous efforts to improve the teaching and learning of mathematics and science and based on the indicators obtained from the TIMSS 2019 results analysis, the mathematics and science results on national exams conducted by the BQA, and the reports prepared by MoE specialists following their field visits, the MoE has implemented the following initiatives:

- The Policies and Curricula Development Directorate has utilized the TIMSS 2023 Assessment Frameworks to enrich mathematics and science curricula with topics that provide students in the basic education stage with knowledge and skills that meet international standards and keep pace with 21st-century skills.
- Mathematics and science teachers and specialists have been encouraged to conduct research and studies that target enhancing boys' interest in learning science and mathematics and improving their academic achievement in these two subjects to narrow the gap between boys' and girls' performance.
- More emphasis has been put on the integration of technology and digital tools in the teaching, learning, and assessment of mathematics and science.
- There has been an emphasis on enhancing problem-solving and inquiry (PSI) skills in the teaching, learning, and assessment of mathematics and science.
- The GLOBE (Global Learning and Observations to Benefit the Environment) program promotes scientific literacy and aims to raise awareness and contribute to increased scientific understanding of Earth.

- Communication with parents has been strengthened through direct telephone calls, messages, and meetings to raise their awareness about the importance of cooperating with their children's schools to improve their academic achievement, especially in core subjects, including mathematics and science.

Suggested Reading

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