Kuwait

National Center for Education Development

Introduction

Overview of Education System

The Arab Gulf state of Kuwait aims to provide free education for all children regardless of gender, social class, or special education needs. The country's education system includes kindergarten, primary education, intermediate education, and secondary education, followed by tertiary education, and all levels are provided free of charge.[1]

Despite government schooling being readily available, many Kuwaiti citizens choose not to use those schools and instead enroll their children in private schools. Although private education is not fully funded by the government, it is subsidized generously.[2]

Kuwait has a centralized education system. Within the Ministry of Education, decision-making rests with a few people: assistant undersecretaries, district heads, managers, and supervisors.

Public schools in Kuwait are distributed among six education districts. Each district has a district officer who is responsible for teacher allocation, student assessment, and local administration. Private schools must be accredited by the Private Education Administration of the Ministry of Education, which monitors staff qualifications and school conditions.

The education system in Kuwait consists of three stages: primary, which lasts 5 years (Grades 1 to 5, ages 6 to 10); intermediate, which lasts 4 years (Grades 6 to 9, ages 11 to 14); and secondary, which lasts 3 years (Grades 10 to 12, ages 15 to 17). Although the government provides 2 years of kindergarten (ages 4 and 5), it is not compulsory.

Public schools in Kuwait and private Arabic schools follow a national curriculum in all subjects. Non-Arabic private schools follow the common curriculum for the subject of Arabic only and follow curricula similar to those of their affiliate countries for religion and other subjects.

The official language of instruction in Kuwaiti public schools and in Arabic private schools is Arabic throughout all stages of education and for all subjects except foreign language subjects (i.e., English, as well as French in the arts section of secondary schools). Foreign private schools in Kuwait use English or the language of their affiliate country for teaching mathematics and science.

Use and Impact of TIMSS

Students in Kuwait participated in TIMSS during the 1995, 2007, 2011, 2015, 2019, and 2023 cycles. Kuwait's participation in TIMSS has been helpful in identifying strengths and weaknesses in its education system and has led to changes in its science and mathematics curricula for public schools. In 2015, enhanced curricula for mathematics and science were introduced. These curricula are dependent on competences and standards (The National Curriculum).

TIMSS results have informed developing projects at the National Center for Education Development (e.g., school excellence, teacher licenses, and national tests), and TIMSS has changed the views and attitudes of stakeholders in Kuwait's education system toward a focus on assessment and evaluation.

The Mathematics Curriculum in Primary and Lower Secondary Grades

Compared with international standards, the academic year in Kuwait is relatively short with fewer instruction hours. The academic year comprises 28 weeks at the primary level and 30 weeks at the intermediate and secondary levels.

As of academic year 2015–2016, mathematics is taught five periods per week at the primary to intermediate levels. In Grades 10 to 12 (sciences branch), mathematics is taught six periods per week, and in Grades 11 and 12 (arts branch), it is taught two periods per week. No matter the grade level, each mathematics period lasts 45 minutes. It is worth noting that the COVID-19 pandemic disrupted the teaching of the mathematics curriculum by reducing the amount of time students were taught to accommodate shorter online class periods. This caused a gap in mathematics instruction and affected the quality of education students received. As a result, a special supplemental mathematics course was offered in summer 2022 to assist students who needed extra help recovering from the disruption in mathematics education.

By the end of Grade 4, students are expected to have studied the following mathematics topics:[3]

- numbers and operations—recognizing and counting numbers up to 9,999,999; place value; comparison and order; simple operations (addition, subtraction, multiplication, and division); simple fractions; decimal fractions; problem-solving
- algebra—properties of addition and subtraction; rules for identifying patterns and solving equations; solving open sentences
- measurement—measuring weight, length, and area; calculating circumference, area, and volume; reading and writing time
- geometry—recognizing shapes; types of triangles; intersecting, parallel, and perpendicular lines; symmetry
- statistics—reading graphics and becoming familiar with range, median, mode, and mean

By the end of Grade 8, students are expected to have studied the following mathematics topics:[4]

- rational numbers
- ratio and proportion
- factors and multiples
- fractions

- decimals and percentages
- algebraic expressions
- mathematical sentences
- basics of statistics and probability
- transformation geometry, including reflection, translation, and rotation
- geometry of quadrilaterals
- parallelograms
- triangles and circles
- congruency
- measurement related to length
- volume and area
- problem-solving, or application of these curricular topics
- principles of statistics and probability

The Science Curriculum in Primary and Lower Secondary Grades

The science curriculum in Kuwait underwent revision prior to 2014. The revised science curriculum was implemented gradually, beginning with Grade 1 in academic year 2015–2016, followed by Grades 2 and 6 in academic year 2016–2017, Grades 3 and 7 in academic year 2017–2018, and Grades 4 and 8 in academic year 2018–2019.

The new curriculum is based on international concepts but is built so students learn the concepts through activities and practical experience. As of academic year 2015–2016, science is taught two periods per week in Grades 1 to 5. In Grades 6 to 9, science is taught four periods per week. In all grades, each science period lasts 45 minutes.

By the end of Grade 4, students are expected to have studied the following science topics:

- life science and the environment—personal habitat, classification, environmental preservation, public health, and plants (parts and function)
- natural science—sound, light, heat, magnetism, pollution, simple concepts, and electricity
- Earth and space science—Earth's layers, fossils, earthquakes, volcanic weathering, and rock types

By the end of Grade 8, students are expected to have knowledge of the topics covered in the primary grades; however, most concepts taught at this level are different from what students covered in primary grades.

At this level, the curriculum is divided into three sections: life science, natural science, and earth science and covers the following topics:

- life science—photosynthesis, simple organisms, tissue structure of the cells, heredity, mutations, human body systems, and reproduction in simple organisms

- natural science—elements and compounds, mixtures and solutions, features of material, acids and bases, electricity, chemical formula, solubility, chemical bond, chemical equation, reflection and refraction, laws of motion, sources of energy, and energy transformation
- earth science—air pressure, weathering and erosion, and type of soil

At the secondary level (Grades 10 to 12), class periods last 45 minutes, and science instruction is differentiated as follows:

- Grade 10
  - Physics is taught three periods per week.
  - Chemistry is taught three periods per week.
  - Biology is taught two periods per week.
- Grade 11
  - Physics is taught three periods per week.
  - Chemistry is taught three periods per week.
  - Biology is taught two periods per week.
  - Geology is taught two periods per week.
- Grade 12
  - Physics is taught three periods per week.
  - Chemistry is taught three periods per week.
  - Biology is taught three periods per week.

The Ministry of Education provides free textbooks to all public school students. Instructional materials and equipment used for mathematics and science include textbooks, teacher guides, and teaching aids. Schools also have science laboratories.

A variety of technological resources are used in instruction and for distance learning, including computers and calculators. Technical supervisors and schoolteachers are allowed to use whatever programs are available for teaching mathematics and science lessons. Computer teachers have introduced integrated lessons aimed at training students to use computers, and students are assigned activities that require computer use. Remote learning through the Microsoft Teams platform has been active since academic year 2022–2023 and has continued through 2023–2024 in cases where in-person learning is not possible or in the event of adverse weather conditions or unforeseen occurrences.

Teacher Professional Development Requirements and Programs

There are no requirements for teacher education specific to mathematics and science or for professional development in Kuwait. However, there have been programs for teacher improvement conducted by the Ministry of Education to achieve this goal.

Monitoring Student Progress in Mathematics and Science

For primary students in Grades 1 to 5, assessment is done at the end of each learning unit. Short examinations have been introduced to determine whether a student passes or fails, in addition to continuous worksheet and oral evaluations that are done by the teacher. Students pass the class when they obtain 40% of the total grade.

At the intermediate and secondary levels, students are required to pass examinations in order to be promoted to the next grade.

At the intermediate level, the academic year is divided into two periods, and standardized tests are administered at the end of the first and second periods at the school district level. Students are promoted to the next grade if they obtain 50% of the total grade in every subject. If students fail three subjects or fewer, they take a second test in these subjects after 2 weeks.

At the secondary level, the academic year is also divided into two periods. In the first and second periods, tests are administered in the school at the Ministry level.

In Grades 10 to 12, final examinations are carried out at the Ministry level. Under this system, students accumulate final examination grades based on their performance in Grade 10 (10%), Grade 11 (20%), and Grade 12 (70%) instead of on a single summative examination. At Grades 10 and 11, these tests are scored in schools through a system of collective correction, whereby there is a control room in each school, and students' names are kept confidential. At Grade 12, examinations are scored at the national level, and the technical supervisors and teachers responsible for scoring gather in a central place to complete the correction process. Names of students and their schools are kept confidential (i.e., replaced by identification numbers).

Students in Kuwait have participated in three large-scale studies using standardized tests:

- PIRLS (2001, 2006, 2011, and 2016)—an international study that assesses reading literacy at the fourth grade
- TIMSS (1995, 2007, 2011, 2015, 2019, and 2023)
- MESA (2012, 2013, 2014, 2020, and 2021)—a national study managed by the National Center for Education Development to assess student performance in mathematics, English, science, and Arabic (MESA)

Special Initiatives in Mathematics and Science Education

With regard to mathematics and science in the fourth and eighth grades, there are no specific programs that all schools follow. Some schools have developed progress sheets for low- and high-performing students, which track performance trends in mathematics and science.

In appreciation of the importance of improving student achievement and performance in mathematics and science, a number of initiatives involving national assessment have been introduced at the Ministry level in coordination with the National Center for Education Development. In the 2014–2015 academic year, Kuwait entered a 5-year contract with the World Bank to address issues related to different topics with regard to its education system, including

those that are relevant to mathematics and science (e.g., curriculum development, teaching strategies, and teacher skills enhancement).

Suggested Reading

Alhashem, F., & Alkandari, A. (2015). What did Kuwait learn from its participation in TIMSS study? An exploratory case study from senior supervisors' perspectives. *Asian Social Science*, *11*(27), 298–310. http://dx.doi.org/10.5539/ass.v11n27p298

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2 ExpatWoman.com. (2014). *Overview of the education system in Kuwait*. Retrieved from https://www.expatwoman.com/kuwait/education/overview-of-education-system-in-kuwait

3 Kuwaiti gateway for e-learning. (n.d.). Retrieved from http://www.seraj.org.kw/Seraj/default.aspx

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