



هيئة التعليم

EDUCATION INSTITUTE

**Mathematics workshop 1
for teachers of Grades 1 to 12**

Teacher's pack: Part 1

Developed for the Education Institute by CfBT

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Introduction

Aims of the workshop

The purpose of the five-day mathematics workshops is to consider the curriculum standards for mathematics and to discuss the implications for planning the curriculum, teaching, learning and assessment.

The workshops aim to help teachers to:

- become more familiar with the new curriculum standards;
- consider further the implications of the standards for planning, teaching and assessment;
- start or refine the planning of a mathematics scheme of work based on the standards, and related lesson plans;
- support their colleagues as they implement the standards.

Throughout the workshop, time is allowed for you to study sections of the curriculum standards, to consider points for action arising from the sessions, and to make brief notes.

Workshop programme

Day 1: Using the standards

08:00	Registration	
Session 1 08:30–10:00	The mathematics standards General introduction to the standards	90 minutes
Session 2 10:30–12:00	Teaching and learning 1 Characteristics of effective teaching	90 minutes
Session 3 13:00–14:30	Planning 1 Planning an overview of a year's teaching based on the standards	90 minutes
Session 4 15:00–16:30	The reasoning and problem solving strand	90 minutes

Day 2: The shape of lessons and effective teaching

10:45	Registration	
Session 5 11:10–12:30	Teaching and learning 2 Beginning lessons	80 minutes
Session 6 13:30–14:50	Teaching and learning 3 Main teaching activities	80 minutes
Session 7 15:10–16:30	Teaching and learning 4 Ending lessons	80 minutes

Day 3: Planning a unit of work

10:45	Registration	
Session 8 11:10–12:30	Planning 2 Planning a unit of work	80 minutes
Session 9 13:30–14:50	Continued	80 minutes
Session 10 15:10–16:30	Assessment Planning assessment activities	80 minutes

Day 4: Planning a lesson

10:45	Registration	
Session 11 11:10–12:30	Planning 3 Planning a lesson	80 minutes
Session 12 13:30–14:50	Continued	80 minutes
Session 13 15:10–16:30	Selecting resources Evaluating textbooks	80 minutes

Day 5: Leading developments

10:45	Registration	
Session 14 11:10–12:30	Leading developments 1 Establishing the role of the subject leader	80 minutes
Session 15 13:30–14:50	Leading developments 2 Practising microteaching and evaluating lessons	80 minutes
Session 16 15:10–16:30	Leading developments 3 Action planning and summing up	80 minutes

Objectives of each session

Day 1: Using the standards

Session 1: The mathematics standards

By the end of this session you will:

- know the aims of the workshop and the programme for the five days;
- be familiar with the main features of the new curriculum standards for mathematics.

Session 2: Teaching and learning 1 Characteristics of effective teaching

By the end of this session you will:

- understand some of the implications of the standards for teaching and learning;
- be able to identify some features of effective teaching and learning;
- be familiar with the purposes of the sample lesson plans for mathematics.

Session 3: Planning 1

Planning an overview of a year's teaching based on the standards

By the end of this session you will:

- understand how the curriculum standards, a scheme of work, lesson plans and published materials are complementary parts of a new approach to teaching;
- be able to use the standards and scope and sequence charts to plan an overview of a year's teaching for a grade in their school.

Session 4: The reasoning and problem solving strand

By the end of this session you will:

- understand the nature of the reasoning and problem solving strand of the mathematics standards and how it relates to the other three strands;
- have begun to consider the implications of the reasoning and problem solving strand for teaching and learning.

Day 2: The shape of lessons and effective teaching

Session 5: Teaching and learning 2

Beginning lessons

By the end of this session you will:

- have considered some ways to begin and end lessons;
- be able to identify features of effective oral and mental work in mathematics;
- have developed some ideas for oral and mental starters.

Session 6: Teaching and learning 3

Main teaching activities

By the end of this session you will:

- have considered some ways in which effective teaching can be developed in main teaching activities;
- have considered some strategies for catering for the most and least able students in the class.

Session 7: Teaching and learning 4

Ending lessons

By the end of this session you will:

- understand the purposes of a consolidation phase in a lesson;
- have developed some ideas for rounding off a lesson effectively.

Day 3: Planning a unit of work

Sessions 8 and 9: Planning 2

Planning a unit of work

By the end of these sessions you will:

- have planned a detailed unit of work to cover several hours of teaching.

Session 10: Assessment

Planning assessment activities

By the end of this session you will:

- understand the nature of formative and summative assessments;
- have begun to plan assessment activities to incorporate into day-to-day lessons.

Day 4: Planning a lesson

Sessions 11 and 12: Planning 3

Planning a lesson

By the end of these sessions you will:

- be able to plan a lesson to fit into a unit of work.

Session 13: Selecting and using resources

Evaluating textbooks

By the end of this session you will:

- be able to develop criteria for evaluating textbooks;
- be able to match specific objectives to units and pages in selected textbooks and vice versa;
- have begun to consider objectives for which no materials exist.

Day 5: Leading developments

Session 14: Leading developments 1

Establishing the role of the subject leader

By the end of this session you will:

- have considered the role of the subject leader in implementing the standards.

Session 15: Leading developments 2

Practising micro-teaching and evaluating lessons

By the end of this session you will:

- have considered some strategies for developing and evaluating effective teaching.

Session 16: Leading developments 3

Action planning and summing up

By the end of this session you will:

- have considered some ways of supporting colleagues;
- have identified some of the action needed to implement the standards successfully in their schools.

Preparing for the workshop

Before the workshop

Before the workshop, you are asked to read the articles *Designing the curriculum: issues to consider*, and *Teaching time for Arabic, English, mathematics and science: Grades 1 to 12*, which you will find later in this pack.

You may have seen these articles previously. If so, glance through them again to see what further questions you may have in the light of your experience in your new school. There will be an opportunity on the workshop to discuss the issues that the articles raise.

Materials you need to bring to the workshop

Up-to-date copies of the *Curriculum Standards for mathematics: Grades K to 12* and the *Sample lesson plans for mathematics: Grades 1 to 12* will be provided at the workshop.

You will need to bring a writing pad on which to make notes and a calculator.

On Days 3 and 4 you will need a copy of each of the main textbooks that you use or intend to use to teach the relevant grades in your school (one copy of each book per school group). You will also need some examples of lesson plans that you have developed yourselves (one per teacher up to a maximum of three per school group).

Each day you will in addition need to bring with you the *Teacher's pack* provided on the first day of the workshop.

Tasks to do between the first and second workshops (gap tasks)

At the end of the first workshop you will be given some tasks to carry out before the second workshop. The tasks will include:

- discussing with your school principal, and SSO support team, any implications of the workshop and what would help to maximise the benefits to the school;
- feeding back to other colleagues what has been learned on the workshop and discussing what action is needed;
- developing/refining further your scheme of work, including:
 - developing in detail one or more units of work;
 - matching textbooks to the units;and bringing your scheme of work/units to the next workshop to discuss with colleagues;
- planning, teaching and evaluating a lesson based on your new scheme of work, ready to discuss at the second workshop.

Guidance on how to do these tasks will be given at the workshop.

Pre-workshop reading

Article 1

Designing the curriculum: issues to consider

This article discusses the design of the curriculum in the new Independent Schools.

Planning the whole curriculum

Independent Schools in Qatar are likely to want to provide for all students a broad and balanced curriculum which:

- provides opportunities for all students to learn and achieve;
- promotes students' mental, physical, social, cultural and moral development;
- prepares students progressively for the opportunities, responsibilities and experiences of adult life.

Independent Schools will have considerable freedom to determine the nature of their curriculum. The challenge for each school will be to create its own unique curriculum, to include Islamic studies and the four subjects for which there are mandatory standards:

Arabic (the national language)
English (as a foreign language)
mathematics
science

On the next page there are some extracts from an *International review of curriculum and assessment frameworks* by Metais and Tabberer (1997). These show that the subjects that schools around the world most commonly offer to their students in addition to the subjects above are:

social studies or humanities (with elements selected from geography, history, society studies/civics)
art/craft/technology
physical education

Schools may also want to offer further subjects, not necessarily in every grade, such as:

ICT (information and communication technology)
music
a second foreign language
careers education

The tables below 'convert' subjects provided by 16 different countries into comparable headings to indicate the range of subjects taught. 'Op' means that the subject is optional. Blank cells indicate that the subject is not provided.

Key

1 England	5 Germany	9 South Korea	13 Spain
2 Australia	6 Hungary	10 Netherlands	14 Sweden
3 Canada	7 Italy	11 New Zealand	15 Switzerland
4 France	8 Japan	12 Singapore	16 USA

Table 1: Grades 1 to 6

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
National language	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2nd national language			✓			✓				✓	✓	✓	✓	✓	✓	
Foreign language 1		✓		op	✓	✓	✓			✓			✓	✓	✓	✓
Mathematics	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Science	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓
ICT	✓	✓		✓		✓					✓			✓		✓
Humanities (history, geography, social studies, civics, environment)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Art / craft / technology	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Music	✓				✓	✓	✓	✓	✓	✓		✓		✓		✓
Physical education / sport	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Health education		✓				✓				✓	✓	✓		✓		✓
Moral education								✓	✓			✓				
Religious education	✓				✓		op						op	✓		
Social skills / homemaking / domestic science						✓		✓		✓				✓		

Table 2: Grades 7 to 10

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
National language	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2nd national language			✓			✓				✓	✓	✓	✓	✓		
Foreign language 1	✓	✓	op	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓
Foreign language 2				op						✓				op		
Mathematics	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Sciences / environment	✓	✓	✓	✓	3	✓	3	✓	✓	3	✓	✓	2	✓	✓	✓
Technology	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓	✓		✓
Separate ICT	✓					✓			op	✓				✓		✓
History	✓			✓	✓	✓	✓			✓				✓	✓	✓
Geography	✓		✓	✓	✓	✓	✓			✓			✓	✓	✓	✓
Social studies / civics	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓
Economics	✓			✓		✓				✓				✓		✓
Art / craft	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Music	✓				✓	✓	✓	✓	✓			✓	✓	✓	✓	✓
Physical education / sport	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓		✓	
Health education	✓	✓	✓					✓			✓	✓		✓		
Moral education						✓		✓	✓			✓		✓		
Religious education	✓				✓	✓	op						✓			
Domestic science						✓		✓	✓					✓		
Social skills / life skills						✓				✓						

Factors to consider when planning the curriculum

When the overall curriculum is planned, there are a number of factors to consider.

The school's ethos, values and aims – What implications do these have and how will they inform decisions about the curriculum?

A curriculum is a reflection of national and local culture. Each school will have its distinctive character, ethos, values and aims. For example, some schools may want to focus on innovative ways of learning using ICT. Others may have certain subjects or activities in which they have special strengths, such as science and technology, or an integrated arts programme. The overall design of a school's

curriculum needs to reflect the character of the school and support its aims and values.

Curriculum priorities and emphases – How much weight and importance should be given to each subject and to areas within them?

There will be annual tests in Arabic, English, mathematics and science. These subjects will need to be given some priority to ensure that they are secure. Beyond these, each Independent School will decide which subjects to offer, which to give more time to and which aspects or skills to emphasise within a subject. The emphasis might be different in different grades, or apply to some but not all students. For example, students who are falling behind in Arabic or mathematics may be given extra lessons while other students study an extra subject.

Grouping of subjects – Will each subject be taught separately or will some be combined with other subjects?

Independent Schools may choose to combine one subject with another to form longer blocks of teaching time. For example, some schools will combine art and craft; others may combine a number of subjects, including history and geography, and offer a social studies programme. Primary schools sometimes link a number of subjects into a theme or topic approach.

Sometimes an aspect of the curriculum is taught across the curriculum as part of every subject: for example, the use of ICT, or literacy and numeracy.

Where a subject or aspect of the curriculum is combined with other subjects, or taught across the curriculum, extra care is needed to ensure good progression and high standards in the subject or aspect.

The distribution of the curriculum across grades – Will each subject be taught in every grade, in every semester, in every week?

Independent Schools will decide how to organise the teaching of the curriculum. Beyond the tested subjects of Arabic, English, mathematics and science, it is not necessary for each subject to be taught every week, every semester, or even in every grade. More time may be allocated to a subject in one grade than in another.

Curriculum inclusion and differentiation – Will the organisation of the curriculum be adapted to suit individual students with different abilities and needs? Will students be grouped in particular ways for any subject, for example, by ability, so that different classes can be taught an extended or modified curriculum?

Teachers mainly cater for individual students' interests and capabilities through differentiated activities and targeted support in timetabled lessons, sometimes supplemented by after-school support. Students may be making generally satisfactory progress but have weaknesses in just one or two subjects; in this case, teachers will need to reinforce aspects of work from earlier grades. When the programme for a grade has been taught in full, the most able students can progress beyond its requirements.

In some instances, students may be held back a grade if they have not completed the work in the tested subjects to a satisfactory standard. However, the main aim is to keep as many students as possible working in their correct grade.

There are also ways of catering for students' particular needs through the design of the timetable. For example, registration time might be used to operate a reading

mentor scheme for weak readers, or a school may offer a ‘gifted and talented programme’ that takes the form of days off the timetable, one day per month, for a group of able students who study one subject for a full day.

Independent Schools will have the discretion to group by ability for some subjects to allow for a differentiated curriculum. In Grades 1 to 6, schools typically organise mixed-ability classes in all subjects, although there are variations between countries. But in Grades 7 to 12, schools in many countries organise students into ability bands or sets for some or all of their subjects, sometimes from Grade 7, sometimes starting later. Most will identify groups or individuals who need extra or different lessons and activities, because their abilities or aptitudes are exceptional in some way.

Continuity and progression – How will the design of the curriculum help students to make a smooth transfer from one school to the next?

Students of all abilities can falter in their learning when they move from one school to the next and are faced with an unfamiliar environment and new styles of teaching and learning. Good curriculum design, plus good information about each student’s strengths and weaknesses, can help to offset any possible dips in progress at the time of transfer. Independent Schools will need to plan for the systematic and timely transfer of records on pupils’ progress and attainment.

Curriculum enrichment – What might need to be added to the basic curriculum or offered as extra-curricular activities?

Schools generally add to the content of the timetabled basic curriculum. For example, they may offer activities that students participate in voluntarily outside normal school hours. These extra-curricular activities might include catch-up and master classes, homework clubs and study support, sports and outdoor activities, foreign exchanges, the creative arts, community work, and opportunities to pursue particular interests in clubs. Schools may also add to the curriculum by giving students extra opportunities within the school day, for example, through artists in residence, educational visits, or fieldwork.

Teaching time – How much time should be allocated to each subject?

Independent Schools will have substantial freedom in timetabling the curriculum and determining actual teaching time. A school may be able to decide on some or all of the following.

- **The number of weeks or days** in the school year
- **The number of teaching hours** in the week
- **The number of days in a timetable cycle**
- **Lesson length**
- **The time allocated to each subject**

Before creating its timetable, an Independent School will need to make decisions about the total time available for teaching – the number of weeks in the year and the length of the school day. Constraints of staffing and accommodation will be taken into account. There will also be parental expectations about the time of day that schools should start and finish, and views about how long the learning day should be for both students and staff. Local circumstances such as travelling times and summer temperatures may also affect matters. Nonetheless, schools have room for manoeuvre.

Decisions about teaching time

The next few paragraphs consider the scope for variation and how it can be exploited. They look at how the total teaching time might be adjusted, and then at the different ways in which teaching time can be allocated.

How many days in the school year?

Independent Schools will determine the dates of their school semesters. Schools are likely to be influenced by the benefits, especially for parents, of all neighbourhood schools using the same dates. Nevertheless, a study in 1997 of over 40 countries (*National contexts for mathematics and science education*, Robitaille, 1997) showed that in more than 80% of countries the school year is between 190 days and 209 days, with a mean of 194 days (nearly 39 weeks). In almost all countries, there is a five-day school week.

Although students on average attend school for around 194 days, around 170 to 180 days are typically used to teach the curriculum. The remaining days are taken up with tests and examinations, special events such as educational visits and fieldwork, and celebration of festivals.

How many teaching hours in the week?

In many countries, it is common for all but the youngest students to be taught lessons for 25 to 30 hours each week, or 5 to 6 hours per day, **excluding assemblies, registration and breaks**. In Grades 1 to 4, the teaching day is generally slightly shorter, around 5 hours per day.

Most schools in Qatar will probably start their day between 06:30 and 07:00 and finish between 13:00 and 13:30. But small adjustments to the start and finish of the school day, or to breaks, can produce a useful amount of extra lesson time, enough perhaps for another whole lesson, or to extend existing lesson times.

Independent Schools will have the flexibility of offering a shorter teaching day over a longer teaching year, or a longer teaching day over a shorter teaching year. For example, 900 hours of teaching time per year (which is the minimum that is acceptable) can be achieved in 180 days of 5 teaching hours, excluding breaks and registration, or 150 days of 6 hours, again excluding breaks and registration.

How long should each lesson be?

Several factors affect decisions on lesson length. Shorter lessons, perhaps of 40 to 45 minutes, can be used singly or in multiples to allow a variety of times to be allocated to different subjects each week. On the other hand, short lessons mean that more of the school day is taken up with movement between rooms of either students or teachers. In this respect, the longer that lessons are, the better.

Different subjects make different demands. The optimum lesson length can vary from subject to subject. Subjects that involve practical work, such as science, may need more time if students are to achieve something worthwhile in a lesson. Some subjects, notably Arabic, English and mathematics, need to take place very regularly, which implies more frequent lessons.

Most schools base their timetables on a standard length of lesson. Lessons of 50 or 60 minutes are useful for subjects that need more frequent lessons and can be

doubled up to form longer blocks of time for practical subjects, such as science. However, the lessons in a day do not all have to be the same length.

The age of the students may also affect decisions about the lengths of lessons. Younger students have a shorter concentration span and for them a lesson of 45 minutes to 1 hour is usually enough, even for practical subjects. Lessons of 55, 60 or 65 minutes tend to be more suitable for older students whose concentration span is longer.

How much time overall for each subject?

Different subjects require different amounts of overall teaching time for adequate coverage. The challenge for schools will be how to give enough teaching time to Arabic, English, mathematics and science while at the same time ensuring that students study a broad curriculum in sufficient depth and to the expected standard.

Nevertheless, the curriculum standards for the four subjects identify threshold times below which quality and depth of learning are likely to suffer. These times are discussed in the second of the two articles on curriculum design.

How many days in the timetable cycle?

Some schools adopt a timetable cycle of more than five days to achieve more flexibility in the time that they allocate to each subject. For example, an average of 90 minutes a week can be given to a subject by having a single one-hour lesson in the first week and a double lesson in the second week. Short lessons can be avoided by having a double lesson once a fortnight, rather than a short single lesson every week, although a disadvantage is the longer gap between lessons. In a ten-day timetable, it is vital that:

- Arabic, English and mathematics lessons are distributed regularly throughout each week, so that students maintain and sharpen their skills through near-daily practice;
- there is sufficient time for practical work in science.

Another way of creating flexibility in the timetable is to rotate subjects. ‘Carousels’ involve using the same lesson slot in the timetable for the discrete teaching of different subjects on a rotating basis.

A ‘rotating lesson’ each week replaces the lesson normally taught in that slot, with a different slot chosen each week.

Article 2

Recommended teaching time for Arabic, English, mathematics and science

This article discusses the recommended minimum teaching time for Arabic, English, mathematics and science in the new Independent Schools in Qatar.

Independent Schools will determine how to organise the teaching of the curriculum. They will decide:

- the number of teaching days in the year (**excluding** special events, such as training days for teachers, examinations);
- the number and duration of lessons in a day.

Independent Schools may, if they wish, and subject to the approval of the Education Institute, offer a shorter teaching day over a longer teaching year, or a longer teaching day over a shorter teaching year.

Schools are likely to decide to teach Arabic, English, mathematics and science in each grade every week. However, if they wish to vary this pattern they may do so.

To specify exact times for Arabic, English, mathematics and science would prevent Independent Schools from tailoring their curriculum to their aims and values and their students' needs. Nevertheless, it is possible to provide a guide to the amount of teaching time that schools will typically need to give students sufficient exposure to the standards. A range is given; exact proportions will depend on the school's timetable.

Grades 1 to 6

Subject	Recommended proportion of teaching time	Hours (based on 900 hours per year)	Current proportion of week in G6 in MoE schools	Hours (based on 765 hours per year in MoE schools)
Arabic	20%–22%	180 to 198	24%	184
English	16%–20%	145 to 180	18%	138
Maths	16%–20%	145 to 180	18%	138
Science	9%–10% in Grades 1–4 12%–13% in Grades 5–6	90 increasing to 115	9%	69

Grades 7 to 9

Subject	Recommended proportion of teaching time	Hours (based on 900 hours per year)	Current proportion of week in G9 in MoE schools	Hours (based on 819 hours per year in MoE schools)
Arabic	16%–17% reducing to 13%–15% in G9	around 150 reducing to 120 to 135	18%	147
English	13%–15%	120 to 135	15%	123
Maths	13%–15%	120 to 135	13%	106
Science	13%–15% rising to 20% in G9	120 to 135 rising to 180 in G9	10%	82

Grades 10 to 12 (foundation)

Subject	Recommended proportion of teaching time	Hours (based on 900 hours per year)	Current proportion of week in G12 in MoE schools	Hours (based on 861 hours per year in MoE schools)
Arabic	10%–12%	90 to 108	12%	103
English	10%–12%	90 to 108	15%	129
Maths	10%–12%	90 to 108	5%	43
Science	20%	180 hours	5%	43

Grades 10 to 12 (advanced)

Subject	Recommended proportion of teaching time	Hours (based on 900 hours per year)	Current proportion of week in G12 in MoE schools	Hours (based on 861 hours per year in MoE schools)
Arabic	15%–16.5%	135 to 150	17%	147
English	15%–16.5%	135 to 150	15%	168
Maths	15%–16.5%	135 to 150	17%	147
Science	20% in G10–11 rising to 30% in G12 for students taking 3 sciences	180 rising to 270	29%	251

The illustrative examples that follow assume that 180 days in each year are reserved for **actual teaching of the curriculum** (the equivalent of 36 weeks of 5 days), **excluding examinations and special events**. The teaching day, excluding lunch, is assumed to be a minimum of 5 hours, giving a minimum of 900 teaching hours per year. A teaching day of 6 hours would provide 1080 teaching hours per year over 36 weeks.

Some common patterns of organising a day of 5.25 to 5.5 hours might be:

- eight 40-minute lessons (5 hours 20 minutes);
- seven 45-minute lessons (5 hours 15 minutes);
- three 50-minute lessons and three 60-minute lessons (5 hours 30 minutes);
- four 50-minute lessons and two 60-minute lessons (5 hours 20 minutes);
- six 55-minute lessons (5 hours 30 minutes);
- five 65-minute lessons (5 hours 25 minutes).

If schools wish, time for other subjects could be allocated to different subjects in different grades and could include extra time for Arabic, English, mathematics or science.

Example 1: Seven 45-minute lessons per day (945 hours over 36 weeks)

Grades 1 to 6

Subject	Lessons per week	Hours : minutes per week	Total hours over 36 weeks	Percentage of lesson time
Arabic	7 × 45 min	5:15	189	20%
Mathematics	6 × 45 min	4:30	162	17%
Science Grades 1 to 4	4 × 45 min	3:00	108	11%
Science Grades 5 and 6	5 × 45 min	3:45	135	14%
English	6 × 45 min	4:30	162	17%

Grades 7 to 9

Subject	Lessons per week	Hours : minutes per week	Total hours over 36 weeks	Percentage of lesson time
Arabic Grades 7 and 8	6 × 45 min	4:30	162	17%
Arabic Grade 9	5 × 45 min	3:45	135	14%
Mathematics	5 × 45 min	3:45	135	14%
Science Grades 7 and 8	5 × 45 min	3:45	135	14%
Science Grade 9	7 × 45 min	5:15	189	20%
English	5 × 45 min	3:45	135	14%

Grades 10 to 12

Subject	Lessons per week	Hours : minutes per week	Total hours over 36 weeks	Percentage of lesson time
Advanced Arabic, English, mathematics	6 × 45 min	4:30	162	17%
Advanced science	7 × 45 min	5:15	189	20%
rising to:	10 × 45 min	7:30	270	29%
Foundation Arabic, English, mathematics	4 × 45 min	3:00	108	11%
Foundation science	7 × 45 min	5:15	189	20%

Example 2: Six 55-minute lessons per day (990 hours over 36 weeks)

Grades 1 to 6

Subject	Lessons per week	Hours : minutes per week	Total hours over 36 weeks	Percentage of lesson time
Arabic	6 × 55 min	5:30	198	20%
Mathematics	5 × 55 min	4:35	165	17%
Science Grades 1 to 4	3 × 55 min	2:45	132	13%
Science Grades 5 to 6	4 × 55 min	3:40	165	17%
English	5 × 55 min	4:35	165	17%

Grades 7 to 9

Subject	Lessons per week	Hours : minutes per week	Total hours over 36 weeks	Percentage of lesson time
Arabic Grades 7 and 8	5 × 55 min	4:35	165	17%
Arabic Grade 9	4 × 55 min	3:40	132	13%
Mathematics	4 × 55 min	3:40	132	13%
Science Grades 7 and 8	4 × 55 min	3:40	132	13%
Science Grade 9	6 × 55 min	5:30	198	20%
English	4 × 55 min	3:40	132	13%

Grades 10 to 12

Subject	Lessons per week	Hours : minutes per week	Total hours over 36 weeks	Percentage of lesson time
Advanced Arabic, English, mathematics	5 × 55 min	4:35	165	17%
Advanced science rising to:	6 × 55 min 9 × 55 min	8:15	287	20% rising to 30%
Foundation Arabic, English, mathematics	4 × 55 min	3:40	132	13%
Foundation science	6 × 55 min	8:15	287	20%

Example 3: Eight 40-minute lessons per day (960 hours over 36 weeks)

Grades 1 to 6

Subject	Lessons per week	Hours : minutes per week	Total hours over 36 weeks	Percentage of lesson time
Arabic	8 × 40 min	5:20	192	20%
Mathematics	7 × 40 min	4:40	168	17.5%
Science Grades 1 to 4	4 × 40 min	2:40	96	10%
Science Grades 5 and 6	5 × 40 min	3:20	120	12.5%
English	7 × 40 min	4:40	168	17.5%

Grades 7 to 9

Subject	Lessons per week	Hours : minutes per week	Total hours over 36 weeks	Percentage of lesson time
Arabic Grades 7 and 8	7 × 40 min	4:40	168	18%
Arabic Grade 9	6 × 40 min	4:00	144	15%
Mathematics	6 × 40 min	4:00	144	15%
Science Grades 7 and 8	6 × 40 min	4:00	144	15%
Science Grade 9	9 × 40 min	6:00	194	20%
English	6 × 40 min	4:00	144	15%

Grades 10 to 12

Subject	Lessons per week	Hours : minutes per week	Total hours over 36 weeks	Percentage of lesson time
Advanced Arabic, English, mathematics	6 × 40 min	4:00	144	15%
Advanced science	8 × 40 min	5:20	192	20%
rising to:	12 × 40 min	8:00	188	30%
Foundation Arabic, English, mathematics	4 × 40 min	2:40	96	10%
Foundation science	8 × 40 min	5:20	192	20%

Examples: English or mathematics lessons

Some models for the number of **mathematics** or **English** lessons per week might be:

In a timetable of five 60-minute lessons per day (25 lessons per week, for 36 weeks)

Grades 1 to 6	5 lessons per week
Grades 7 to 9	3–4 lessons per week (e.g. 7 per fortnight)
Grades 10 to 12 (advanced)	4 lessons per week
Grades 10 to 12 (foundation)	3 lessons per week

In a timetable of six 50-minute lessons per day (30 lessons per week, for 36 weeks)

Grades 1 to 6	6 lessons per week
Grades 7 to 9	4–5 lessons per week (e.g. 9 per fortnight)
Grades 10 to 12 (advanced)	5 lessons per week
Grades 10 to 12 (foundation)	3–4 lessons per week (e.g. 7 per fortnight)

In a timetable of seven 50-minute lessons per day (35 lessons per week, for 31 weeks)

Grades 1 to 6	7 lessons per week
Grades 7 to 9	5 lessons per week
Grades 10 to 12 (advanced)	5–6 lessons per week (e.g. 11 per fortnight)
Grades 10 to 12 (foundation)	4 lessons per week

In a timetable of seven 45-minute lessons per day (35 lessons per week, for 34 weeks)

Grades 1 to 6	7 lessons per week
Grades 7 to 9	5 lessons per week
Grades 10 to 12 (advanced)	5–6 lessons per week (e.g. 11 per fortnight)
Grades 10 to 12 (foundation)	4 lessons per week

