

Syllabus Breakdown

SCIENCE GRADE 7

AIR FOUNDATION SCHOOL SYSTEM

ISLAMABAD | PAKISTAN



Teaching weeks per annum

For the regions where academic session begins in **April**

FIRST TERM: APRIL – SEPTEMBER

Expected Teaching Weeks

April	Teaching Week 1	Teaching Week 2	Teaching Week 3	Teaching Week 4
May	Teaching Week 5	Teaching Week 6	Teaching Week 7	First Midterm Examination
June	<i>Summer Vacation</i>	<i>Summer Vacation</i>	<i>Summer Vacation</i>	<i>Summer Vacation</i>
July	<i>Summer Vacation</i>	<i>Summer Vacation</i>	<i>Summer Vacation</i>	<i>Summer Vacation</i>
August	Teaching Week 8	Teaching Week 9	Teaching Week 10	Teaching Week 11
September	Teaching Week 12	Teaching Week 13	Midterm Examination	Mid Term Examination

SECOND TERM: OCTOBER – MARCH

Expected Teaching Weeks

October	Teaching Week 14	Teaching Week 15	Teaching Week 16	Teaching Week 17
November	Teaching Week 18	Teaching Week 19	Teaching Week 20	Teaching Week 21
December	Teaching Week 22	Second Midterm Examination	<i>Winter Vacation</i>	<i>Winter Vacation</i>
January	Teaching Week 23	Teaching Week 24	Teaching Week 25	Teaching Week 26
February	Teaching Week 27	Teaching Week 28	Teaching Week 29	Teaching Week 30
March	<i>Revision Work</i>	Annual Examination	Annual Examination	<i>PTM & Annual Day</i>



Teaching weeks per annum

For the regions where academic session begins in **August**

FIRST TERM: AUGUST – DECEMBER

Expected Teaching Weeks

August	Teaching Week 1	Teaching Week 2	Teaching Week 3	Teaching Week 4
September	Teaching Week 5	Teaching Week 6	Teaching Week 7	First Midterm Examination
October	Teaching Week 8	Teaching Week 9	Teaching Week 10	Teaching Week 11
November	Teaching Week 12	Teaching Week 13	Teaching Week 14	Teaching Week 15
December	Midterm Examination	Midterm Examination	<i>Winter Vacation</i>	<i>Winter Vacation</i>

SECOND TERM: OCTOBER – MARCH

Expected Teaching Weeks

January	Teaching Week 16	Teaching Week 17	Teaching Week 18	Teaching Week 19
February	Teaching Week 20	Teaching Week 21	Teaching Week 22	Second Midterm Exam
March	Teaching Week 23	Teaching Week 24	Teaching Week 25	Teaching Week 26
April	Teaching Week 27	Teaching Week 28	Teaching Week 29	Teaching Week 30
May	<i>Revision Work</i>	Annual Examination	Annual Examination	<i>PTM & Annual Day</i>



Allocation of periods

Subjects and period distribution for preparing timetable, syllabus breakdown, lesson plans etc.

SN	SUBJECT	JUNIOR			PRIMARY		SECONDARY			EACH SUBJECT PER ANNUM
		GRADE – 1	GRADE – 2	GRADE – 3	GRADE – 4	GRADE – 5	GRADE – 6	GRADE – 7	GRADE – 8	
1	English Language	5	5	5	5	5	5	5	5	150
2	Urdu Language	5	5	5	5	5	5	5	5	
3	Mathematics	5	5	5	5	5	5	5	5	
4	Science	-	-	-	5	5	5	5	5	
5	General Knowledge	5	5	5	-	-	-	-	-	
6	Sindhi Language ¹	4	4	4	4	4	4	4	4	120
7	Social Studies	-	-	-	4	4	-	-	-	
8	Islamiyat	4	4	4	4	4	4	4	4	
9	Nazra-e-Quran ²	4	4	4	4	4	4	4	4	
10	Geography	-	-	-	-	-	3	3	3	90
11	Computer Science	3 SRM ³	3 SRM	3 SRM	3 SRM	3 SRM	3	3	3	
12	Life Skills	3 SRM	3 SRM	3 SRM	-	-	-	-	-	
13	Artwork	3 SRM	3 SRM	3 SRM	-	-	-	-	-	
14	History	-	-	-	-	-	2	2	2	60
15	Life Skills & Art	-	-	-	2 SRM	2 SRM	-	-	-	
		-	-	-	-	-	1 SRM	1 SRM	1 SRM	30
PERIODS PER WEEK		37	37	37	37	37	37	37	37	

¹ In Sindh Region only

² In all regions except Sindh

³ SRM: (Supplementary Reading Material)



WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
1 /30	1.	Unit# 01, Scientific Process Skills Reading and Explanation page: 1 & 2		
	2.	Evidence & sources of Evidence Reading and Explanation page: 2 to 4		
	3.	Evidence & sources of Evidence Reading and Explanation page: 4 to 5		
	4.	Testing predictions with respect to evidence page: 6-8		
	5.	Activities page: 8		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
2 /30	6.	BIOLOGY: CHAPTER 1: Plant System Root & shoot System, Internal structure of dicot stem. page: 10-12		
	7.	Transport System in plants page: 12-14		
	8.	Photosynthesis page: 14-16		
	9.	Plants leaves are adapted for photosynthesis page: 16-17		
	10.	Transpiration page: 18-19		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
3 /30	11.	Importance of Transpiration page: 19-20		
	12.	Nutrients of Plants page: 20-21		
	13.	Exercises: Q 1 to 3. page: 22		
	14.	Exercises: Q 4. page: 22		
	15.	Exercises: Q 5 (parts i to iv). page: 22-23		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
4 /30	16.	Exercises: Q 5 (parts vi to viii). page: 22-23		
	17.	Think about it and activities. page: 23		
	18.	Projects. page: 23		
	19.	Unit:2 Human Respiratory System Respiration page: 24-25		
	20.	How we Breath page: 25-27		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
5 /30	21.	Types of Respiration, The Human Transport System, The Heart and Exercise page: 27-28		
	22.	The Heart page: 29-31		
	23.	The Blood Circulation, Arteries, veins and capillaries page# 31-33		
	24.	The Blood Circulation, Arteries, veins and capillaries page# 31-33		
	25.	Blood, Red Blood cells page# 34-36		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
6 /30	26.	Blood, Red Blood cells page# 34-36		
	27.	Exercises: Q 1 to 3 page: 37-38		
	28.	Exercises: Q 4 page: 38		
	29.	Exercises: Q 5 page: 38		
	30.	Exercises: Q 5 page: 38		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
7 /30	31.	Think about it, Activities page: 39		
	32.	Projects page: 39		
	33.	Chemistry: Chapter 4: Structure of an Atom to concept check page: 53-55		
	34.	Mass number, Difference between atomic number and mass number to “The arrangement of electrons in shells of elements”. page: 55-56		
	35.	Filling Electron levels & Structure of an atom. page: 57-58 Concept Check		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
8 /30	36.	Recognize periods and groups in the periodic table page; 59-60		
	37.	Recognize periods and groups in the periodic table page; 59-61		
	38.	Exercises: Q 1 to 4 page: 62-63		
	39.	Exercises: Q 5 page: 63		
	40.	Exercises: Q 6 page: 63		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
9 /30	41.	Think about it, Activities page: 63-64		
	42.	Projects page: 64		
	43.	Chapter: 5 Physical and Chemical Changes page: 65-66 Physical Changes:		
	44.	Chemical Changes, difference between physical and chemical changes & Concept check page: 67-68		
	45.	Examples of Chemical Changes page: 68-70		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
10/30	46.	Physical and Chemical properties of matter & properties of material and their uses Concept Map page: 71-72		
	47.	Exercises: Q 1 to 3 page: 73		
	48.	Exercises: Q 4 page: 74		
	49.	Exercises: Q 5 & 6 page: 74		
	50.	Activities & Projects page: 74		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
11/30	51.	Chapter: 5 Physical and Chemical Changes page: 65-66 Physical Changes:		
	52.	Chemical Changes, difference between physical and chemical changes & Concept check page: 67-68		
	53.	Examples of Chemical Changes page: 68-70		
	54.	Chapter 8: Forces and Motion page: 99-101 Force, Some effects of force, Measuring forces, Balanced and Unbalanced Forces		
	55.	Speed, Average Speed, Activity Measuring Speed page: 102-103		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
12/30	56.	Distance Time Graphs, Interpreting Graphs page: 103-104		
	57.	Distance Time Graphs, Interpreting Graphs page: 103-104		
	58.	Types of Forces page: 105-106		
	59.	Gravitational Force or Gravity page: 106-108		
	60.	Exercises: (Q 1 to 3) page; 109-110		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
13/30	61.	Exercises: (Q 4) page; 109-110		
	62.	Exercises: (Q 5) page; 110		
	63.	Think about it & Activities page: 110-111		
	64.	Projects page: 111		
	65.	Chapter# 09, Waves and Energy page: 112-113 Mechanical Waves, Longitudinal waves, Transverse waves		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
14/30	66.	Chapter# 09, Waves and Energy page: 112-113 Mechanical Waves, Longitudinal waves, Transverse waves		
	67.	Difference between Longitudinal waves and Transverse waves. Electronic waves and Sound Waves. page: 114-115		
	68.	The Properties of waves till Pitch to loudness and amplitude page: 115-118		
	69.	Factors affecting pitch and Loudness of sound. page: 118-121		
	70.	Exercises: (Q 1 to 3) page: 122-123		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
15/30	71.	Exercises: (Q 4) page: 123		
	72.	Exercises: (Q 4) page: 123		
	73.	Exercises: (Q 5) page; 124		
	74.	Think about it & Activities page: 124-125		
	75.	Projects page: 125		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
16/30	76.	BIOLOGY: CHAPTER 3: Immunity and Diseases page:40-41 Pathogen, Viruses and Fungi		
	77.	How Pathogens cause disease? How are Pathogens spread? page: 41-42		
	78.	Types of immunity. page: 42-43		
	79.	Adaptive immunity & Types of Adaptive immunity page: 44-45		
	80.	Ways to add additional layers of defense. page: 46-47		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
17/30	81.	Exercises: (Q 1 to 2 & 2a (short questions) page: 48		
	82.	Exercises: (Q 3(Long questions) page: 48		
	83.	Activities page: 49		
	84.	Projects page: 49		
	85.	Test Yourself Chapter: 1 , 2 & 3 page: 50-51		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
18/30	86.	CHEMISTRY: CHAPTER 6: Chemical Bonds page:75-77 Valency, Valence Number of different Groups, Discuss and Answer		
	87.	Ions, Cations, Anions page: 77-78		
	88.	Chemical Formulae, Concept Check page: 78-80		
	89.	Chemical Bonds, Concept Check and Map page: 80-81		
	90.	Exercises (Q 1 to 3) page: 82		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
19/30	91.	Exercises (Q 4) page: 82		
	92.	Exercises (Q 5 & 6) page: 82-83		
	93.	Activities page: 83		
	94.	Projects page: 83		
	95.	CHAPTER 7: Solutions Solution, Solute, Solvent, Soluble and Insoluble substances page: 84-85		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
20/30	96.	Saturated Solutions, Dilute and Concentrated Solutions, Solubility Page: 85-87		
	97.	Factors affecting Solubility page: 87-88		
	98.	Different solvents are needed to dissolve different solutes, Effectiveness of various cleaning solutions, Concept Map page: 88-89		
	99.	Exercises (Q 1 to 3) page: 90-91		
	100.	Exercises (Q 4) page: 91		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
21/30	101.	Exercises (Q 5) page: 91		
	102.	Exercises (Q 5) page: 91		
	103.	Exercises (Q 6) & Activities page: 91-92		
	104.	Projects page: 92		
	105.	Test Yourself (Chapter 4 to 6) page: 93-95		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
22/30	106.	Test Yourself (Chapter 7) page: 96-97		
	107.	PHYSICS: Chapter 10: Heat and Temperature. The Celsius Scale, The Absolute Zero and The Kelvin Scale page: 125-127		
	108.	PHYSICS: Chapter 10: Heat and Temperature. The Celsius Scale, The Absolute Zero and The Kelvin Scale page: 125-127		
	109.	Heat on the move, Concept Check, modes of Heat transfer page: 127-128		
	110.	Modes of Heat transfer page: 129-130		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
23/30	111.	Land Breeze to Ocean currents page: 131-132		
	112.	Radiation to Thermal insulation in buildings. page: 133-135		
	113.	Exercises (Q 1 to 3) page: 136		
	114.	Exercises (Q 3) page: 136		
	115.	Exercises (Q 4) page: 137		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
24/30	116.	Exercises 6 & Activities page: 137		
	117.	Projects page: 137		
	118.	SPACE SCIENCES: Chapter 11: Earth and Space page: 138-139 What is gravity? To The Gravity keeps planets in their orbits.		
	119.	Weightlessness on the Moon to High and low tides. page: 140-141		
	120.	Movement of Earth and Seasons to Constellations visible at different times of the year. page: 141-142		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
25/30	121.	Seasons on the Earth page: 143-144		
	122.	Exercises (Q 1to 2) page: 145		
	123.	Exercise (Q 3) page: 145-146		
	124.	Exercise (Q 4) page: 146		
	125.	Exercise (Q 5) page: 146		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
26/30	126.	Activities page: 146		
	127.	Activities page: 146		
	128.	Projects page: 146		
	129.	CHPATER 12: Technology in Everyday Life. Water Conservation while irritating plants. page: 147		
	130.	Experiment (A Simple Drip System) page: 148		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
27/30	131.	Experiment (Sprinkler Irrigation) page: 149		
	132.	Food Preserving Techniques to How to make and preserve pickles? page:150		
	133.	How to make and Preserve Jam? page: 151		
	134.	Making and Preserving Juices page: 152		
	135.	How make a simple stethoscope? page: 153-154		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
28/30	136.	Experiment (How to make a hand sanitizer?) page: 154		
	137.	Making Sanitizer at Home (Experiment) page: 155		
	138.	Test Yourself: Chapter 8: Forces and Motion page: 156-157		
	139.	Test Yourself: Chapter 8: Forces and Motion page: 156-157		
	140.	Test Yourself: Chapter 9: Waves and Energy page: 157-158		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
29/30	141.	Test Yourself: Chapter 10: Heat and Temperature page: 159		
	142.	Test Yourself: Chapter 11: Earth and Space page: 160-161		
	143.	Test Yourself: Chapter 12: Technology in Everyday Life page: 161		
	144.	Test: BIOLOGY: Chapter 1 to 3. page: 10 to 52		
	145.	Test: CHEMISTRY: Chapter 4 to 5. page: 53 to 74		

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WEEK	[150]	UNIT & TOPIC CONTENT INCLUDING PAGE NUMBER	SIGN CR/CT	DATE
30/30	146.	Test: CHEMISTRY: Chapter 6 to 7. page: 75 to 98		
	147.	Test: PHYSICS: Chapter 8 to 9. page: 99 to 124		
	148.	Test: PHYSICS: Chapter 10 page: 125 to 137		
	149.	Test: SPACE SCIENCES: Chapter 11 page: 138-146		
	150.	Test: SPACE SCIENCES: Chapter 12 page: 147-161		

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