



UNITED ARAB EMIRATES
MINISTRY OF EDUCATION



Science - Grade 07 - Main Distance Learning

Supporting continuity of learning during remote instruction.

Purpose and Key Principles

Purpose

- Provide guidance for teachers to support distance learning during the next four weeks.
- Ensure continuity of learning aligned with the Comprehensive Curriculum Guides (CCGs).
- Support developmentally appropriate teaching for students.
- Provide a clear structure for planning online lessons and weekly learning.

Key Principles

- Keep lessons short, interactive, and engaging.
- Focus on essential learning outcomes.
- Balance live instruction with hands-on and practical activities at home, when applicable.
- Encourage participation, engagement, and discussion.
- Maintain routines to support student's wellbeing and learning continuity.

Pedagogical considerations of an Online Science Lesson

Weekly Instruction Structure

Subject/Grade/Stream	Number of Periods
Science G07 Main	5 periods

Pedagogical Considerations

Teachers incorporate the 5E instructional model (Engage, Explore, Explain, Elaborate, Evaluate) in the pedagogical approach. The 5E model includes:

Engage: Encounter the phenomenon, question, or challenge to stimulate curiosity.

Explore: Students conduct hands-on investigations, experiments, or simulations to discover scientific concepts in an inquiry-driven way.

Explain: Students analyze their findings, and teachers introduce formal explanations, scientific vocabulary, and key concepts.

Elaborate: Students apply their understanding to new scenarios, engineering challenges, or interdisciplinary connections.

Evaluate: Students demonstrate their learning through assessments, reflection, and performance-based tasks.

Students will engage in learning through:

- Inquiry-based Activities (Hands On – Research – Simulation – Data Analysis – Demonstration – Stem Module Project)
- Phenomenon-based activities
- Cross-curricular connections
- STEM connections (online resources)

Teaching and Learning Delivery Model

Learning should include a balance of live interaction, independent practice, and hands-on activities.

Live Instruction

- Short live lessons with the teacher
- Explanation of new concepts
- Questions, hands-on activities and discussion
- Check for understanding



Balanced Distance Learning

Independent Learning

- Reading and practice activities
- Digital tasks
- Watching recorded explanations
- Reflection or short recorded responses



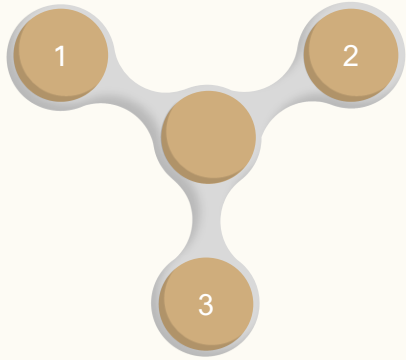
Offline and Hands-On Learning

- Creative tasks and projects
- Experiments or hands-on activities
- Presentation, science inquiry, reports, research, poster,...
- STEM or real-life exploration



Teaching and learning strategies in Science

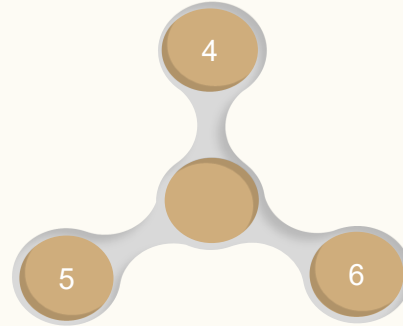
Adopting the 5E strategy



Apply the 21st century skills

Embedding
3-Dimensional learning

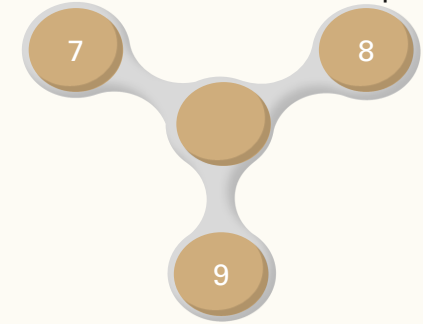
Combination of teacher autonomy with
the provided guidance



Ensure the differentiation of
learning

Ensure the integration
between subjects

Link the curriculum to
real life context



Conduct practical
activities and
experiments

Conduct formative and
summative assessments

Implementation of educational platforms through LMS

Adaptive educational platforms

Interactive activities
& Simulations

Real and virtual labs

Learning
Sources



Employing AI



Analyzing Student
performance



**Individualization
of Learning**

General Guidelines for Activating Educational Platforms in Science

Teacher must determine the target lesson objectives, performance Expectations, and learning outcomes for their class session or home activities.

1



Learning
Solutions

5

Employ educational platforms for a period of 15 minutes or more in their direct classes

Teacher must formulate a clear daily plan showing how to integrate the platforms activities during their classes.

2



6

Educational activities from the platforms can be combined with lesson P.P presentations used in:

- Direct classes
- Self-study
- Both Self-study and direct classes

The teacher should choose the most appropriate scenario for using each platform during classes according to:

3



4

Employing appropriate educational activities from each platform to cover the targeted indicators during or after the end of the class period.



برنامج محمد بن راشد للتعليم الذكي
Mohammed Bin Rashid's Smart Learning Program



7

Allocate the time required to employ the platforms based on the nature and type of individual or group activities



8

The teacher guides the students to solve the interactive activities that accompanies each lesson during the teaching and assessment process.

The educational platforms are accessed through the smart learning LMS portal.

There is no single plan or scenario for utilizing the platforms during class.
The teacher should explore the content of each platform to choose the appropriate activities to utilize during class or home activities. Also, he should ensure the learning outcomes are covered in the required manner that suits the capabilities and level of his students.

Distance Learning Targeted Outcomes - G07 Main Science

Week	Lesson #	Lesson Title	# of periods	Lesson Objective	Performance Expectation
1	U3M1L1	Natural Resources	4.5	Students will construct explanations about how people depend on Earth's energy, land, water, and air resources. They will identify resources used to make common items and analyze their daily use of resources. Students will also recognize the factors that determine whether a resource is renewable or nonrenewable, and model the depletion of a nonrenewable resource.	Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.
2	U3M1L2	Distribution of Resources	4	Students will analyze and interpret maps and other data to recognize patterns in the distribution of resources. Students will discover that Earth's resources, including minerals, soil, fossil fuels, and groundwater, are distributed unevenly around the planet.	
2-3	U3M1L3	Depletion of Resources	4	Students will learn how humans extract and obtain natural resources. They analyze patterns and systems to construct explanations about the cause-and-effect relationships between the use of resources and the distribution and availability of resources.	

Notes:

- Schools are required to follow official communications to determine the duration of distance learning.
- Teachers should refer to the CCGs, Inspire Science Teacher Edition, and the Inspire platform OLP to select appropriate learning activities for their classroom, based on their competencies and students' needs.

Distance Learning Targeted Outcomes - G07 Main Science

Week	Lesson #	Lesson Title	# of periods	Lesson Objective	Performance Expectation
3-4	U2M1L1	Moving Continents	4	Students will explore how the continents have moved over time on Earth's surface. They will analyze and interpret data and identify patterns of the distribution of fossils and rocks, continental shapes, landmasses, glacial features, and climate to provide evidence of past plate motions.	Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.
					Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.
4-5	U2M1L2	Development of a Theory	6	Students will explore the development of the theory of plate tectonics. They will analyze and interpret data and identify patterns based on the locations of sea floor structures and the ages of rocks to provide evidence of past plate motions.	Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process
					Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

Notes:

- Schools are required to follow official communications to determine the duration of distance learning.
- Teachers should refer to the CCGs, Inspire Science Teacher Edition, and the Inspire platform OLP to select appropriate learning activities for their classroom, based on their competencies and students' needs.

Sample Lesson Plan

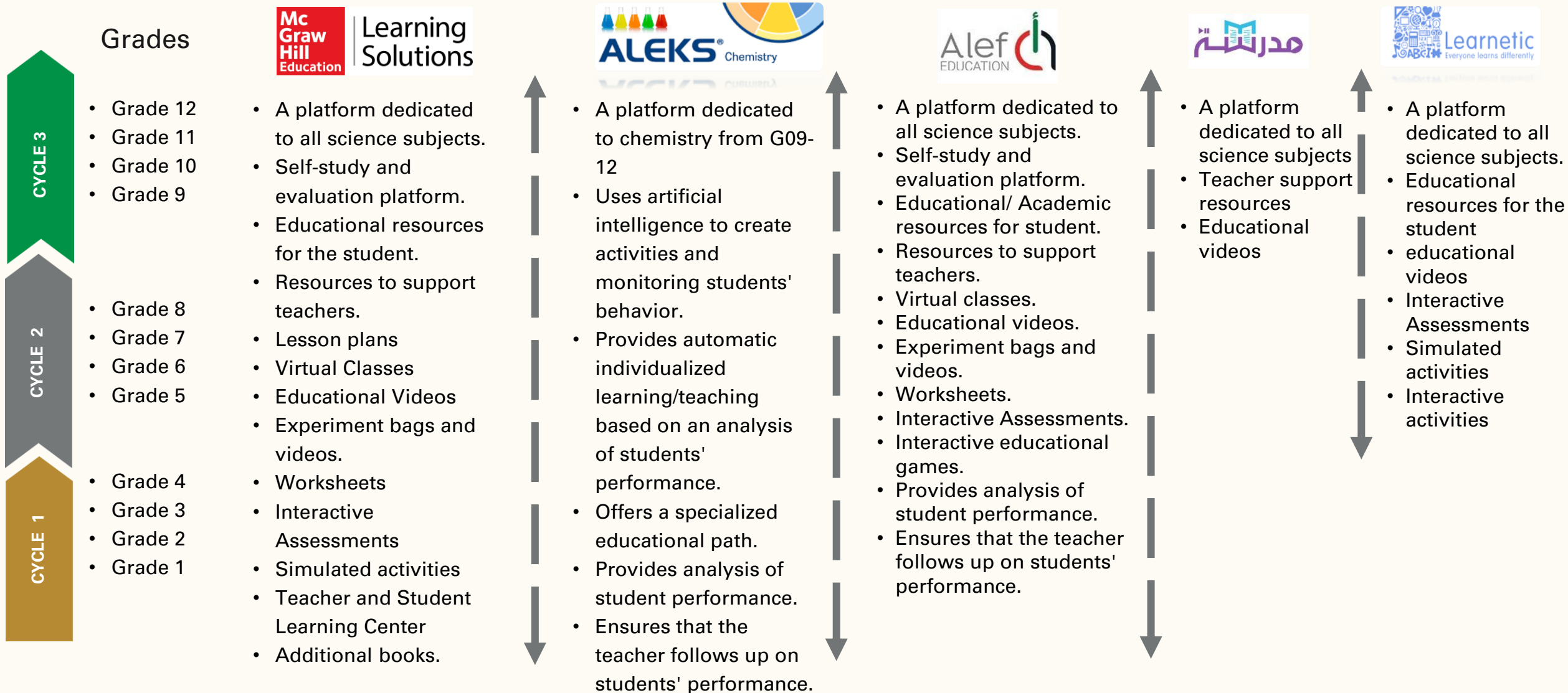
Grade 1- U2M2: Communication- L1: Animal Communication

Lesson Objective: Students will use observations and text to obtain information and learn about patterns of animal communication that help them survive.

Sections	Teacher Guidance (Distance Learning)	Resources
Warm – Up	- Use <i>Page Keely Science Probes</i> to identify students' prior knowledge about animal communication and to identify possible preconceptions. - Activity: Show a short video or images of animals making sounds (dog barking, bird chirping, lion roaring). - Ask students: "What sound is the animal making?" and "Why do animals make sounds?" - Students respond using gestures or short answers (thumbs up/down or one word).	Inspire Science OLP Reference: Page Keely Science Probes. Use the "Interactive Presentation" - Page Keely Science Probes: Animals Send Messages to Communicate CCG Reference: Diagnose - "Diagnose and Intervene" section . Assessment Criteria - "Scheme of Work" section
Lesson Focus	- Introduce the concept: Animals communicate with each other to survive and interact with their environment. - Explain that animals send messages using sounds, movements, or body signals. - Discuss key terminology: Communicate, Sound, Vibrate, Energy. - Ask the <i>Discover the Phenomenon</i> question: What are these sea lions doing? This connects to the overarching lesson Essential Question: How do animals communicate? - Ask students to describe what they see. Help students turn their observations from the video into questions. Start a class discussion with the following prompts. - Ask students: What structures do you think these sea lions use to communicate and what structures do people use to communicate?	Inspire Science OLP Reference: Discover the Phenomenon . Use the "Interactive Presentation" - Discover the Phenomenon: Animal Communication CCG Reference: Key Terminology and Vocabulary- "Scheme of Work" section Assessment Criteria - "Scheme of Work" section
Guided Learning	- Through <i>hands on inquiry activity</i>, guide students to predict animal sounds they think they will hear outside. - Choose videos from various local animals for students to observe. - Ask students to write about animals they saw then discuss their observations, checking whether it supports their predictions or not. - Students to discuss the possible reasons animals make these sounds. - Refer to "EL Support" to support students with various English language levels and implement "Differentiated Instructions" related to animal communication to accommodate to students levels and abilities.	Inspire Science OLP Reference: Inquiry Activity - Animal Sounds. Use the "Interactive Presentation"- Inquiry Activity: Animal Sounds. EL Support. Differentiated Instructions CCG Reference : Inquiry Activity - "Scheme of Work" section and Differentiation of Learning - "Scheme of Work" section
Assessment	- Performance tasks: Inquiry Activity - Animal Sounds? - Writing tasks: Page Keely Science Probes - Animals Send Messages to Communicate , Discover the Phenomenon - What are these sea lions doing? - Quizzes: -	Inspire Science OLP Reference: Page Keely Science Probes, Discover the Phenomenon and Inquiry Activity. CCG Reference : Assessment Criteria - "Scheme of Work" section
Closing	- Review the key concept of the session: Animals communicate with each other using sounds to send messages. - Conduct quick "Complete the Sentence" activity where students either type their responses in the chat box, respond orally or with the animal emoji. For example : _____ bark. _____ chirp. _____ buzz.	
Independent Learning (After the Lesson)	- My Favorite Animal Communication: Students draw their favorite animal (digital or on a piece of paper) then write one simple sentence about the animal and how it communicates i.e., "My favorite animal is _____. It communicates by _____." - Students submit their work through LMS.	

**Teachers are required to align their lesson planning with the CCG components benefiting from the activities, inquiries, and assessment and utilize the Teacher Editions and Inspire Science OLP to guide their instruction.*

Science Educational Platforms



Thank you