Cornwall Islamic Foundation

Grade 8 Science, Math & English Curriculum Topics — November 2026

Grade 8 Science topics

A. Science practices

1. Identify steps of the scientific method
2. Identify laboratory tools
3. Laboratory safety equipment

B. Designing experiments

1. Identify control and experimental groups
2. Identify independent and dependent variables
3. Identify the experimental question
4. Identify questions that can be investigated with a set of materials
5. Understand an experimental protocol about plant growth
6. Understand an experimental protocol about diffusion
7. Understand an experimental protocol about evaporation

C. Engineering practices

1. Identify parts of the engineering-design process
2. Evaluate tests of engineering-design solutions
3. Use data from tests to compare engineering-design solutions
4. Explore the engineering-design process: going to the Moon!

D. Density

1. Compare the densities of substances (New!)

2. Calculate density, mass and volume

E. Force and motion

1. Identify whether objects are accelerating
2. How does mass affect force and acceleration?
3. Predict forces using Newton's third law of motion
4. Balanced and unbalanced forces
5. Collisions and car safety features

F. Particle motion and energy

1. How does particle motion affect temperature?
2. Particle motion and changes of state
3. How does particle motion affect gas pressure?
4. Identify how particle motion affects temperature and pressure

G. Waves

1. Transverse waves
2. Compare amplitudes, wavelengths and frequencies of waves
3. Compare energy of waves
4. Transmission, reflection and absorption of waves
5. Electromagnetic waves
6. Applications of infrared waves
7. Effects of ultraviolet waves

H. Solutions

1. Identify mixtures
2. Compare concentrations of solutions
3. Diffusion across membranes

I. Classification and scientific names

1. Identify common and scientific names
2. Origins of scientific names
3. Use scientific names to classify organisms

J. Biochemistry

1. Structure and function: carbohydrates, lipids, proteins and nucleic acids
2. Understanding the chemistry of cellular respiration

K. Cells

1. Understanding cells
2. Identify functions of plant cell parts
3. Identify functions of animal cell parts
4. Plant cell diagrams: label parts
5. Animal cell diagrams: label parts
6. Compare cells and cell parts

L. Anatomy and physiology

1. Body systems: circulation and respiration
2. Body systems: digestion
3. Body systems: removing waste
4. Body systems: perception and motion
5. Organization in the human body
6. Organization in the human body: the heart and circulatory system

M. Photosynthesis

1. How do plants use and change energy?
2. Identify the photosynthetic organism

N. Conservation

1. Coral reef biodiversity and human uses: explore a problem
2. Coral reef biodiversity and human uses: evaluate solutions

O. Natural resources and human impacts

1. Evaluate claims about natural resource use: groundwater
2. Evaluate claims about natural resource use: fossil fuels

P. Plate tectonics

1. Label Earth layers
2. Evidence of continental drift and plate tectonics
3. Label Earth features at tectonic plate boundaries
4. Describe tectonic plate boundaries around the world

Q. Water cycle

1. Label parts of water cycle diagrams
2. Select parts of water cycle diagrams

R. The atmosphere

1. Explore air masses
2. Identify and compare air masses
3. How do air masses form?
4. The greenhouse effect

S. Weather and climate

1. Use data to describe climates
2. Factors affecting climate: latitude
3. Factors affecting climate: altitude
4. Factors affecting climate: distance from the ocean
5. Factors affecting climate: surface ocean currents

T. Units and measurement

1. Choose units of distance, mass and volume

2. Abbreviate time, length, speed and acceleration units

3. Abbreviate mass and volume units

4. Abbreviate force, energy and electricity units