



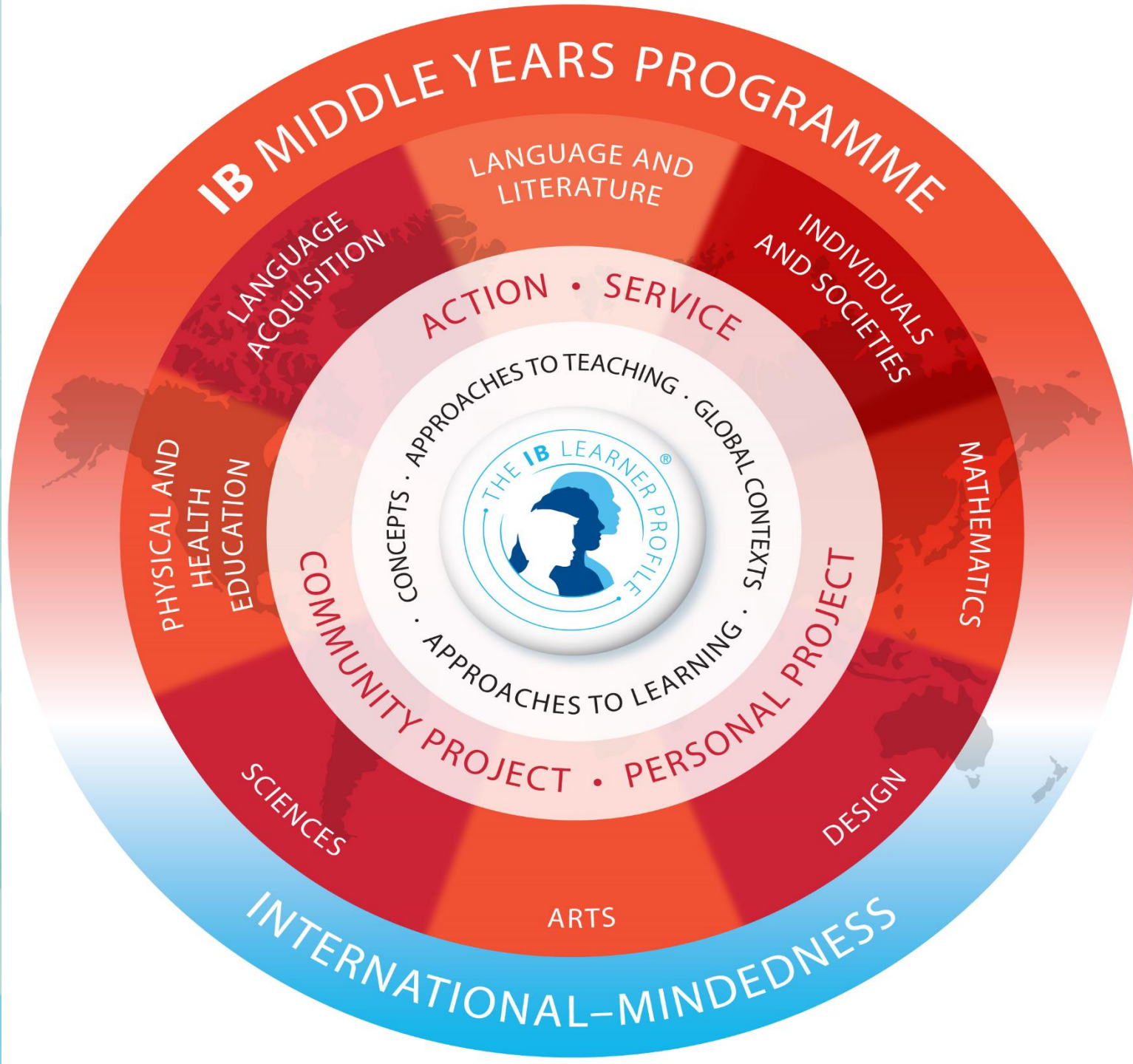
الأكاديمية الدولية - عمان

THE INTERNATIONAL ACADEMY - AMMAN

G8 INFORMATION SESSION

Jan. 2021

Transition from Grade 8 into Grade 9



G8s are currently studying...

- Language & Literature - English
- Language & Literature – Arabic (or Arabic B)
- Individuals & Societies – Arabic and English
- Mathematics
- Sciences (Biology, Chemistry and Physics units)
- Design OR Spanish
- Arts: Music AND Drama
- Physical and Health Education
- Religion
- Coding
- Personal, Social and Health Education (pastoral)

In G9/10, the following subjects are mandatory:

- Language & Literature - English
- Language & Literature – Arabic
- Individuals & Societies – Arabic and English
- Mathematics
- Sports (not an MYP subject) – one double lesson per week
- Religion (not an MYP subject)
- Personal, Social and Health Education (pastoral)

The following subjects are **mandatory**:

- Physics
- Chemistry
- Biology

Students must decide to take **ONE** of the following subjects (please see note below table re an additional subject choice):

- Design
- Physical and Health Education
- Drama
- Music
- Visual Arts
- Spanish B (only as an additional subject)

The following subject is **mandatory**:

- Integrated Science

Students must decide to take **TWO** of the following subjects:

- Choose 1 subject from- Design, Physical and Health Education, Visual Arts or Spanish B (please note that there will be 1 week after-school Spanish B session)
AND
- Choose 1 subject from- Design, Drama, Music, Physical and Health Education OR Visual Arts
- Note: you can only sign up for Spanish Acquisition if you have taken Spanish in 6 to 8 or at a previous school.
- If needed the Spanish Department will assess to make a final decision.

Teacher recommendations

Teachers of above subject groups will present to G8s about their disciplines

Subject packages due by Feb 18th 2021

Students who take the Discrete Science option

- Have option to take Spanish as an **additional subject**
- Taught as a full MYP subject
- Grade will appear on transcripts
- One 90 minute lesson during a timetabled day (instead of Sports) and one 60 minute lesson a week after school.

Integrated Sciences

Grades 9/10

Integrated and Discrete Sciences

– same objectives and criteria

- A – Knowing and Understanding (tests)
- B – Inquiring and Designing (labs)
- C- Processing an Evaluating (labs)
- D – Reflecting on the Impacts of Science (tests, essays, research projects, presentations)

For Int Sci and Discrete Sci

- Syllabus is covered over 2 yr
- Common topics between Discrete and Integrated Science
- In the Discrete Sciences, a number of extra topics will be taught in addition to the topics studied in the integrated.

Int Sci – G9 + G10

- Atoms (atomic structure [including Isotopes, electron configuration and valency])
- Bonding (word and chemical reactions and formulas; reaction kinetics—energy changes, enzymes, rates; factors affecting rates/collision theory; structure and bonding; acids and bases, pH and indicators, reactivity series and corrosion)
- Cells (tissues, organs, systems, structure and function)
- Cycles (nutrient, carbon, nitrogen)
- Electromagnetism (magnetism, electric [including static] and magnetic fields; circuits, voltage, current and resistance; generation and transmission of electricity, cells and transformers)
- Evolution (cell division, mitosis, meiosis; reproduction, inheritance; variation, including natural selection and adaptation)
- Forces (motion, force and motion graphs, Newton's laws, pressure; energy sources and conservation of energy; power and efficiency; energy transfer and transformation [including heat])
- Fuels (extraction, combustion, emission and environmental implications, alkanes/alkenes/alcohols; nuclear energy, radioactivity and decay)
- Interactions between organisms (pathogens/parasites, predator/prey, food chains/webs)
- Matter (states and properties of matter, particles/kinetic theory, diffusion/osmosis)
- Metabolism (nutrition, digestion, gas exchange and enzymes, homeostasis; healthy living: physical and emotional development and well-being)
- Organisms (habitat, ecosystems, interdependency, classification, unity and diversity in life forms)
- Periodic table (trends, groups and periods)
- Systems (photosynthesis and cell respiration; nervous system; receptors and hormones)
- Waves (longitudinal and transverse waves, sound waves, wave phenomena and wave equation)

Discrete Sciences

Grades 9/10

BIOLOGY – G9+G10

- Cells (tissues, organs, systems, structure and function; factors affecting human health; physiology; vaccination)
- Organisms (habitat, ecosystems, interdependency, unity and diversity in life forms; energy transfer and cycles [including nutrient, carbon, nitrogen]; classification)
- Processes (photosynthesis, cell respiration, aerobic and anaerobic, word and chemical equations)
- Metabolism (nutrition, digestion, biochemistry and enzymes; movement and transport, diffusion; osmosis; gas exchange; circulation, transpiration and translocation; homeostasis)
- Evolution (life cycles, natural selection; cell division, mitosis, meiosis; reproduction; biodiversity; inheritance and variation, DNA and genetics)
- Interactions with environment (tropism, senses, nervous system, receptors and hormones)
- Interactions between organisms (pathogens/parasites, predator/prey, food chains/webs; competition, speciation and extinction)
- Human interactions with environments (human influences, habitat change or destruction, pollution/conservation; overexploitation, mitigation of adverse effects)
- Biotechnology (genetic modification, cloning; ethical implications, genome mapping and application, 3D tissue and organ printing)

CHEMISTRY – G9+G10

- Periodic table (metals and non-metals; transition metals, noble gases; periodic trends: groups and periods)
- International Union of Pure and Applied Chemistry (IUPAC naming and classification of: alkanes, alkenes, alcohols, carboxylic acids and esters; structural formulas)
- The atmosphere (characteristics of gases; atmospheric composition, testing and treatment; extraction, emission and environmental implications)
- Matter (states and properties of matter; particle/kinetic theory, diffusion; atomic structure [including Isotopes]; electron configuration and valency)
- Pure and impure substances (types of mixtures [solutions, oils, alloys, emulsions]; separation techniques, including: filtration, distillation [including crude oil], chromatography)
- Bonding (structure and bonding, properties, chemical formulas, chemical reactions and the conservation of mass; balancing equations, the mole concept and chemical calculations; reaction kinetics [rates, and factors affecting rates/collision theory]; equilibria/reversible reactions; energy changes in reactions, endo- and exothermicity; combustion of fuels)
- Types of chemical reaction (acids and bases, neutral solutions, acid/base reactions, pH and indicators, formation of salts, uses of salts; redox reactions, reactivity series; extraction of metals, and corrosion, electrochemical cells)

PHYSICS – G9+G10

- Forces and energy (measurement in science; states and properties of matter, kinetic theory, density; forces and effects of forces; forces and motion, speed, motion graphs, Newton's laws; pressure; work and power, efficiency; gravity and gravitational fields; energy sources and resources, fuels and environmental impact; transfer and transformation of energy, conservation of energy)
- Electromagnetism (magnetism, electric and magnetic fields; static electricity; electromagnetic forces and induction, AC & DC; current, voltage, power, generation and transmission of electricity; electric circuits)
- Astrophysics (the solar system, planets and satellites, the Big Bang theory)
- Heat, light and sound (thermal physics; heat transfer, condensation and evaporation)
- Waves (longitudinal and transverse waves, sound waves; wave phenomena including reflection, refraction, diffraction; wave equation; electromagnetic spectrum, imaging and applications)
- Atomic physics (atomic structure, particles, charges and masses; radioactivity, decay and half-life, forms of radiation; uses and dangers)

Expectations of Discrete Sciences

- 3 sciences twice a week
 - 1 double + 1 single
- Expected to study on daily basis and not to miss any of the classes