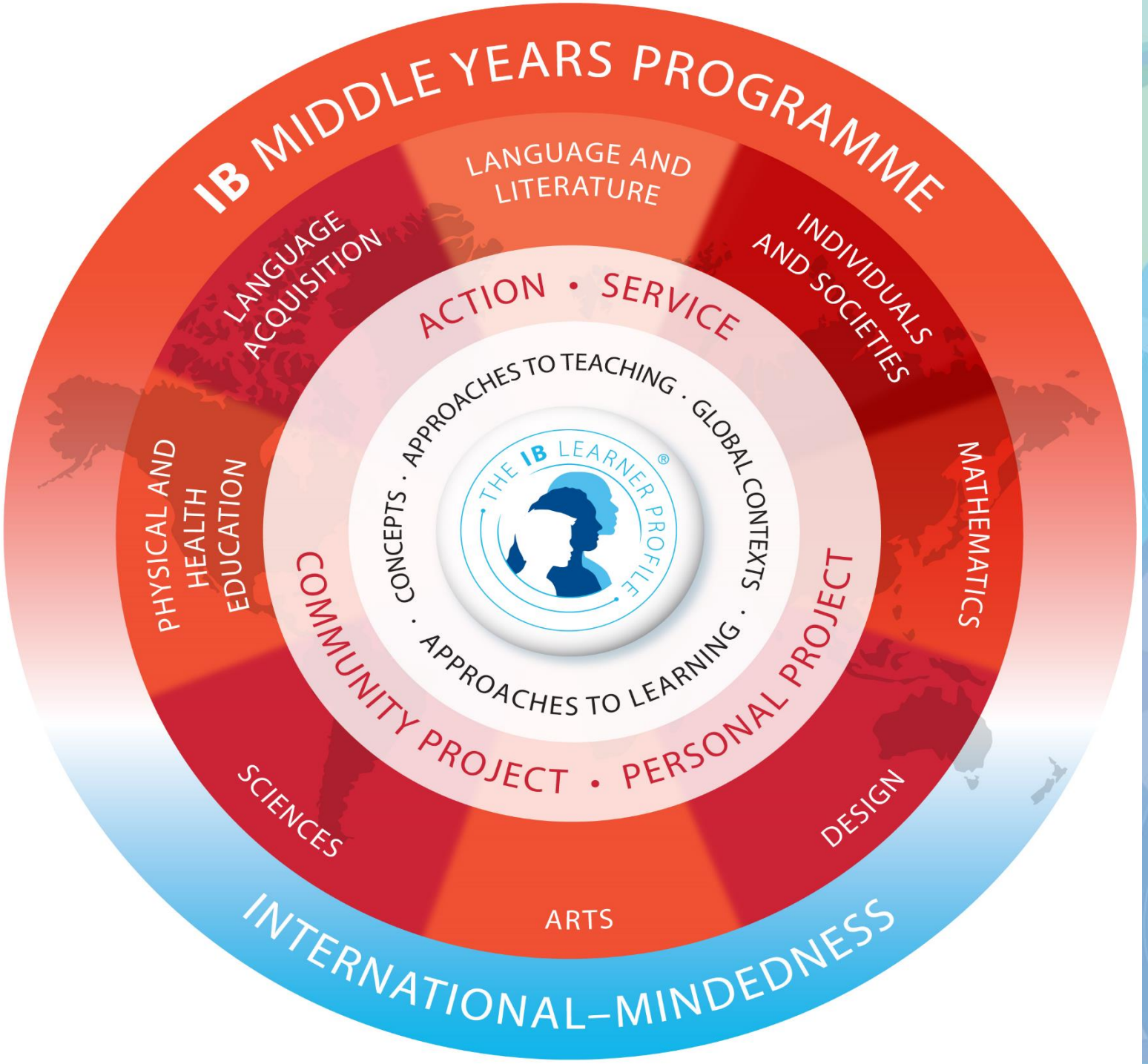
الأكاديمية الدولية - عمان

THE INTERNATIONAL ACADEMY - AMMAN

G8 INFORMATION SESSION
Jan. 2022

Transition from Grade 8 into Grade 9


IB MIDDLE YEARS PROGRAMME
LANGUAGE AND LITERATURE
LANGUAGE ACQUISITION
INDIVIDUALS AND SOCIETIES
PHYSICAL AND HEALTH EDUCATION
MATHEMATICS
SCIENCES
DESIGN
ARTS
INTERNATIONAL–MINDEDNESS
ACTION • SERVICE
COMMUNITY PROJECT • PERSONAL PROJECT
CONCEPTS · APPROACHES TO TEACHING · GLOBAL CONTEXTS · APPROACHES TO LEARNING ·
THE IB LEARNER PROFILE®

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)

Option 1: Discrete Science	Option 2: Integrated Science
The following subjects are **mandatory**: • Physics • Chemistry • Biology	The following subject is **mandatory**: • Integrated Science
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)	Students must decide to take **TWO** of the following subjects: • Choose 1 subject from- Design, Physical and Health Education, Visual Arts or Spanish B 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 choice forms submitted by Feb 17th 2022

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.
- Commitment to continue with it in G10

Integrated Sciences Grades 9/10

Integrated and Discrete Sciences – same objectives and criteria

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

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 and electron configuration)
- Bonding (word and chemical reactions and formulas; acids, bases and pH)
- Cells (tissues, organs and systems; cell division; reproduction) • Electromagnetism (magnetism, magnetic fields; electric circuits)
- Forces and energy (motion, motion graphs, Newton's laws; energy transfer and transformation)
- Fuels (combustion)
- Interactions between organisms (food chains and webs)
- Matter (particles and kinetic theory)
- Metabolism (digestion, gas exchange)
- Periodic table (trends, periods, groups)
- Systems (photosynthesis and respiration)
- Waves (longitudinal and transverse waves, sound waves; wave phenomena including reflection, refraction, diffraction; wave equation; electromagnetic spectrum

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