#### **Unit 1 Numerical Reasoning**

Statement of Inquiry: Fairness throughout human development can be explored through the use of equivalent forms of quantities.

Key concept: Form, Related concepts: Equivalence, Quantity.

Global Context: Fairness and development.

IDU -unit with geography and history.

Key and Related Concepts: Time, place and space, Scale (Geography) Causality (History) Relationships (Maths)

**Global Context** Orientation in Space and Time

ATL skills to be assessed: Communication, Information Literacy, Critical thinking

IB Learner Profile: Thinkers, reflective, open

Summative assessment assessing criteria A, B and C. Students will produce a product as well as a report.

#### Mid Term: 16th Oct—18th Oct

#### Unit 1 Numerical Reasoning (continued)

ATL Skills Assessed: Working effectively with others, Interacting with media, Analysing and evaluating.

Assessment will be for DC1 so will be criterion A progress check that will check knowledge of this unit as well as prior number knowledge.

IB Learner Profile: Thinkers, Principled, Caring, Risk -takers

No. of Weeks: 9

#### **Unit 2 Abstract Reasoning**

Statement of Inquiry: A logical process helps to model patterns in the natural world.

Key concept: Logic

Related concepts: Models, Patterns

Winter Holidays 9th Dec—1st Jan

# Subject Overview



**Year Group: 7** 

**Subject: Mathematics** 

#### 6 weeks

#### Unit 2 Abstract Reasoning (continued)

Global Context: Scientific and Technical Innovation

ATL Skills Assessed: Self-Management,

IB Learner Profile: Open Minded

No. of Weeks: 9

Assessment will be criterion B and C for DC 2. This will be a summative assessment with formative tasks on investigating patterns prior to the assessment.

A criterion A summative assessment based on unit 1 and 2 will be taken at the end of this unit.

## 5 weeks 3 days

(Ramadan wc 11th Mar)

#### **Unit 3 Spatial Reasoning**

Statement of Inquiry: Generalising the relationship between measurements can influence decisions that impact the environment. Artistry and creativity are enhanced through an understanding of how measurement helps to define forms.

Key concept: Relationships.

Related concepts: Generalisation, Space

Global Context: Personal and cultural expression

ATL Skills Assessed: Self-management, Research, Thinking

IB Learner Profile: Principled, Open minded

No. of Weeks: 10

Term:

Mid

A criterion C and D assessment summative assessment for DC 4.

Students will complete a data handling project that will assess criteria D.

No. of Weeks: 9

IB Learner Profile: Inquirers, Open-minded, Re-

ATL Skills Assessed: Communication, Research,

ATL Skills Assessed: Communication, Research, Thinking

**Global Context:** Identities and Relationships

Related concepts: Representation.

Key concepts: Relationships.

Statement of Inquiry: Being able to represent relationships effectively can help justify characteristics and trends uncovered in communities.

#### Unit 4 Reasoning with data

Summer Term: 15th April—1st July

#### **Unit 3 Spatial Reasoning continued**

A criterion B summative assessment will take place at the end of this unit.

> **Spring Holidays** 23rd March—7th Apr **Eid Holiday** 8th Apr-14th Apr

Spring Term:2nd Jan—9th Feb

Spring Term:14th Feb—22nd Mar

## **Unit 1: Numerical Reasoning**

Statement of Inquiry: Being able to represent different forms of quantities using logic has helped humans explore and describe our planet.

Key concept: Logic

Related concepts: Quantity, representation

Global Context: : Orientation in Time and

Space.

ATL Skills Assessed: Communication, Social,

Thinking.

No. of Weeks: 9 Weeks

Topics: Integers, Time zones, clocks, timetables, Rates, accuracy, ratio and proportion Developing criteria D skills.

#### Mid Term: 16th Oct—18th Oct

#### Unit 1: Numerical Reasoning continued

IB Learner Profile: Risk-takers. Reflective

Assessment will be for DC1 so will be criterion A progress check that will check knowledge of this unit as well as prior number knowledge.

#### Unit 2: Abstract Reasoning

Statement of Inquiry: Producing equivalent forms through simplification can help clarify and solve puzzles and help create solutions to problems.

Key concept: Form.

Related concepts: Equivalence, Simplifica-

tion

Winter Holidays 9th Dec—1st Jan

## Subject Overview



**Year Group: 8** 

**Subject: Mathematics** 

Feb

Term:

Mid.

#### 6 weeks

Global Context: : Scientific and technical innovation.

ATL Skills Assessed: Communication, Thinking - creative thinking skills.

No. of Weeks: 9 Weeks

Topics: algebraic expressions, equations, linear equations and inequalities. Developing criteria B and C skills. Linear sequences, recursive formula, linear relationships.

Assessment will be criterion B and C for DC 2. This will be a summative assessment with formative tasks on investigating patterns prior to the

A criterion A summative assessment based on unit 1 and 2 will be taken at the end of this unit.

### 5 weeks 3 days

#### **Unit 3: Spatial Reasoning**

Statement of Inquiry: Generalising relationships between measurements can help explore a variety of natural and human systems.

Key concepts: Relationships

Related concepts: Generalisation, Systems.

Global Context: : Orientation in Time and Space.

ATL Skills Assessed: Social, Subject specific skills.

A criterion C and D assessment summative assessment for DC 4.

Summative Assessment (Criteria C&D) Statistics Project and End of Year criterion A summative

Topics: Data collection, grouped frequency tables, stem and leaf diagrams, analyse information from back to back stem and leaf, estimates, box and whisker, simple probability, qualitative handling of probability, probability scale, sample space, theoretical and experimental probability, designing and conducting simulations to calculate the experimental probability of an event

No. of Weeks: 9

IB Learner Profile: Communicators, Open minded,

Summer Term: 15th April—1st July

ATL Skills Assessed: Research. Subject specific

Global Context: Fairness and development.

Related concepts: Representation, Approximation.

Key concepts: Time, place and space.

Statement of Inquiry: Different forms of representation can help justify conclusions regarding access to equal opportunities for people in different places and times.

#### Unit 4: Reasoning with Data

A criterion B assessment will occur at the end of this unit.

No. of Weeks: 9

**IB Learner Profile:** Principled, Open minded

Topics: Space of Polygons, circles and prisms, Symmetry and reflection (line and rotational) scale diagrams, constructions.

#### **Unit 3: Spatial Reasoning continued**

Spring Holidays 23rd March—7th Apr **Eid Holiday** 8th Apr—14th Apr

Spring Term:2nd Jan—9th Feb

Spring Term:14th Feb—22nd Mar

#### **Unit 1 Numerical Reasoning**

Statement of Inquiry: Representing and simplifying quantities in distinct forms can help explore individuals and civilisations from personal, local and global perspectives.

Key Concept: Form

**Related Concepts Representation Simplification** 

Global Context Orientation in space and time.

ATL Skills Assessed: Self management organisation skills, Thinking, subject specific.

IB Learner Profile Open minded, Open minded

No. of Weeks 10

#### Mid Term: 16th Oct—18th Oct

#### Unit 1 Numerical Reasoning continued

Assessment will be for DC1 so will be criterion A progress check that will check knowledge of this unit as well as prior number knowledge.

#### **Unit 2 Abstract Reasoning**

Statement of Inquiry: Representing relationships with valid models can help promote and support social entrepreneurship.

Key Concept: Relationships

Related Concepts: Models, Validity.

Global Context: Fairness and development.

Assessment will be criterion B and C for DC 2. This will be a summative assessment with formative tasks on investigating patterns prior to the assess-

> Winter Holidays 11th Dec—2nd Jan

# Subject Overview



Year Group: 9

**Subject: Mathematics** 

Feb

Term:

## IB Learner Profile: Inquirer, Communicator,

ATL Skills Assessed Information literacy

Students will complete a data handling project that will assess criteria D during this unit and an

Summer Assessment (Y7–13)

TBC

end of year criterion A progress check.

Global Context: Identities and relationships.

Related Concepts: Models, Quantity.

**Key Concept:** Relationships

skills. Collaboration skills.

No of weeks: 10

**Statement of Inquiry:** Different forms of representation can help justify conclusions regarding access to equal opportunities.

Unit 4 Reasoning with data

#### 6 weeks

#### **Unit 2 Abstract Reasoning continued**

ATL Skills Assessed: Communication. Social collaboration skills

IB Learner Profile: Thinkers, Principled.

A criterion A summative assessment based on unit 1 and 2 will be taken at the end of this unit.

#### **Unit 3 Spatial reasoning**

**Statement of Inquiry:** Relationships can be found by representing and generalizing patterns, which allows us to appreciate the beauty in nature and human art and design.

## 5 weeks 3 days

## Spatial reasoning continued

**Key Concept:** Relationships

Related Concepts: Generalization, Space

Global Context: Personal and cultural expression

ATL Skills Assessed Communication, Critical Thinking, Subject specific

IB Learner Profile: Thinkers, inquirers

No of weeks: 9

A criterion C and D assessment summative assessment for DC 4. Students will complete a criterion B assessment at the end of this unit.

**Spring Holidays** 25th March—5th Apr **Eid Holiday** 9th Apr—15th Apr

Spring Term:2nd Jan—9th Feb

Spring Term:14th Feb—22nd Mar

Summer Term: 15th April—1st July

Autumn Term

#### **UNIT 1 - Numerical Reasoning**

can be simplified into equivalent forms that make the problem-solving process easier.

Key and related concepts: Form/Equivalence,

Global Context: Scientific and technical innovation

ATL Skills Assessed: Self-management and subject specific skills.

**IB Learner Profile:** Knowledgeable, Thinkers

Language Development: Defining key words

No. of Weeks: 8

Assessment will be for DC1 so will be criterion A progress check that will check knowledge of this unit as well as prior number knowledge.

#### Mid Term: 16th Oct—18th Oct

#### **UNIT 2 - Abstract Reasoning**

Statement of Inquiry: Modelling with equivalent forms of representation can improve decision making.

Key and related concepts: Form/Models, Representation

**Global Context:** Identities and relationships

ATL Skills Assessed: Communication, Social

IB Learner Profile: Knowledgeable, Communicators

Language Development: Defining command

No of weeks 6

Assessment will be criterion B and C for DC 2. This will be a summative assessment with formative tasks on investigating patterns prior to the assess-

> Winter Holidays 11th Dec—2nd Jan

# Subject Overview



Year Group: 10

**Subject: Mathematics** 

(STANDARD & EXTENDED)

13th

#### 6 weeks

#### Unit 3 - Thinking with models

Statement of Inquiry: Relationships can be identified by representation of models visually and algebraically to find and optimise 'best-case scenarios' and sustainable solutions .

Key and related concepts: Relationships / Models, Representation .

Global Context: Globalisation and sustainability.

ATL Skills Assessed: Self- management and thinking.

IB Learner Profile: Thinkers and Risk-takers.

Language Development: Use Frayer's model.

No of weeks: 7

A criterion A summative assessment based on unit 1, 2 and 3 will be taken at the end of this unit.

## 5 weeks 3 days

#### Unit 4 - Spatial Reasoning

Statement of Inquiry: Using logic and proof allows students to discover mathematical generalisations and justifications.

Key and related concepts: Logic/ Generalisation, Space.

Global Context: Scientific and Technical innovation

ATL Skills Assessed: Communication and thinking

IB Learner Profile: Inquires, thinkers and Reflective

Language Development: Using language to build arguments and reach conclusions.

No of weeks: 5

Criterion C and D assessment summative assessment for DC 4.

A criterion B summative assessment will take place at the end

Subject groups: Maths and Science

Statement of Inquiry: Measurement of space and time is critical to model the exploration of new planets.

IDU-Mission to Mars

Key and related concepts: Time, place and space

Global Context: Orientation in space and time

ATL Skills Assessed: Communication, thinking and transfer

IB Learner Profile: Open-minded and risk-taker

Language Development: Metacognitive Skills: Developing metacognitive skills helps students reflect on their own thinking processes and strategies.

12 weeks

Summative assessment assessing criteria A, B and C. Students will produce a product as well as a report. This will be on assessprep in line with the e assessment format.

End of year assessments 1 week all criteria assessed

#### Unit 5 - Reasoning with data

Statement of Inquiry: Generalizing and representing **relationships** can help to clarify trends by exploring development of life and GDP expec-

Key and related concepts: Relationships/generalisation, Representation, Systems

**Global Context:** Fairness and development

ATL Skills Assessed: Communication, Research

**IB Learner Profile:** Thinkers/Risk- takers

No of weeks: 7

Language Development: Familiarise with topicspecific terminology from different fields based on topic choice for assessment.

Students will complete a data handling project that will assess criteria D during this unit.

> **Spring Holidays** 25th March—5th Apr

Spring Term:14th Feb—22nd Mar

Spring Term:2nd Jan—9th Feb

# Autumn Term

**Autumn Term** 

#### Unit 1 Numerical Reasoning

**Statement of Inquiry:** Simplifying forms can highlight similarities and differences among relationships.

**Key and related concepts:** Relationships, Simplification, Approximation.

Global Context: Scientific and technical innovation

ATL Skills Assessed: Self management Thinking

IB learner profile: Inquirers, Knowledgeable, Thinker

No. of Weeks: 6

#### Mid Term: 16th Oct—18th Oct

#### Unit 1 Numerical Reasoning continued

Assessment will be for DC1 so will be criterion A progress check that will check knowledge of this unit as well as prior number knowledge.

#### Unit 2 Abstract Reasoning

**Statement of Inquiry:** Abstract reasoning of forms can be used to generalise, verify and justify patterns which allow us to appreciate the beauty of its prevalent appearance in nature.

Key and related concepts Form, Generalization

Global Context: Personal and cultural expression

ATL Skills: Assessed Communication, self manage-

mem

IB Learner Profile: Inquirer

No. of Weeks: 4

Formative criteria D and B tasks will be conducted prior to the mock e assessment.

Summative assessment will consist of a mock e assessment conducted on assessprep. This will assess all criteria and be reported in DC 2.

Winter Holidays

11th Dec—2nd Jan

# **Subject Overview**



Year Group: 11

**Subject: Mathematics** 

13th

Mid Term:

## E assessments

#### IDU e assessment preparation

Usually mathematics is one of the IDU subject choices so a couple of weeks will probably be needed to go through and analyse pre release material, revise criteria and practice creating products and writing responses.

No of weeks: 6

12 weeks year 11 leave for

in May

e assessments

IB Learner Profile: Communicators, inquirers.

ATL Skills Assessed: Communication, Thinking.

Global Context: Fairness and development.

**Key and related concepts:** Relationships, quantity, patterns.

**Statement of Inquiry:** Understanding health and making healthier choices result from using logical representations and systems.

Reasoning with data

#### 6 weeks

#### **Unit 3 Thinking with models**

**Statement of Inquiry:** Representing models of functions can lead to a better understanding of relationships in the real world and help in making sustainable

Key and related concepts Relationships, models, representation

Global Context: globalization and sustainability

ATL Skills: Assessed Thinking

IB Learner Profile: Thinker

No of weeks: 9

Assess A and D at the end of this unit

## Spatial reasoning

5 weeks 3 days

#### Statement of Inquiry: Generalising relationships between measure-

ments can lead to better models and methods.

Key and related concepts Relationships, generalization

Global Context: Scientific and technical innovetion

ATL Skills Assessed: Communication, Thinking

**IB Learner Profile:** Thinkers, communicators.

No of weeks: 6

Assess B and C at the end of this unit

Spring Holidays
25th March—5th Apr
Eid Holiday
9th Apr—15th Apr

Spring Term:2nd Jan—9th Feb

Spring Term:14th Feb—22nd Mar