

# Edexcel International AS/A Level

Understanding  
assessment and  
improving delivery

Getting Ready to Teach

Event Code:

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First teaching in 2018, first assessment 2019

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# Aims for the day

Delegates will:

- be introduced to the idea of assessment objectives: what are they and why they are used when writing examination papers,
- analyse recent question papers and learn which types of question match the different assessment objectives,
- investigate different assessment objectives, considering how questions in these areas have been answered by looking at feedback from previous exam series,
- discuss strategies for teaching to try and make sure students can access questions targeting different assessment objectives,
- review the support Pearson offers for the qualification,
- network, discuss best practice and share ideas with other teachers.



# Agenda

- 10:00 – 10:10 Introductions and housekeeping

## **Session 1: Assessment Objectives (1 hour)**

- 10:10 – 10:40 What are they, why do we use them, what does the wording mean? What balance of AOs are there in the exams?
- 10:40 – 11:10 Assigning AOs. (whole questions) – which AO would you assign to each question part?
- 11:10 – 11:30 BREAK

## **Session 2: AO2 (1h 15)**

- 11:30 – 12:15 AO2: Why do we ask AO2? What types of AO2 questions are there (calculation, application)
- Consideration of some questions from recent papers.
- Some marking / feedback to see good and poor student answers.
- 12:15 – 12:45 Teaching strategies: how can we make sure students succeed at AO2
- 12:45 – 13:45 **LUNCH**

# Agenda

## **Session 3: AO3 (1h 15)**

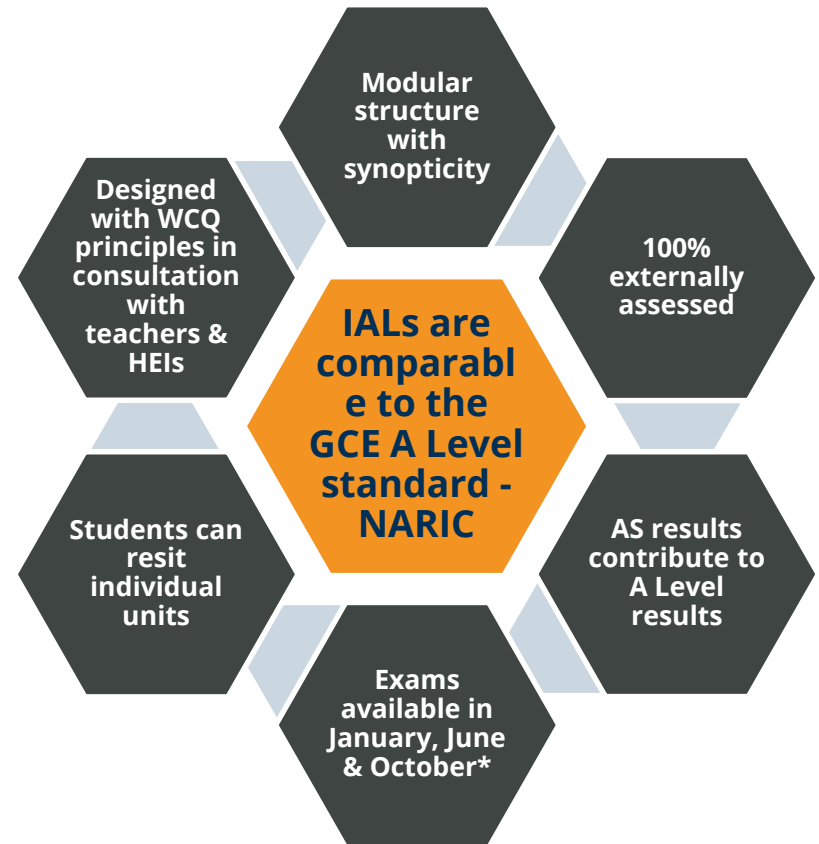
- 13:45 – 14:30 AO3: Why do we ask AO3? What types of AO3 questions are there (calculation, application)?
- Consideration of some questions from recent papers.
- Some marking / feedback to see good and poor student answers.
- 14:30 – 15:00 Teaching strategies: how can we make sure students succeed at AO3
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## **• Session 4: ? (30 min)**

- 15:00 – 15:30 Practical work Useful resources and websites
- 15:30-16.00 Any questions / plenary / feedback / depart.

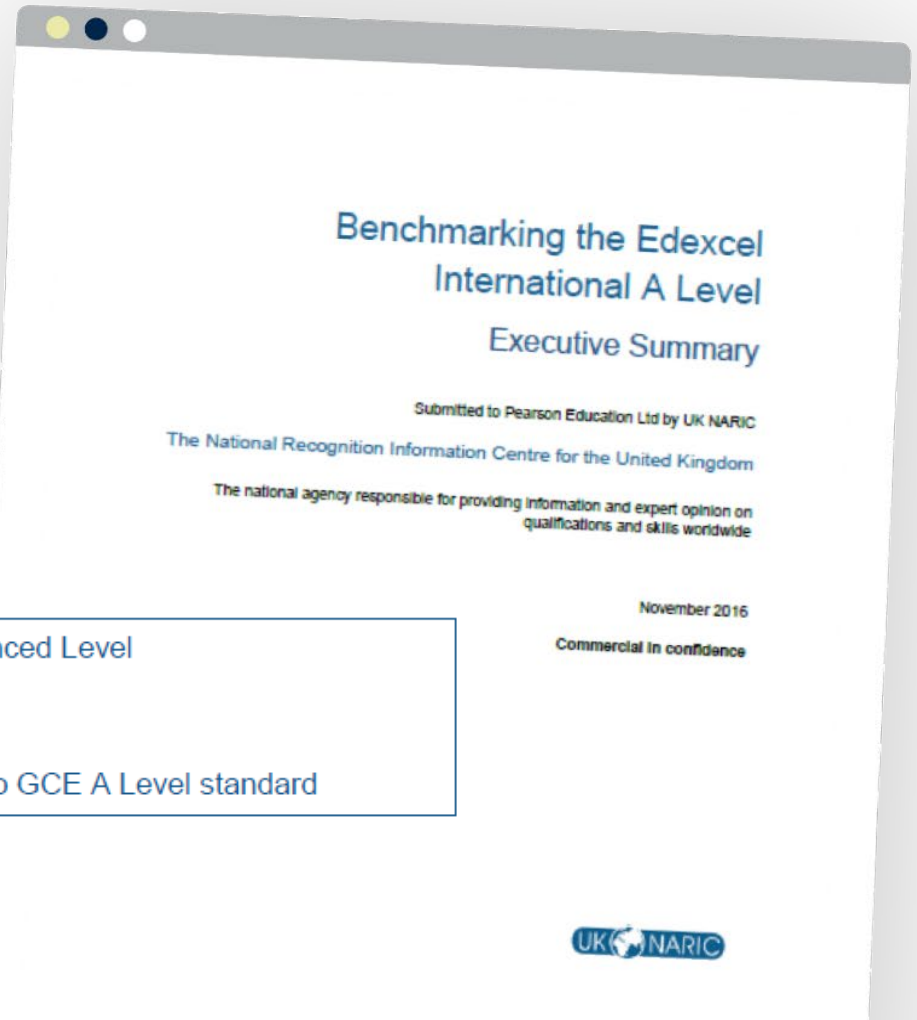
# IAL Features

- International A Levels and AS Levels are created for International Students
- Globally recognised.



# Updated NARIC report for Edexcel IAL

The executive summary confirms that Edexcel IALs are considered comparable to the GCE A Level standard following reforms to the UK regulated qualifications.



<b>Qualification:</b>	Edexcel International Advanced Level
<b>Awarding Institution:</b>	Pearson Education Ltd
<b>Comparability:</b>	Is considered comparable to GCE A Level standard

# IAS & IAL subjects

Biology	Chemistry	Physics	Mathematics	Further Mathematics
Pure Mathematics	Information Technology	Business	Economics	Accounting
English Language	English Literature	History	Geography	Psychology
Arabic	French	German	Greek	Spanish
		Law (IAL only)		



# IAL 2018 BIOLOGY

SUBTITLE

**Reviewed and updated in light of GCE A level changes**

**6 units in Total**

**4 Units examine Biology content**

**2 Units examine practical skills**

**Transferable Skills embedded**

**Fully modular Examinations three times a year  
AS contributes to A level**

**Dedicated textbooks are currently in production**

**[TeachingScience@pearson.com](mailto:TeachingScience@pearson.com)**





# Familiar Content areas

Unit 1: Molecules, Diet, Transport and Health

Unit 2: Cells, Development, Biodiversity and Conservation

Unit 3: Practical Skills in Biology I

Unit 4: Energy, Environment, Microbiology and Immunity

Unit 5: Respiration, Internal Environment, Coordination and Gene Technology

Unit 6: Practical Skills in Biology II



# What are the Assessment Objectives in IAL Biology ?

AO 1 Demonstrate knowledge and understanding of science

AO2 a) Application of knowledge and understanding of science in familiar and unfamiliar contexts.

AO2 b) Analysis and evaluation of scientific information to make judgments and reach conclusions

AO3 Experimental skills in science, including analysis and evaluation of data and methods



# Activity 1

- . What are the weightings of each AO?
- . In IAS
- . AO 1
- . AO2 (a)
- . AO2 (b)
- . AO3



# Activity 1

- What are the weightings of each AO?
- In IAS
  - AO 1 36-39%
  - AO2 (a) 34-36%
  - AO2 (b) 9-11%
  - AO3 17-18%



# Activity 1

- . What are the weightings of each AO?
- . In IA2
- . AO 1
- . AO2 (a)
- . AO2 (b)
- . AO3



# Activity 1

- . What are the weightings of each AO?
- . In IA2
- . AO 1 31-34%
- . AO2 (a) 33-36%
- . AO2 (b) 14-16%
- . AO3 17-18%



# Assessment Objectives

		<b>AS (%)</b>	<b>IA2 (%)</b>	<b>IAL (%)</b>
AO1	Demonstrate knowledge and understanding of science	36 - 39	31- 34	34 – 37
AO2	(a) Application of knowledge and understanding of science in familiar and unfamiliar contexts.	34 – 36	33 - 36	33 – 36
AO2	(b) Analysis and evaluation of scientific information to make judgments and reach conclusions.	9 - 11	14 - 16	11 – 14
AO3	Experimental skills in science, including analysis and evaluation of data and methods	17 - 18	17 - 18	17 - 18



# Which Assessment Objective?

- Explain why oxygen molecules can pass directly through the cell membrane
- Describe how a triglyceride is synthesised
- Assess the contribution of lipoproteins to the risk of developing CVD. Use the information in the graph to support your answer.
- Devise a method that can be used to make a valid comparison of the tensile strengths of fibres from the same plant, treated with different concentrations of sodium hydroxide solution.





# Which Assessment Objective?

- Explain why oxygen molecules can pass directly through the cell membrane **AO 2a**
- Describe how a triglyceride is synthesised **AO 1**
- Assess the contribution of lipoproteins to the risk of developing CVD. Use the information in the graph to support your answer. **AO 2b**
- Devise a method that can be used to make a valid comparison of the tensile strengths of fibres from the same plant, treated with different concentrations of sodium hydroxide solution. **AO 3**



# Which Assessment Objective?

## Activity 2

- Look at Paper WBI11/01 June 2019
- Examine questions 1, 2 and 3
- Decide which AO each question is examining
- Compare your answers with other delegates on your table.



# Assessment Objective 1

- Demonstrate knowledge and understanding of science.



# Units 1, 2 4 and 5

Unit	Title	IAL (%)	Length / minutes	Marks				
				Total	AO1	AO2(a)	AO2(b)	AO3
1	Molecules, Diet, Transport and Health	20	90	80	34-37	34-37	9-11	0
2	Cells, Development, Biodiversity and Conservation	20	90	80	34-37	34-37	9-11	0
4	Energy, Environment, Microbiology and Immunity	20	105	90	33-35	38-40	16-18	0
5	Respiration, Internal Environment, Coordination and Gene Technology	20	105	90	33-35	38-40	16-18	0

# Student responses AO1

## Activity 3

- Look at Paper WBI11/01 June 2019
- Look at question 2bi
- Student responses A-D
- Without looking at mark scheme
- Place these in rank order
- Compare your answers with other delegates on your table.



# Student responses AO1

## Activity 4

- Look at Paper WBI11/01 June 2019
- Look at question 2bi
- Student responses A-D
- Using mark scheme
- Mark these responses
- Compare your marks with other delegates on your table.



# How can we improve student responses on AO1?

- What strategies do you use in your centres to ensure that students are well prepared for AO1 items ?
- How do you check the students' knowledge and understanding of each topic?
- What strategies work particularly well?
- How is it best to check on learning?
- How can we ensure language is precise and the depth of understanding adequate for A level?



# How can we improve student responses on AO1?

- Within the classroom
- Teaching strategies
- Use specification
- Use past papers
- Use textbook
- Use tests
- Use Mark schemes
- Use examiner reports





# Assessment Objective 2

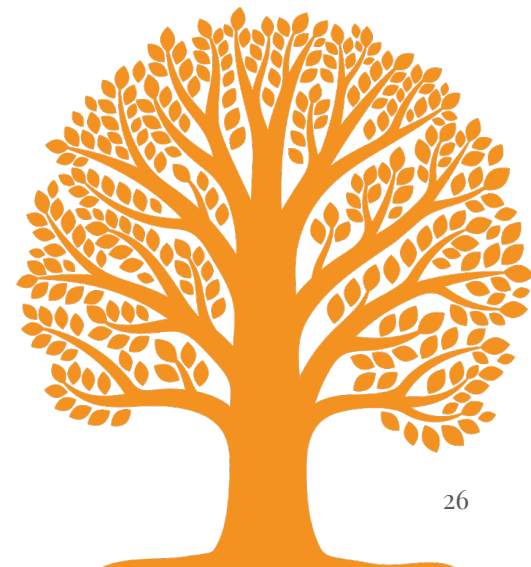
- (a) Application of knowledge and understanding of science in familiar and unfamiliar contexts.
- (b) Analysis and evaluation of scientific information to make judgments and reach conclusions.



# Student responses AO2a

## Activity 5

- Look at Paper WBI11/01 June 2019
- Look at question 1bi
- Student responses A-D
- Without looking at mark scheme
- Place these in rank order
- Compare your answers with other delegates on your table.



# Student responses AO2a

## Activity 6

- Look at Paper WBI11/01 June 2019
- Look at question 1bi
- Student responses A-D
- Using mark scheme
- Mark these responses
- Compare your marks with other delegates on your table.



# How can we improve student responses on AO2a?

- What strategies do you use in your centres to ensure that students are well prepared for AO2a items ?
- How do you check the students' knowledge and understanding of each topic?
- What strategies work particularly well?
- How is it best to check on understanding and application ?
- How can we ensure language is precise and the depth of understanding adequate and that the student has answered the question ?



# How can we improve student responses on AO2a?

- Within the classroom
- Teaching strategies
- Use specification
- Use past papers
- Use textbook
- Use tests
- Use Mark schemes
- Use examiner reports



# Student responses AO2b

## Activity 7

- Look at Paper WBI11/01 June 2019
- Look at question 5bii
- Student responses A-D
- Without looking at mark scheme
- Place these in rank order
- Compare your answers with other delegates on your table.



# Student responses AO2b

## Activity 8

- Look at Paper WBI11/01 June 2019
- Look at question 5bii
- Student responses A-D
- Using mark scheme
- Mark these responses
- Compare your marks with other delegates on your table.



# Student responses AO2b Calculation

## Activity 9

- Look at Paper WBI13/01 June 2019
- Look at question 1c
- Student responses A-C
- Using mark scheme
- Mark these responses
- Compare your marks with other delegates on your table.





# Student responses AO2b Calculation

## Activity 10

- Look at Paper WBI13/01 June 2019
- Look at question 3c
- Student responses A-D
- Using mark scheme
- Mark these responses
- Compare your marks with other delegates on your table.



# How can we improve student responses on AO2b?

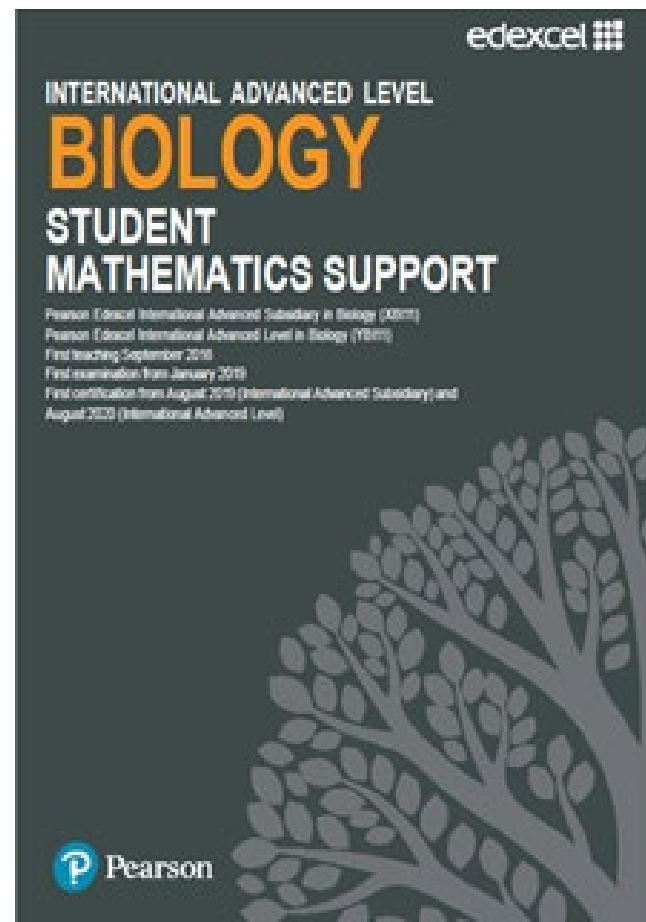
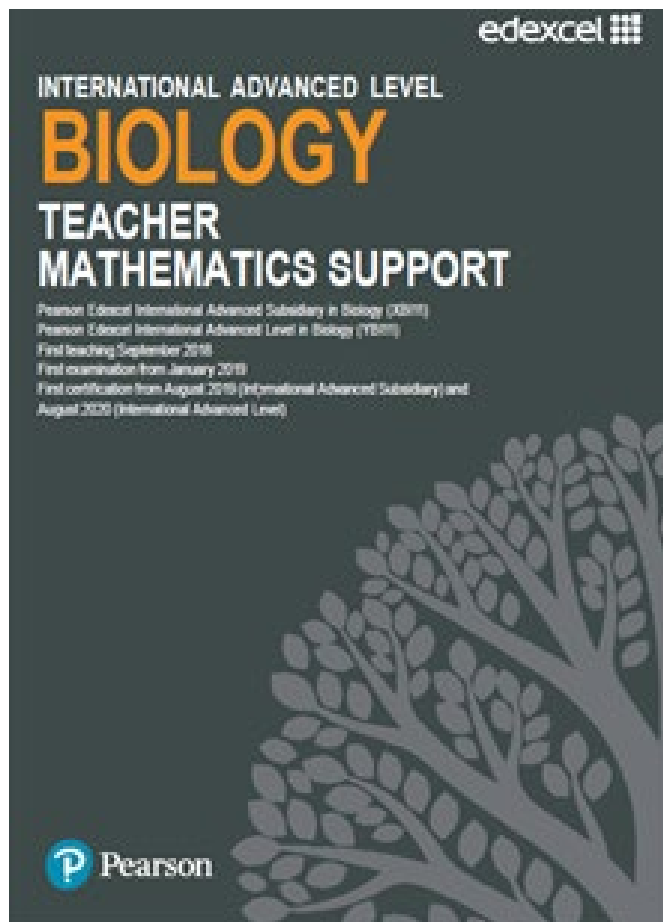
- What strategies do you use in your centres to ensure that students are well prepared for AO2b items ?
- How do you check the students' knowledge and understanding of each topic and methods?
- What strategies work particularly well?
- How is it best to check on understanding and application ?
- How can we ensure language is precise and the depth of understanding adequate and that the student has answered the question ?



# How can we improve student responses on AO2b?

- Teach Maths skills to students
- Use Maths guide
- Learn units including  $\text{cm}^2$   $\text{cm}^3$
- Learn to use standard form
- Understand formulae
- Practice questions





# Assessment Objective 3

- Experimental skills in science, including analysis and evaluation of data and methods.



# Units 3 and 6

Unit	Title	IAL (%)	Length / minutes	Marks				
				Total	AO1	AO2(a)	AO2(b)	AO3
3	Practical Skills in Biology I	20	90	50	4-6	0	0	44-46
6	Practical Skills in Biology II	20	80	50	4-6	0	0	44-46



# Student responses AO3

## Activity 11

- Look at Paper WBI13/01 June 2019
- Look at question 3ai
- Student responses A-D
- Using mark scheme
- Mark these responses
- Compare your marks with other delegates on your table.



# Will CORMS work on AS experiment design?

## Activity 12

- Try IGCSE CORMS prompt to answer question 1cii
- Write your answer
- Mark your answer
- Does it work?





# Student responses AO3

## Experient design

### Activity 13

- Look at Paper WBI13/01 June 2019
- Look at question 1cii
- Student responses A-D
- Using mark scheme
- Mark these responses
- Compare your marks with other delegates on your table.



# How can we improve student responses on AO3?

- What strategies do you use in your centres to ensure that students are well prepared for AO3 items ?
- How do you check the students' knowledge and understanding of each topic and methods?
- What strategies work particularly well?
- How is it best to check on understanding and application ?
- Can students justify practical steps?
- How can we ensure language is precise and the depth of understanding adequate and that the student has answered the question ?

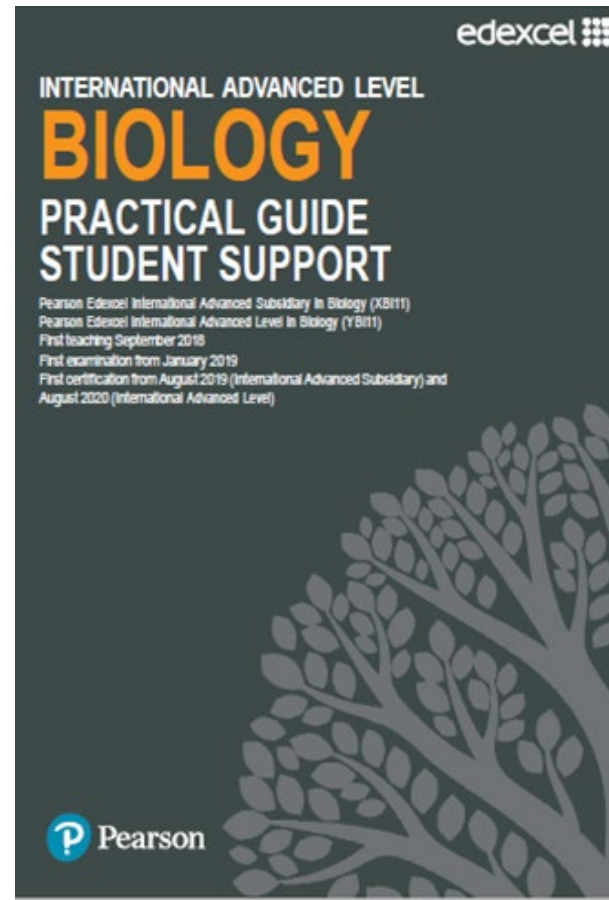
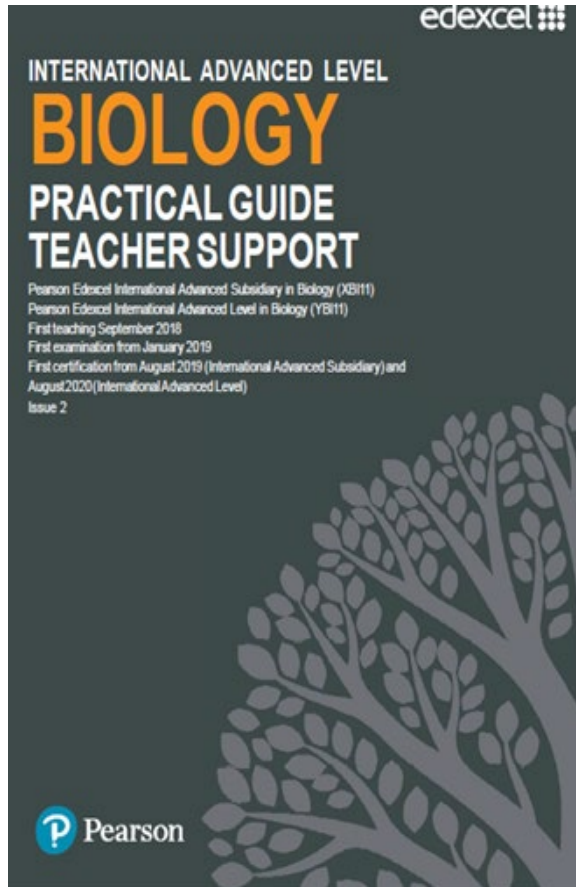


# How can we improve student responses on AO3?

- Teach Practical skills and methods to students
- Cover Core practicals from each unit
- Use student Practical guide
- Use teacher Practical guide
- Practice questions
- Mark schemes
- Examiner reports
- Web resources



# Practical guides



# Useful web links for practicals

- Practical Biology Nuffield Foundation

<https://www.nuffieldfoundation.org/practical-biology>

- Science and Plants for Schools

<https://www.saps.org.uk/>

- STEM learning

<https://www.stem.org.uk/>

- Vassar stats

<http://vassarstats.net/>

- Royal Society of Biology

<https://www.rsb.org.uk/education/teaching-resources/secondary-schools>

# Support Overview

## Free Support

Getting Started  
Guide & Scheme of  
Work

Getting Ready to  
Teach Events

Subject  
interpretation of  
transferable skills

Subject Advisor

**Results Plus**

Regional Support  
Manager

## Additional support for selected subjects

**Curriculum  
Matched  
Publishing**

Lesson plans

Exemplar Marked  
Responses

Topic booklets &  
Subject guides

Additional SAMs

**Exam Wizard**



# Subject advisor

**Irine Muhiuddin**

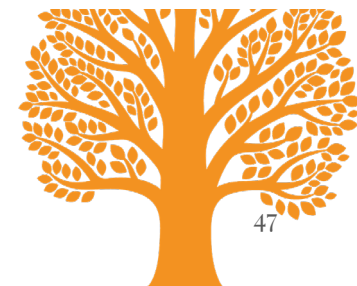
Science

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ALWAYS LEARNING