Oide

Tacú leis an bhFoghlaim Ghairmiúil i measc Ceannairí Scoile agus Múinteoirí

Supporting the Professiona Learning of School Leaders and Teachers

Leaving Certificate Applied

Mathematical Applications

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Overview

Session 1 10:00 - 11:15	Overview of the LCA Programme Framework
Tea/Coffee 11:15 - 11:30	
Session 2 11:30 – 12:45	Engaged with Mathematical Concepts and Skills Transdisciplinary integration Designing rich learning experiences
Lunch 12:45 – 13:15	
Session 3 **13:15 – 2:45**	Planning a unit of learning Reflection and evaluation

Oide

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Supporting the Professiona Learning of School Leaders and Teachers

Session One

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By the end of this session participants will have:

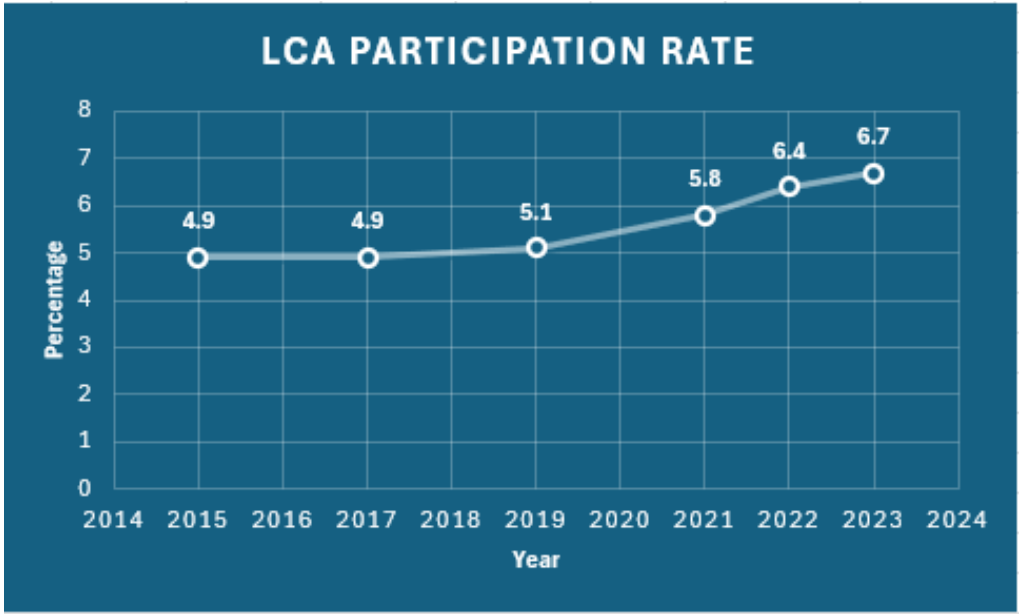
- Become familiar with the curriculum and assessment procedures in LCA.
- Reviewed the changes in LCA
- Explored the approaches to teaching, learning and assessment in LCA.
- Become familiar with your subject specific module descriptor.

LCA - The Numbers at a Glance

444 Schools offer LCA Programme and Increasing

32% increase in student participation in the two years from 2022 to 2024

4048 students completed LCA in 2025



Source: Statistical Bulletin – August 2024 Overview of Education 2003/04–2023/24

LCA Supports Provided by Oide

Subject Seminars

Task Seminars

Co-ordinator Seminars

Collaboratives

Co-ordinator Workshops

School support

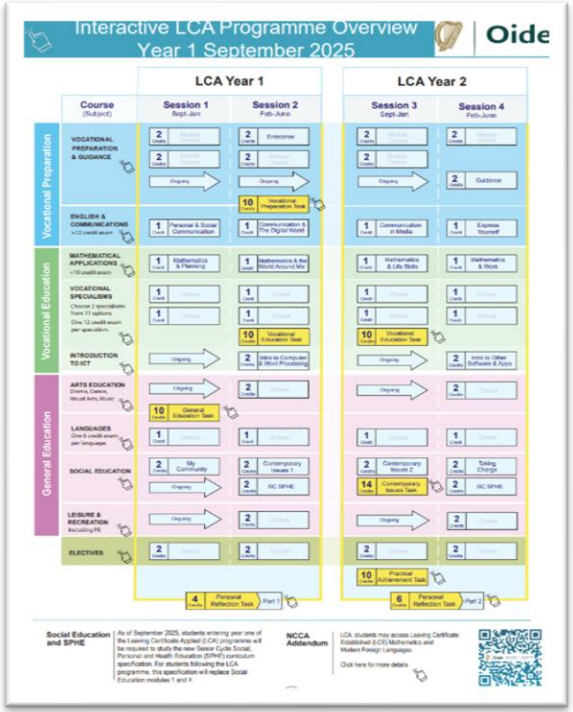
Webinars

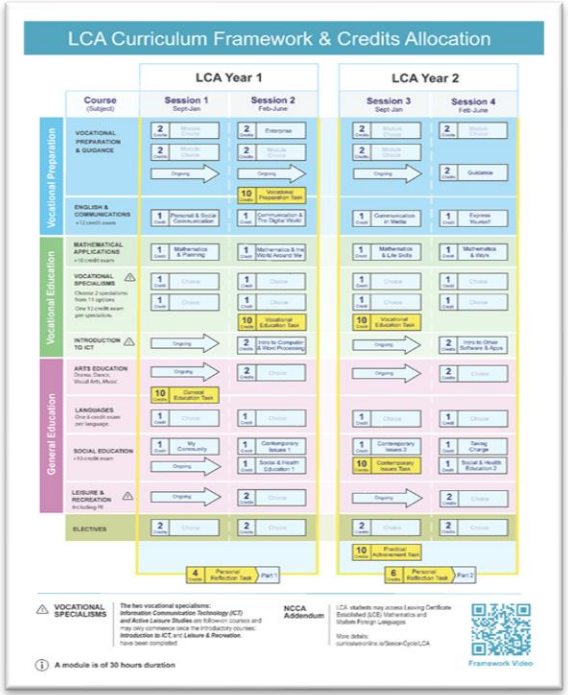
Oide

Programme Statement

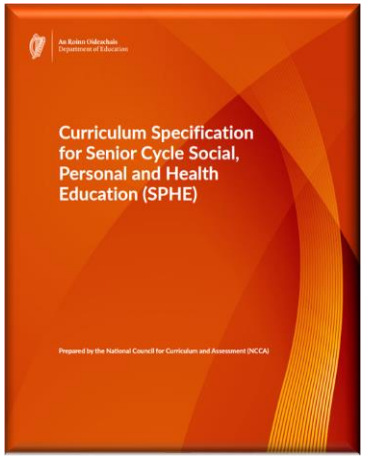
5th Year

6th Year



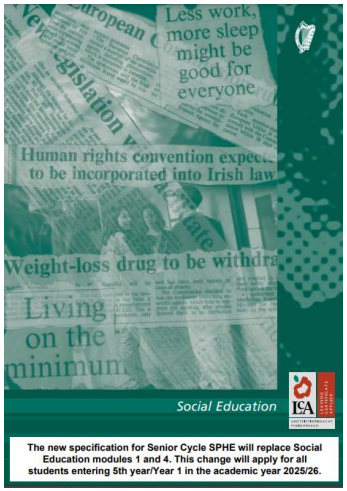


Revision of LCA Social and Health Education Modules



	Session 1	Session 2
Year 1	**Social, Personal and Health Education**	
	My Community	Contemporary Issues 1
	Session 3	**Session 4**
Year 2	**Social, Personal and Health Education**	
	Contemporary Issues 2	Taking Charge

Revision of LCA Social and Health Education Modules – Credit Allocation



The new specification for Senior Cycle SPHE will replace Social Education modules 1 and 4. This change will apply for all students entering 5th year/Year 1 in the academic year 2025/26.

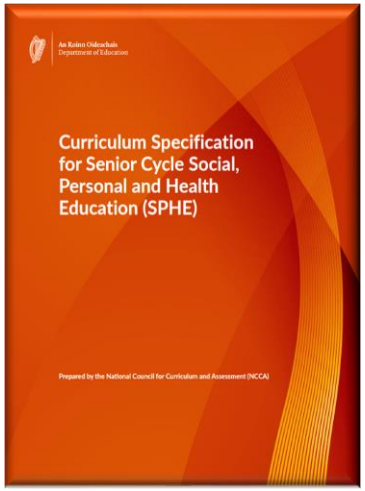


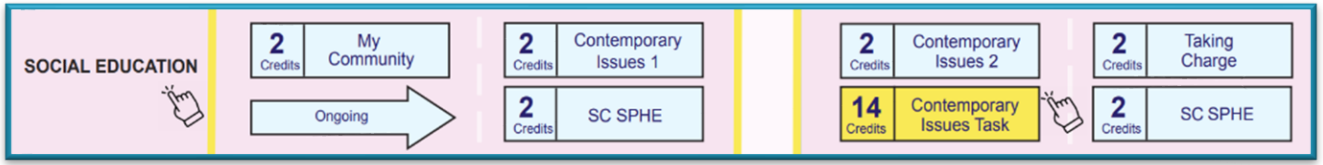
Table 2: Revised credit allocation for Social Education within LCA

	Year 1		Year 2	
	Session 1	Session 2	Session 3	Session 4
SPHE 1 (Key Assignment)	2 credits			
My Community (Key Assignment)	2 credits			
Contemporary Issues 1 (Key Assignment)		2 credits		
SPHE 2 (Key Assignment)			2 credits	
Contemporary Issues 2 (Key Assignment)			2 credits	
Taking Charge (Key Assignment)				2 credits
Contemporary Issue Task			14 credits	

Circular 0012/2025

Change to Social Education

5th Year
LCA 1



6th Year
LCA 2

LCA Curriculum Framework

Vocational Preparation	• Vocational Preparation & Guidance • English & Communications
Vocational Education	• Mathematical Applications • Vocational Specialisms* *(Choose 2 from 11 options)* • Introduction to Information Communication Technology
General Education	• Arts Education *(Dance, Drama, Music, Visual Arts)* • Social Education • Languages *(Gaeilge and French/Italian/German/Spanish)* • Leisure & Recreation *(including Physical Education)*
Elective courses	• Religious Education (for example) • Science (for example)

Layout of Module Descriptors

Oide

- Rationale
- Number and sequence of modules
- Description of Modules
- General Recommendations
- Modules
- Purpose
- Prerequisites
- Aims
- Units
- Learning Outcomes
- Teacher Guidelines
- Key Assignments

LCA Modes of Assessment – 6th Year 2026 Exam

Satisfactory completion of modules + 90% attendance • Evidence of completion of **key assignments** for each module • One credit per course module in which there is a final exam • Two credits per course module in which there is NO final exam	62 credits	31%
7 Student tasks @ 10 credits each *Vocational Preparation* | *Vocational Education (x2)* | *General Education* *Contemporary Issue* | *Personal Reflection* | *Practical Achievement*	70 credits	35%
Final examinations **English & Communication** (12 credits) | **Vocational Specialisms (x2)** (12 credits each) | **Languages (x2)** (6 credits each) | **Social Education** (10 credits) | **Mathematical Applications** (10 credits)	68 credits	34%
Total	**200 credits**	**100%**

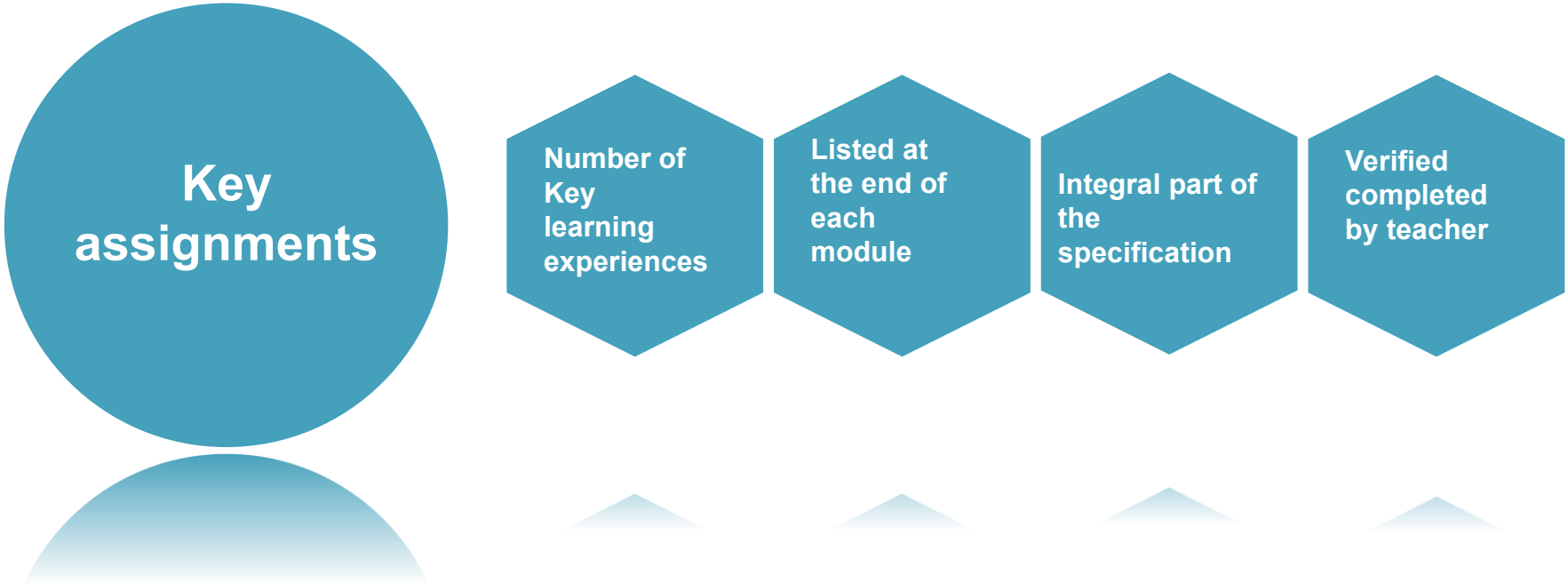
LCA Modes of Assessment – 5th Year

Satisfactory completion of modules + 90% attendance • Evidence of completion of **4 key assignments** for each module • One credit per course module in which there is a final exam • Two credits per course module in which there is NO final exam	**68 credits**	**34%**
6 Student tasks @ 10 credits each and 14 credits for Contemporary Issues	**74 credits**	**37%**
Final examinations	**58 credits**	**29%**
Total	**200 credits**	**100%**

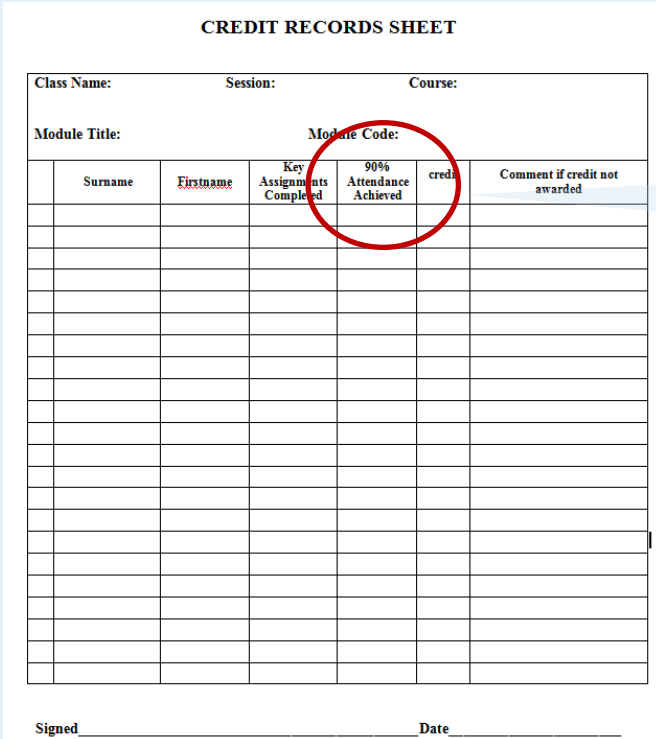
Vocational Preparation	Vocational Education (x2)	General Education
Contemporary Issue (14 credits from 2025/2026	Personal Reflection	Practical Achievement

English & Communication	Vocational Specialism 1	Vocational Specialism 2	Languages (x2)	Mathematical Applications
12 credits	12 credits	12 credits	6 credits each	10 credits

What is a key assignment?



Credit Records



CREDIT RECORDS SHEET

Class Name: **Session:** **Course:**

Module Title: **Module Code:**

	Surname	Firstname	Key Assignments Completed	90% Attendance Achieved	credit	Comment if credit not awarded

Signed_____**Date**_____

It is essential to keep a record of attendance for EACH MODULE

Summary of Tasks

Task	Credit	%	Completed in session	Assessed
1. General Education *Originating in Arts Education, Leisure & Rec., Language or Social Education*	10	5	1	Jan/Yr 1
2. Vocational Preparation *Originating in either Vocational Preparation & Guidance or English & Communication*	10	5	2	May/Yr 1
3. Vocational Education - 1st specialism *Originating in one Vocational Specialism*	10	5	2	May/Yr 1
4. Vocational Education - 2nd specialism *Originating in the second Vocational Specialism*	10	5	3	Jan/Yr 2
5. Contemporary Issues *Anchored in Social Education*	2026-10 2027- 14	5	3	Jan/Yr 2
6. Practical Achievement *Generally out of school/centre*	10	5	3	Jan/Yr 2
7. Personal Reflection *Statement 1 from year one will be stored and returned to SEC when statement two is complete*	10	5	on-going	May/Yr 2

Final Exams – 6th Year

Area	Credits
English & Communication Oral and written incorporating audio visual	12
Vocational Specialisms (x2) Practical and written – practical briefs issued in advance *(see next slide for details)*	12 each
Languages (x2) Oral and written incorporating aural	6 each
Social Education Written incorporating audio	10 – June 2026
Mathematical Applications Written – research topic (Q. 2. issued in advance)	10
Total	68

LCA Certification

Awarded at three levels

Pass

120 - 139 credits

60-69%

Merit

140 - 169 credits

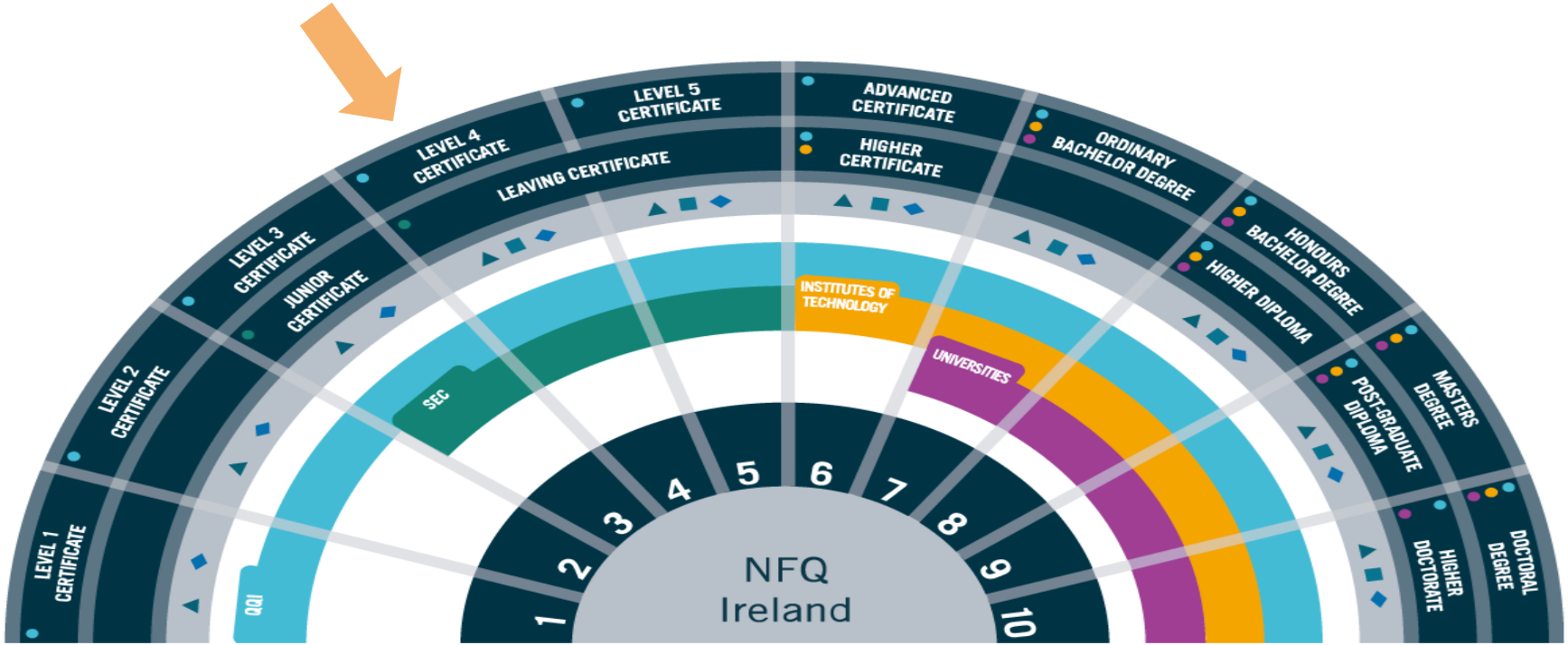
70-84%

Distinction

170 - 200 credits

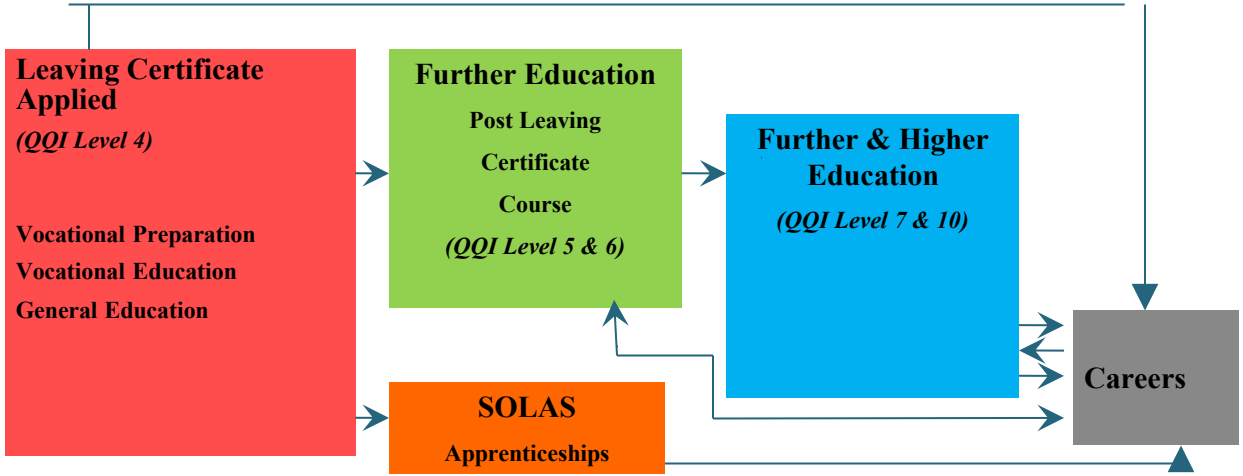
85-100%

National Framework of Qualifications (NFQ)



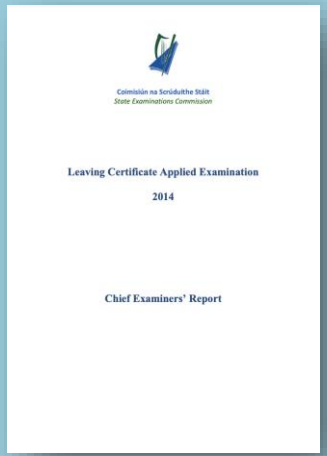
Opening up New Options

The Leaving Certificate Applied Route Map



Useful Links

Chief Examiners Report 2014



LCA Teachers Handbook

LCA Programme Statement

Oide

Tacú leis an bhFoghlaim Ghairmiúil i measc Ceannairí Scoile agus Múinteoirí

Supporting the Professiona Learning of School Leaders and Teachers

Questions?

CC BY NC

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Tacú leis an bhFoghlaim Ghairmiúil i measc Ceannairí Scoile agus Múinteoirí

Supporting the Professiona Learning of School Leaders and Teachers

Session Two

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Session Two

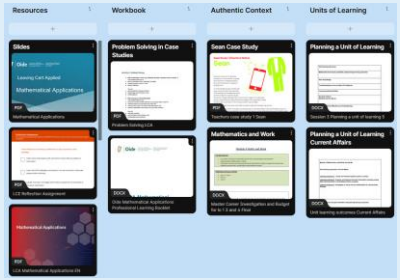
By the end of this session participants will have:

Explored the Mathematical Applications Module Descriptor

Engaged with rich learning experiences through problem solving

Investigated transdisciplinary links across LCA

Links to relevant material



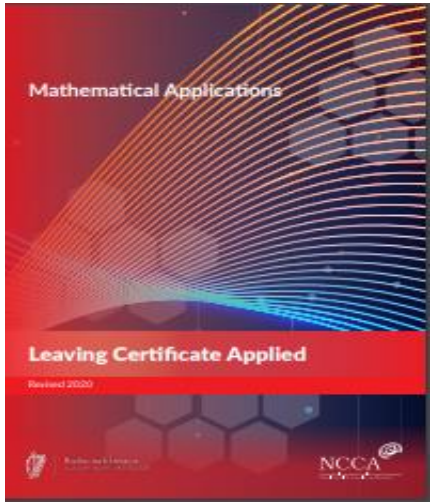
SCAN ME

Padlet

SCAN ME

Module descriptors

Reflection

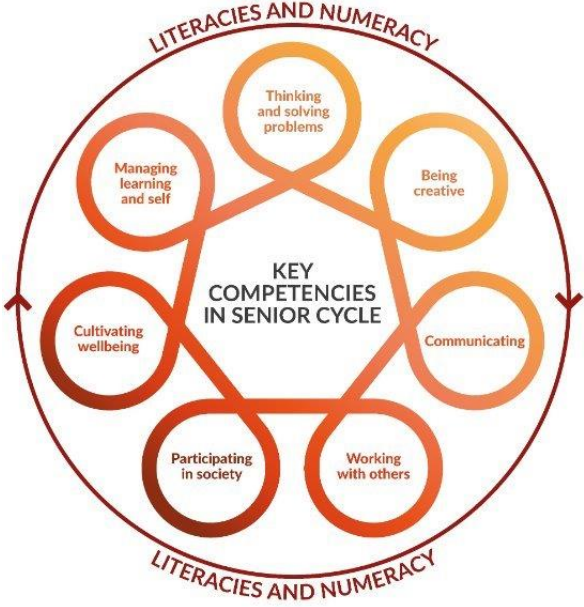


- Things I found out
- Interesting things
- Questions I still have

Values and Vision in your Classroom

What are your values for high-quality teaching, learning and assessment in your classroom?

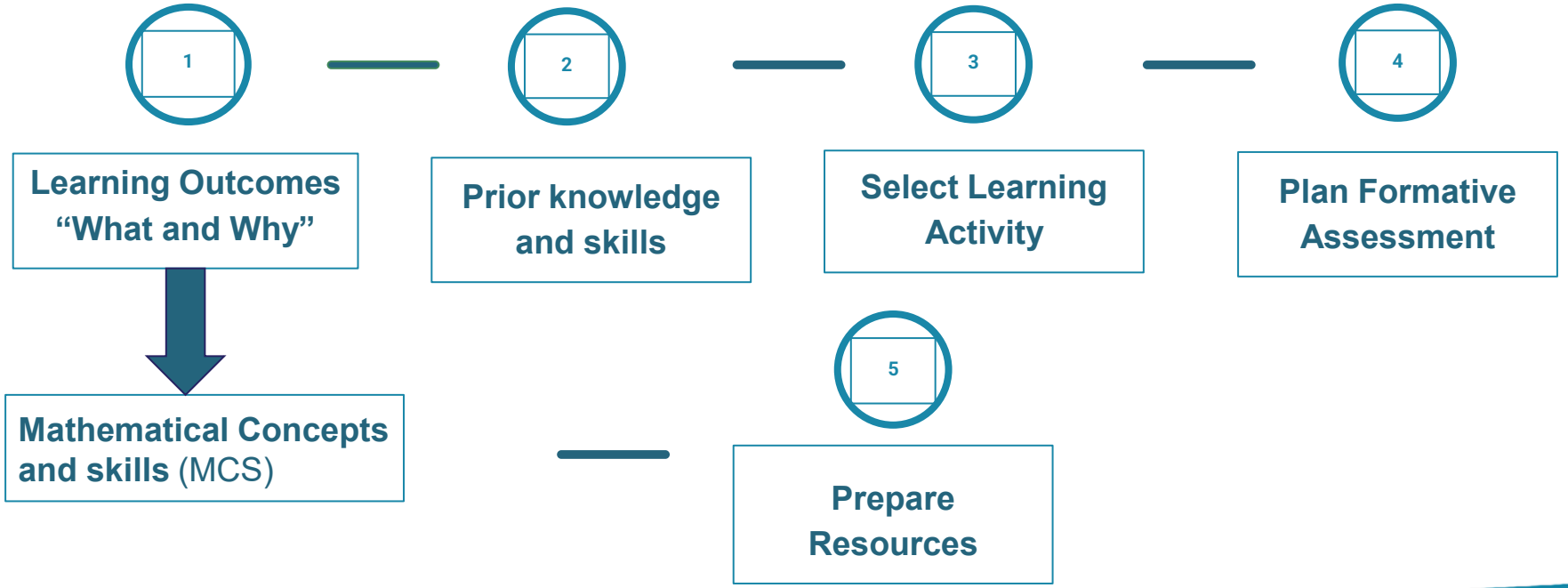
How can you enact your vision for high-quality teaching, learning and assessment in your classroom?



Context: News Headlines

What mathematical ideas are being implied? Implicit? Explicit? What strand of the course does it connect to?

Planning a Unit of Learning



Introducing Mathematical Concepts and Skills

Underpinning Learning Outcomes

These outcomes
"form the basis for all planning of teaching and learning in the LCA mathematical applications classroom"

(LCA: Mathematical Applications Module Descriptor, 2021, p.20)

Planning for teaching and learning

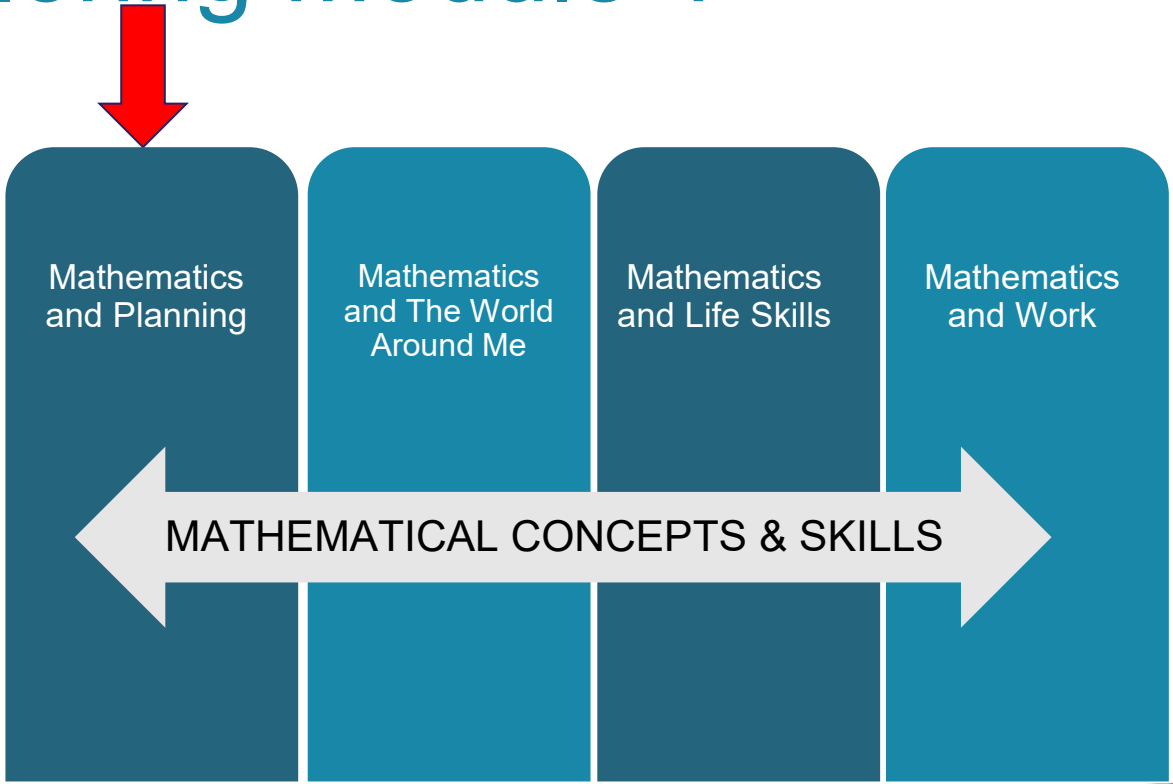
Oide

Module 4:
Mathematics and Work
Unit 1:The student will be able to:

2. Create an estimate for a job, including costings such as materials, labour, taxes and profit margin

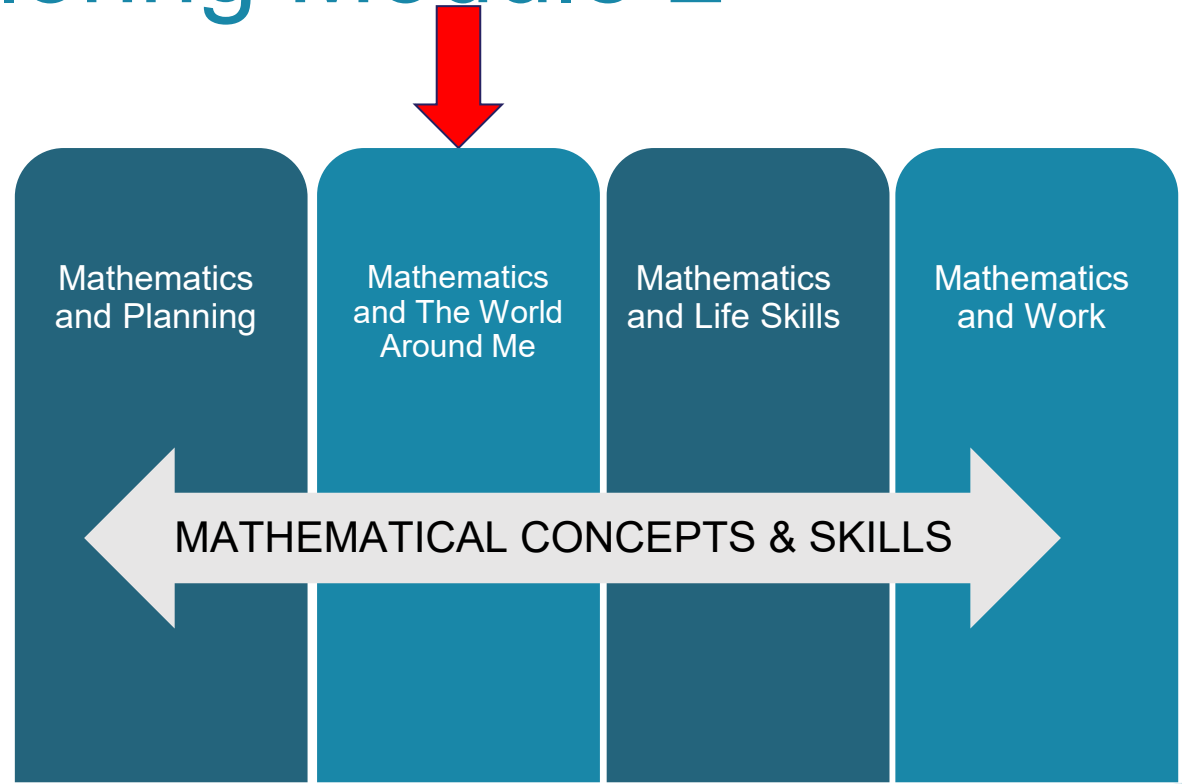
Identify the Underpinning Mathematical Concepts and Skills from the Learning Outcomes

Exploring Module 1



(LCA: Mathematical Applications Module Descriptor, 2021, p.13)

Exploring Module 2



(LCA: Mathematical Applications Module Descriptor, 2021, p.13)

Oide

Module 2:
Mathematics and the World Around Me

AIMS

This module aims to provide students opportunity to:

- see the relevance of mathematics to issues encountered by them in their everyday lives
- consolidate and reinforce students' mathematical knowledge and skills
- make and justify decisions with mathematics
- develop confidence in using mathematics to solve problems.

Mathematics and the World around Me

UNIT 1: CURRENT AFFAIRS

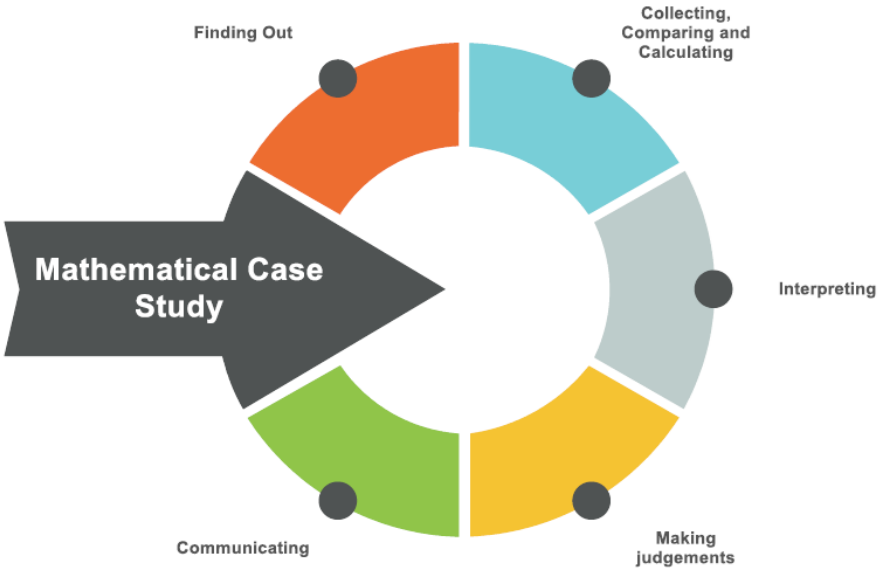
Learning outcomes

The learning in this unit is underpinned by the mathematics specified in MCS1-5
The student will be able to:

1. Create and interpret opinion polls or surveys.
2. Analyse and interpret relevant information including voting data communicated in words/tables/ charts or graphs.
3. Investigate an issue and use mathematics to communicate findings.

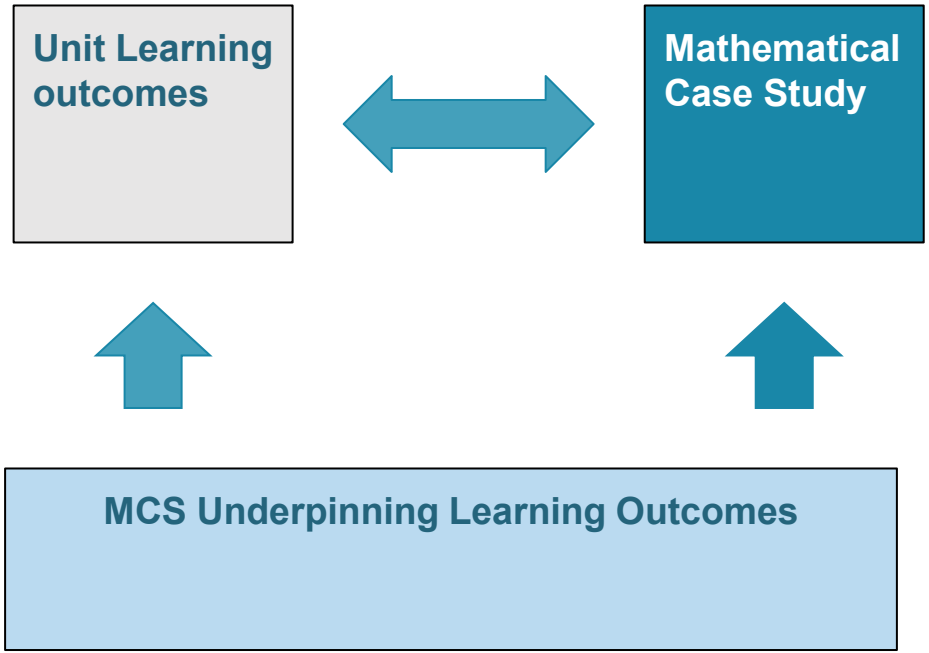
Teacher Guidelines
Page 28

Key Assignment: Mathematical Case Study

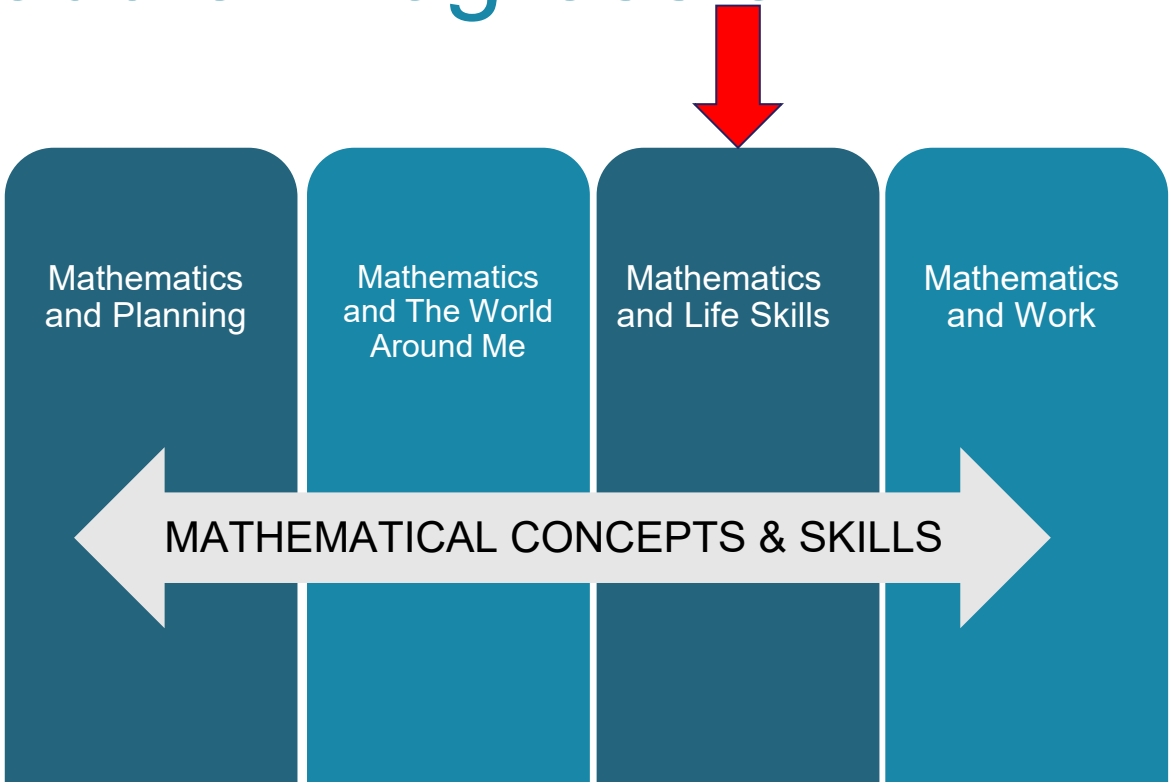


1. Finding out
2. Collecting, comparing and calculating
3. Interpretation
4. Making judgements
5. Communicating

Problem solving in context: Transdisciplinary and Authentic



Module Progression



(LCA: Mathematical Applications Module Descriptor, 2021, p.13)

Authentic Problem: Personal Finance

LO 1. Prepare a personal budget.

Seán's Case Study- Prepare a personal budget

SCAN ME

Authentic Problem: Personal Finance

LO 1. Prepare a personal budget.

Seán's Case Study-

Prepare a personal budget

What Questions will Seán need to consider to identify his goals?
What do your students need to consider ?
What might students find challenging about this activity?

Authentic Problem: Personal Finance

LO 1. Prepare a personal budget.

LO 3. Analyse and interpret data which impacts on personal finance presented in a variety of ways.

- MCS.1. reason mathematically about problems so that they can:

a. make sense of a given problem and represent it using mathematics

b. apply their knowledge and skills to solve a problem, including decomposing it into manageable parts and/or simplifying it using appropriate assumptions

c. interpret and justify their solution in terms of the original problem and communicate their findings mathematically.

- MCS.2. reason mathematically about problems so that they can:

a. perform calculations on positive and negative numbers involving addition, subtraction,multiplication, division, square roots (positive numbers only), and positive whole number

Authentic Problem: Personal Finance

LO 1. Prepare a personal budget.

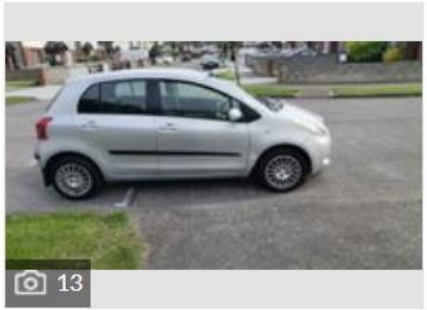
LO 3. Analyse and interpret data which impacts on personal finance presented in a variety of ways.

- What happens if the cost of the debs goes up?
- What will happen if your hours of work change?
- What will happen if you get sick and have to take two weeks off?

Authentic Problem: Personal Finance

Seán has got a job, saved up and would like to buy a car.

What factors will Seán need to consider?



Toyota Yaris 1.0 Terra Hatchback Petrol...

Extremely low mileage, great first car. Kept in good...

2006 • 154,497km / 96,000m • 1.0 Petrol

Private
Dublin

carzone.ie 2022

What will be the impact on the current budget?

What factors will Seán need to consider around the financing of a loan?

Authentic Problem: Personal Finance

Comparing 3 year borrowing opti

What are some of the different borrowing options?

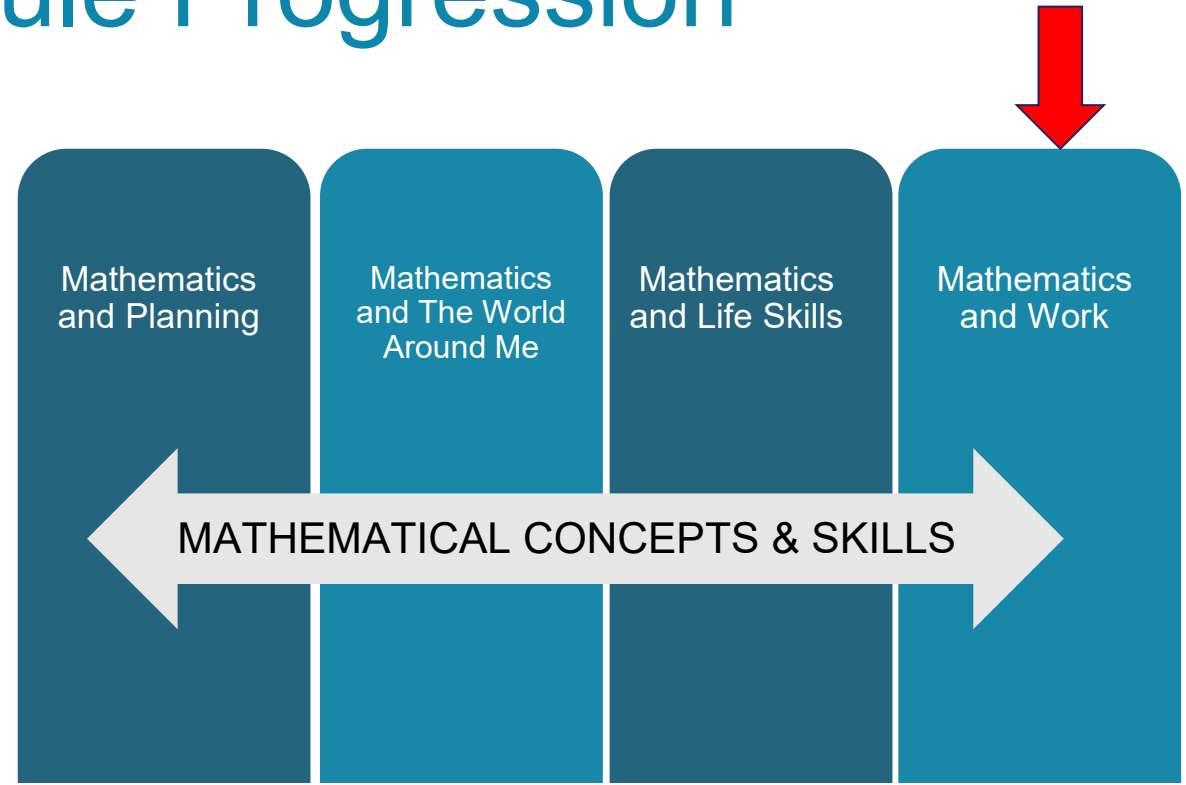
What might students find challenging about this question?

How might you guide them?

How would you bring this learning back to the classroom?

Individual teacher reflection

Module Progression



(LCA: Mathematical Applications Module Descriptor, 2021, p.13)

Mathematics at Work

UNIT 1

Students should engage in the learning outcomes outlined in MCS 1-5 through the contextual experiences offered by Mathematics and Work (p. 20-21).

Learning outcomes

The learning in this unit is underpinned by the mathematics specified in MCS1-5.
The student will be able to:

1. Analyse and interpret information about income and expenditure represented in words/ equations/tables /graphs or charts.
2. Create an estimate for a job, including costings such as materials, labour, taxes and profit margin.
3. Analyse, interpret and communicate relevant information in relation to wages, time worked and holidays communicated in words/tables/charts/ payslips or graphs.
4. Compare and contrast different job contracts and justify decisions made with mathematics.

Mathematics and Work Activity

The aim of this activity is to calculate your monthly take home pay by investigating a chosen job/career and then use this information to inform your choices about lifestyle and complete a budget.

The task is split into three parts:

Part a) Choose a career option and calculate your monthly income.

Part b) Calculate all of your expenditure under the appropriate headings.

Part c) After completing the activity, you will need to complete the monthly budget.

SCAN ME

Mathematics and Work Activity

Learning Outcomes:

LO1 analyse and interpret information about income and expenditure represented in words/equations/tables /graphs or charts.

LO3 Analyse, interpret and communicate relevant information in relation to wages, time worked, and holidays communicated in words/tables/charts/payslips for graphs

MCS:

MCS 1 a, b and c

MCS 2 a

MCS 5 c

Mathematics and Work Activity

What do your students need to consider in identifying career goals ?

What do your students need to consider when completing a payslip?

What support might students need to address this question?

Learning Outcomes:
LO 1
LO 3

MCS:

MCS 1 a, b and c

MCS 2 a

MCS 5 c

Mathematics and Work Activity

Group 1: Accommodation
Group 2: Gas and electricity
Group 3: Television, phone and broadband
Group 4: Transportation
Group 5: Food, clothes, entertainment and holidays

- What do your students need to consider in investigating each area of expenditure?
- How could your students represent this information graphically?
- What support might students need to address this question?

Learning Outcomes:
LO 1
LO 3

MCS:

MCS 1 a, b and c

MCS 2 a

MCS 5 c

Mathematics and Work Activity

What support do your students need to consider when analysing and interpreting the budget?

If you were doing this problem with your students, how might you support them?

How would you bring this learning back to the classroom? What are the next steps?

Learning Outcomes:
LO 1
LO 3

MCS:

MCS 1 a, b and c

MCS 2 a

MCS 5 c

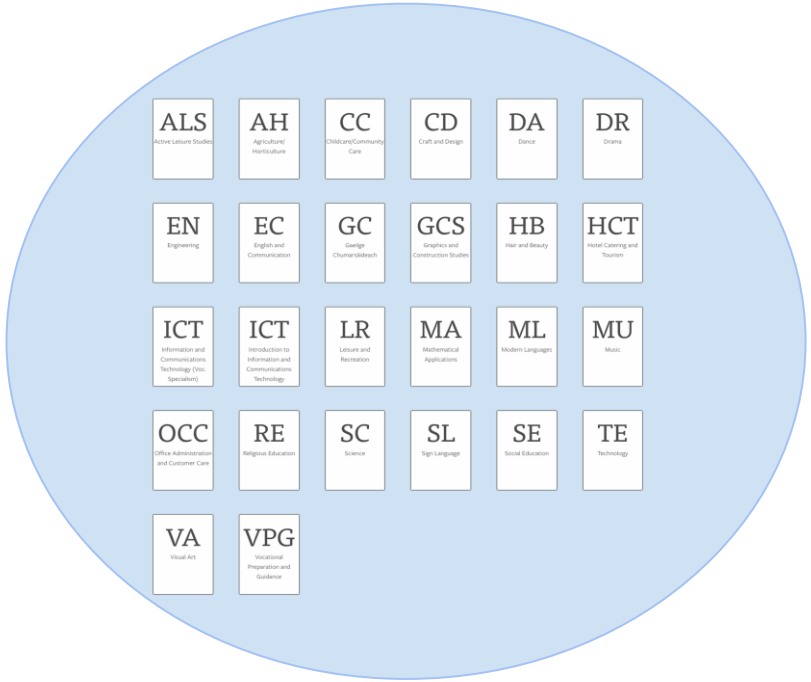
The Transdisciplinary Nature of Mathematical Applications

LCA Mathematical Applications is inherently a transdisciplinary subject, authentic and relevant to the real world.

The knowledge and learning gained in LCA Mathematical Applications can be enhanced and utilised across the LCA programme by enriching the tasks, learning and Key Assignments in other areas.

(LCA: Mathematical Applications Module Descriptor, 2021, p.10)

Maths and the World Around Me: Transdisciplinary Links

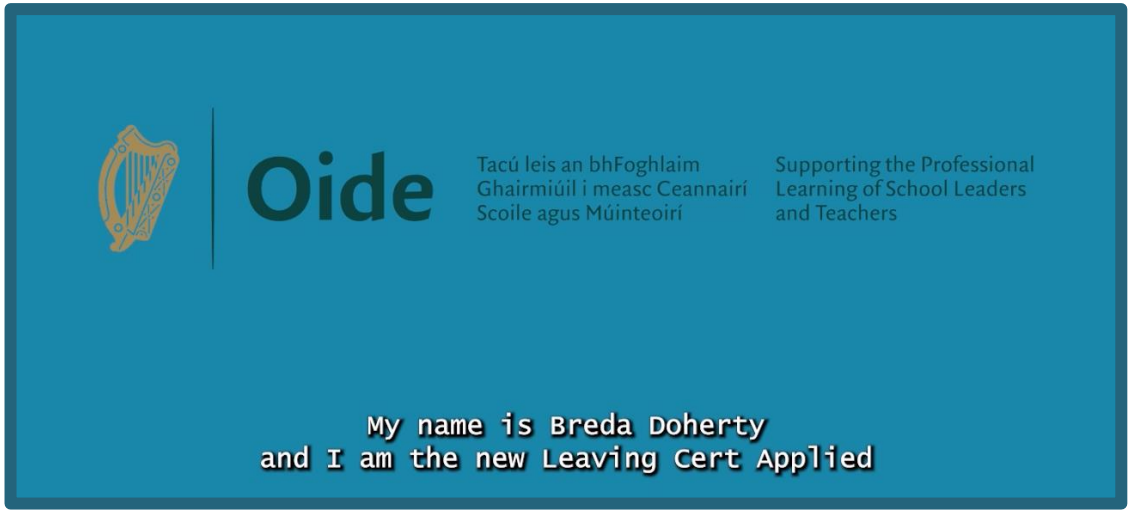


- Which of these subjects are **your** students doing at the moment?
- Which subjects are particularly relevant to maths applications module 2?

Transdisciplinary Approach in Action

Oide

Teacher Voice



Student Voice

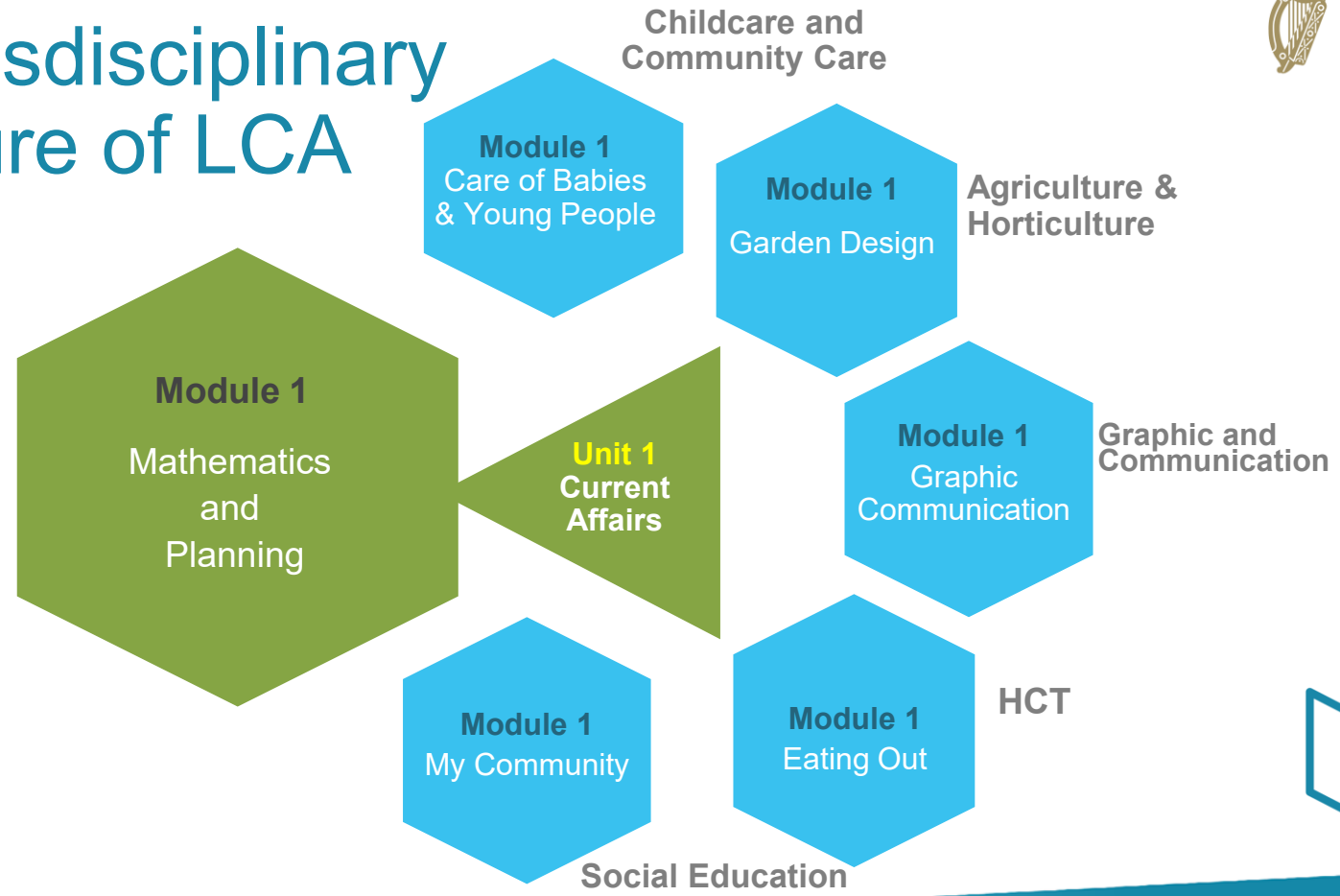
Transdisciplinary Approach in Action

Oide

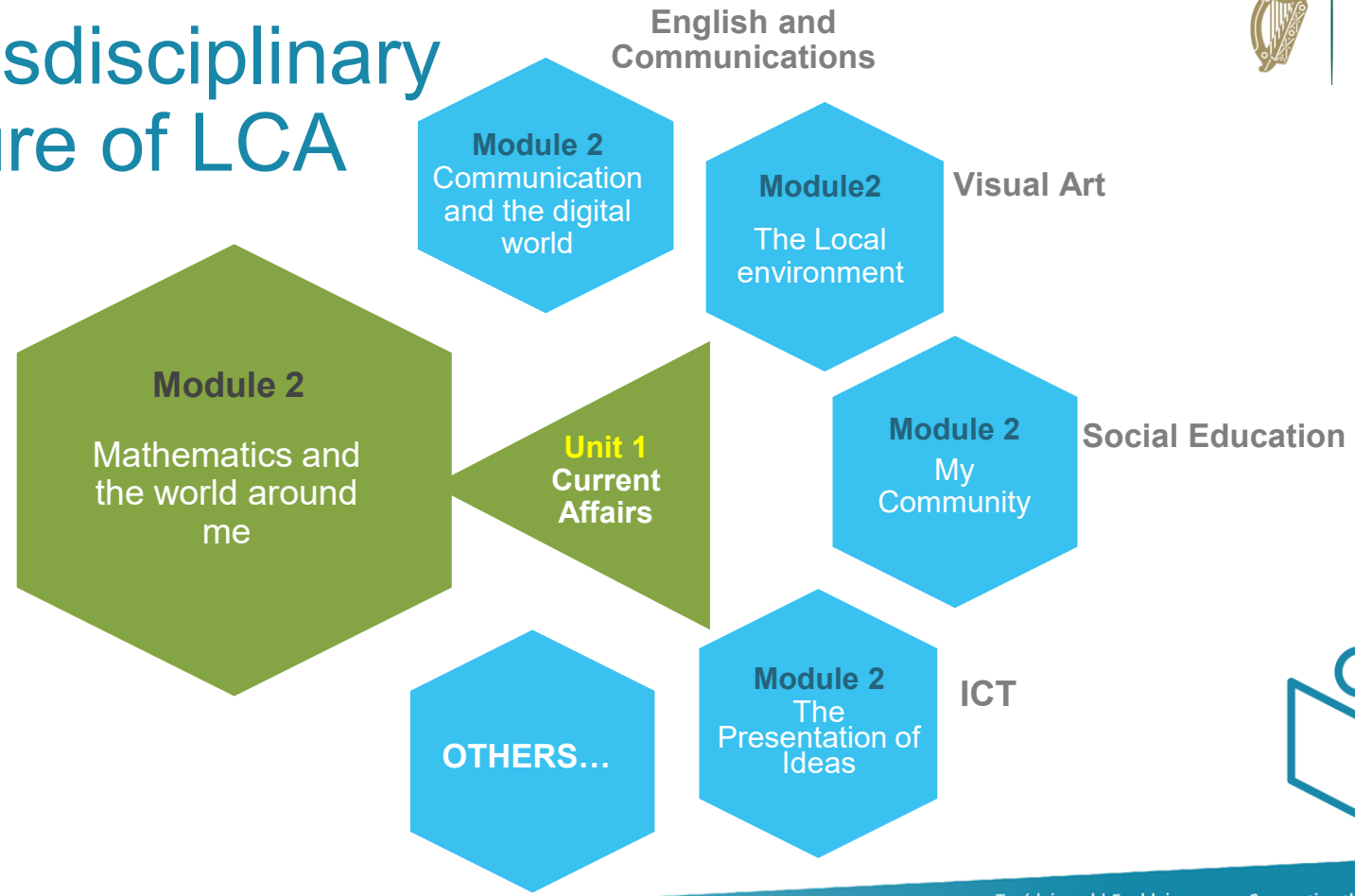
Student Voice

Teacher Voice

Transdisciplinary Nature of LCA



Transdisciplinary Nature of LCA



Reflection on Teaching and Learning: Session 2

Oide

In what ways do the teaching and learning strategies used in this session help students apply mathematical concepts to everyday life situations?

Session Two

By the end of this session participants will have:

- Explored the Mathematical Applications Module Descriptor
- Engaged with rich learning experiences through problem solving
- Investigated transdisciplinary links across LCA

Oide

Tacú leis an bhFoghlaim Ghairmiúil i measc Ceannairí Scoile agus Múinteoirí

Supporting the Professiona Learning of School Leaders and Teachers

Session Three

CC BY NC

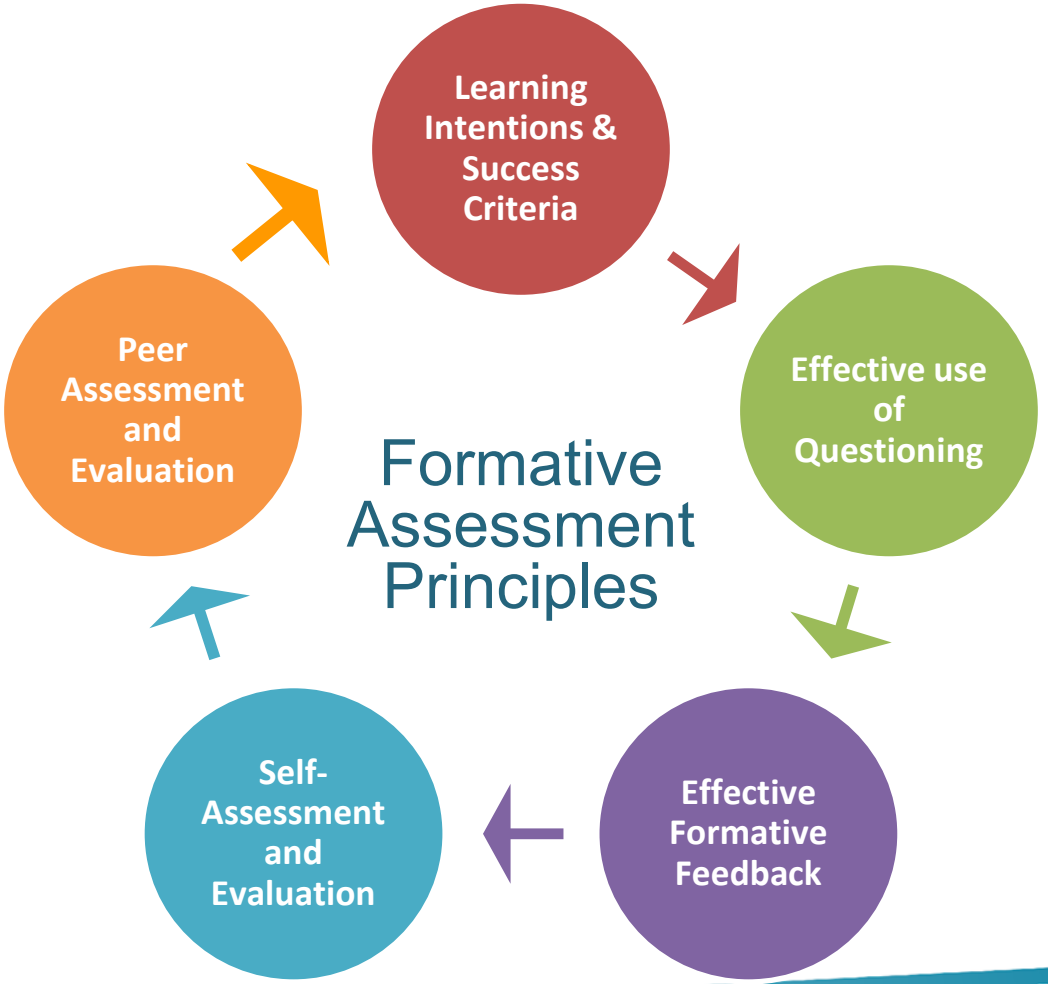
Session Three

By the end of this session participants will have:

Explored Formative Assessment and Mathematical Applications

Planned a student-centred unit of learning for Mathematical Applications

Investigated the next steps in enacting your vision in your LCA Mathematical Applications class.



Adapted from William & Leahy, (2015) and Wylie et al (2008)

Learning Outcomes

(NCCA, 2019)

Formative Assessment and Mathematical Applications

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LO: Research and plan an event to suit a particular budget

LIs:
Read maps & (24hr) timetables
Estimate/Calculate travel times
Choose suitable insurance
Plan & cost food and accommodation for a group

Success criteria:
Fully costed and timed plan with a per-person price.

Prepare a written itinerary for an overnight class trip including costs and timings

Students will be able to:
- Survey
- Research
- Calculate
- Cost

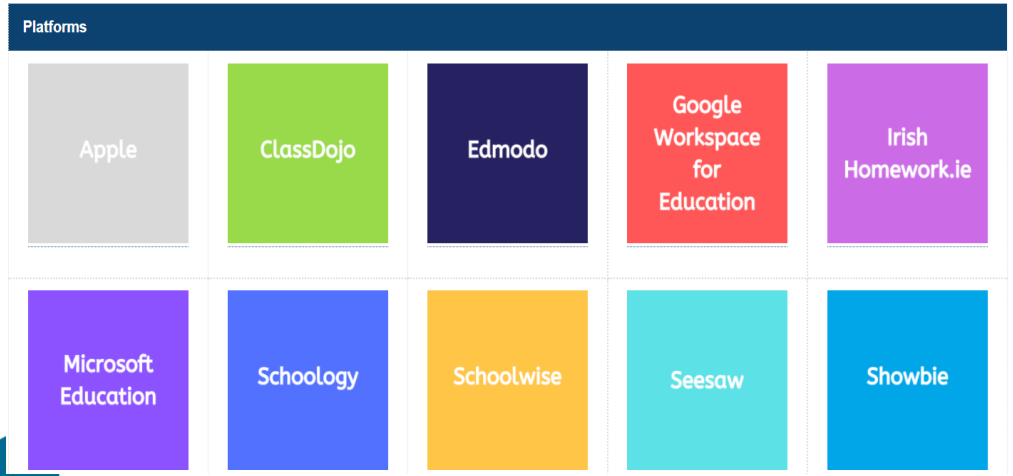
Criteria for itinerary:
- I surveyed the class on options
- I calculated distances/travel times
- I researched accommodation options
- I costed food for the group trip
- I broke down the total cost to a per-person price.

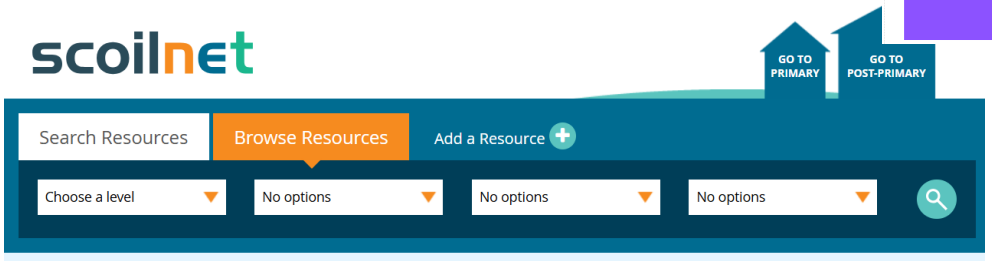
Keeping Track of the MCS

Using ICT to Assess Prior Knowledge

Oide

Google Forms





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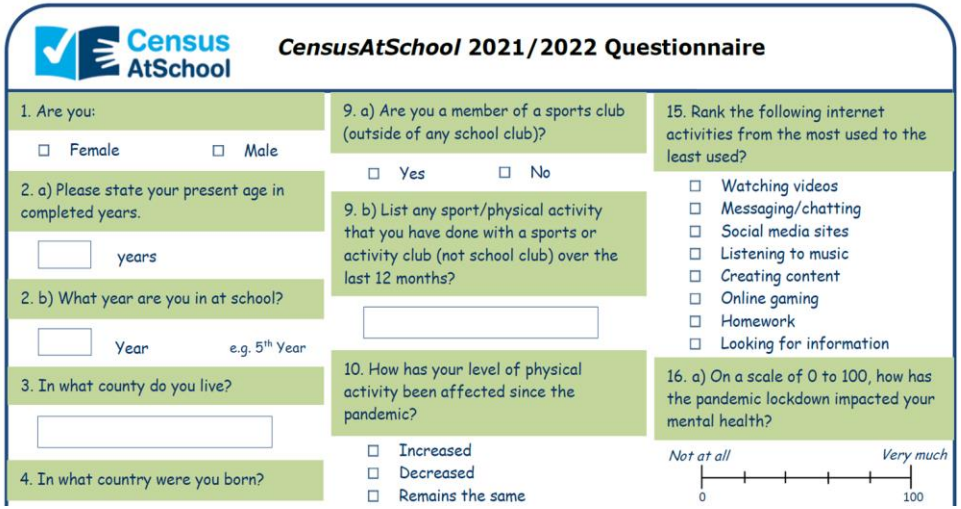
Planning for All: Census at School

"The best way of showing students what success criteria are is to show them what the end product looks like"
John Hattie, 2012


Census AtSchool

CensusAtSchool 2021/2022 Questionnaire

1. Are you:
   ☐ Female ☐ Male
2. a) Please state your present age in completed years.
   ☐ years
2. b) What year are you in at school?
   ☐ Year e.g. 5th Year
3. In what county do you live?
4. In what country were you born?
9. a) Are you a member of a sports club (outside of any school club)?
   ☐ Yes ☐ No
9. b) List any sport/physical activity that you have done with a sports or activity club (not school club) over the last 12 months?
10. How has your level of physical activity been affected since the pandemic?
    ☐ Increased
    ☐ Decreased
    ☐ Remains the same
15. Rank the following internet activities from the most used to the least used?
    ☐ Watching videos
    ☐ Messaging/chatting
    ☐ Social media sites
    ☐ Listening to music
    ☐ Creating content
    ☐ Online gaming
    ☐ Homework
    ☐ Looking for information
16. a) On a scale of 0 to 100, how has the pandemic lockdown impacted your mental health?
    Not at all — *Very much*
    0 — 100

Planning for All: Diagnostic Questions

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- MCS.2. reason mathematically about problems so that they can:

a. perform calculations on positive and negative numbers involving addition, subtraction,multiplication, division, square roots (positive numbers only), and positive whole number

b. use the order of arithmetic operations, including the use of brackets

c. present answers to the degree of accuracy required, for example to the nearest whole number, to the nearest thousand, to two decimal places

d. use appropriate units and convert between them, including, but not exclusively, mm, cm, m, km, seconds, minutes, hours, days, €k (i.e. thousands), €million, degrees, etc.

e. flexibly convert between fractions, decimals, and percentages

f. use and understand ratio and proportion.

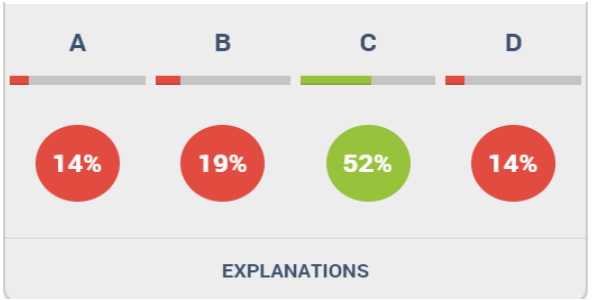
What is 4/5 as a percentage?

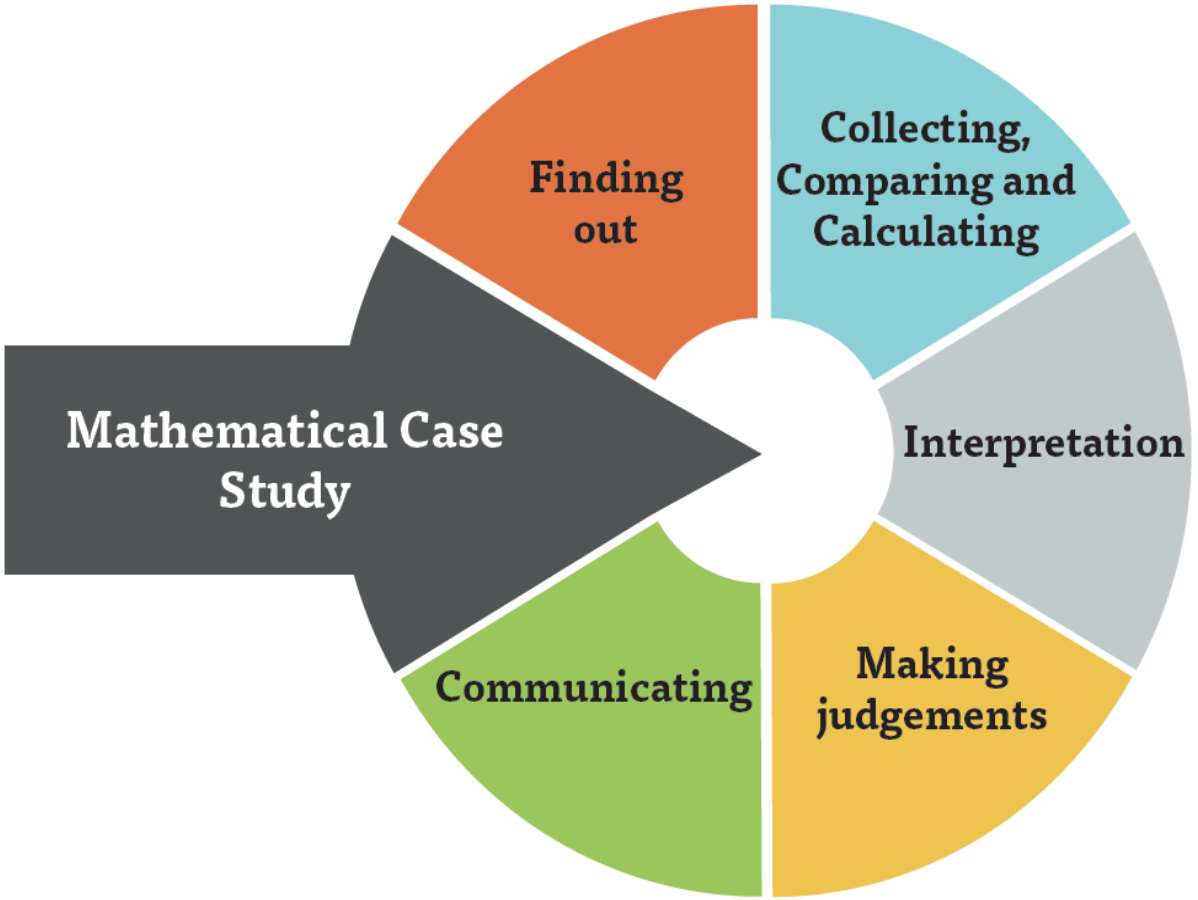
a) 20%

b) 45%

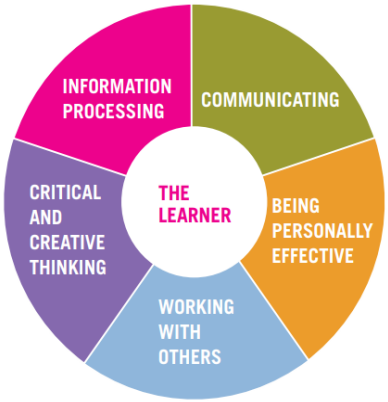
c) 80%

d) 40%





MCS1-5



communicated in words/tables/

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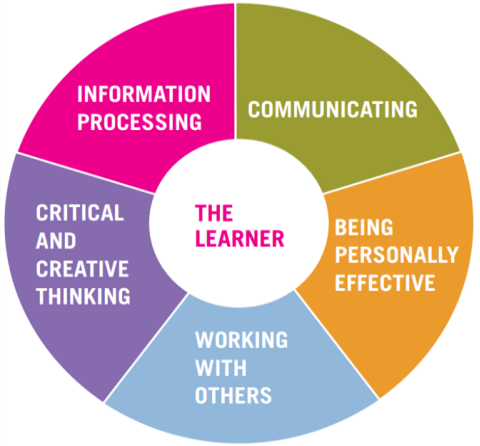
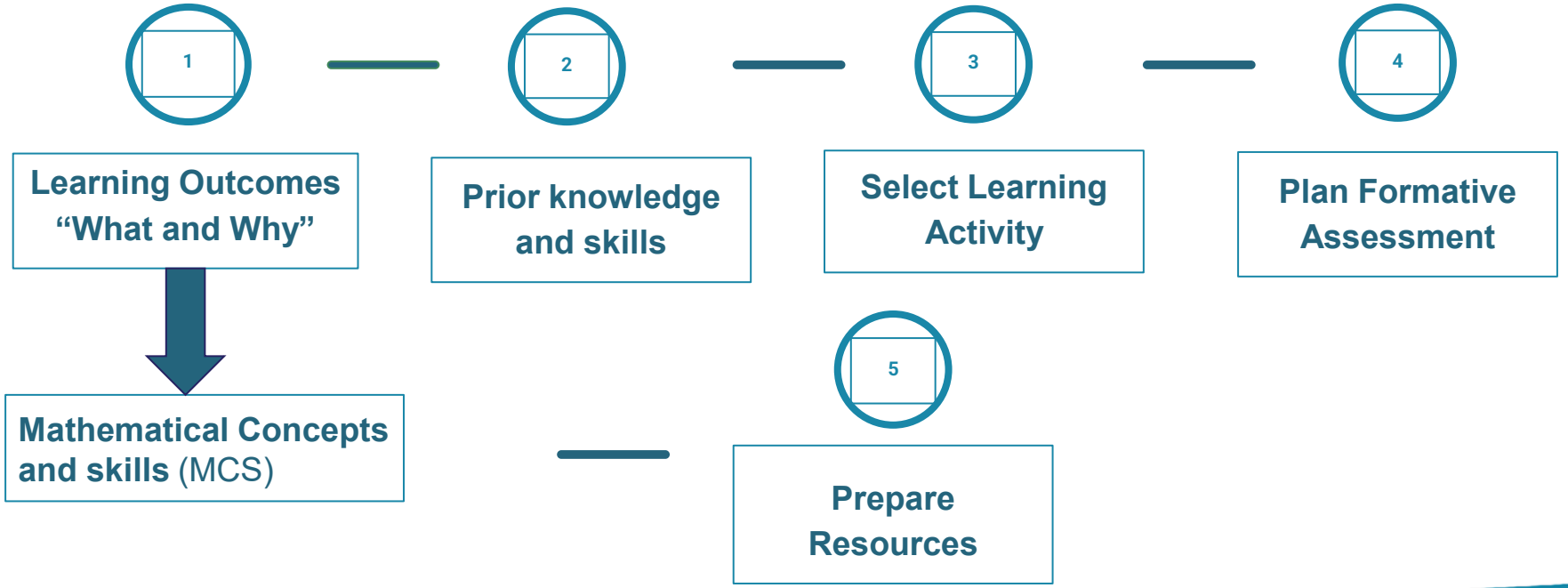
Designing Rich Learning Experiences

Learning activity selection allows us to effectively engage with the specification and identify connections between learning outcomes and MCS's.

Learning activities that make connections with the real world and other modules allows students to gain a deeper understanding of what they are learning

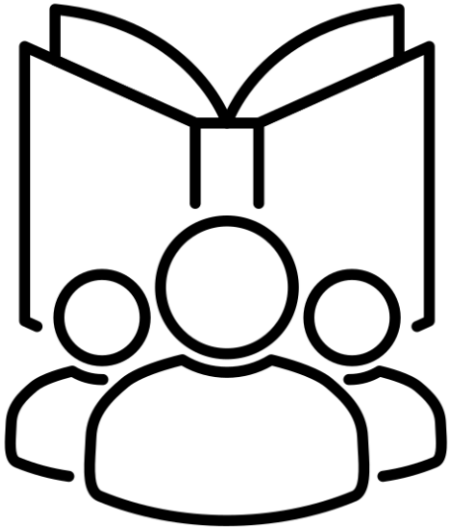


Planning a Unit of Learning



Sharing the Learning

Gallery Walk



Next Steps

Consider the following reflective questions:

- What new learning have I come to?
- What are the implications for my teaching?
- What will you do differently to maximise learning for ALL learners in your class?

Session Three

By the end of this session participants will have:

Explored Formative Assessment and Mathematical Applications

Planned a student-centred unit of learning for Mathematical Applications

Investigated the next steps in enacting your vision in your LCA Mathematical Applications class.

LCA Evaluation 2025/26

Oide

Tacú leis an bhFoghlaim Ghairmiúil i measc Ceannairí Scoile agus Múinteoirí

Supporting the Professiona Learning of School Leaders and Teachers

Míle Buíochas

CC BY NC