Acmhainní

- www.projectmaths.ie
- Pleananna T&F
- CD na nDaltaí
- Leabhráin

(chun dul leis an CD)

Siollabas & Acmhainní

- www.ncca.ie/projectmaths
- www.censusatschool.ie

Ceistneoir Céim 11 CensusAtSchool

Fút Féin

1) Scríobh síos comhordanáidí XY do do scoil, le do thoil mar shampla 716020, 734837

2) An bhfuil tú:

☐ Baineann ☐ Fireann

3) Luaigh d'aois i mblianta iomlána agus an mhí inar rugadh tú.

Aois ☐ Mí ☐

4 a) Cén lámh lena scríobhann tú?

☐ Lámh dheas ☐ Lámh Chlé
☐ Ceachtar

b) Agus tú ag dul suas céimeanna, cén cos a chuirfeá ar an gcéad chéim?

☐ Cos dheas ☐ Cos Chlé
☐ Ceachtar

9) Cén t-am a d'éirigh tú ar maidin?

☐ :

10 a) An itheann tú bricfeasta ar lá scoile?

☐ Sula dtéim ar scoil
☐ Ar an tslí go dtí an scoil
☐ Ar scoil
☐ Ní bhíonn bricfeasta agam

b) Luaigh le do thoil cad a bhí agat don bhricfeasta ar maidin.

	Bhí	Ní Raibh
Torthaí	☐	☐
Gránach bricfeasta	☐	☐
Bricfeasta cócaráilte	☐	☐
Tósta	☐	☐
Milseáin/Seacláid	☐	☐
Cáca	☐	☐

Eile (luaigh le do thoil) .....

14) Céard iad na gníomhaíochtaí spóirt ar ghlac tú páirt iontu le bliain anuas? Gníomhaíocht Club san áireamh.

.....

15) Ar Ghlac tú páirt i spórt iomaíoch le bliain anuas?

a)Ar Scoil ☐ Ghlac ☐ Níor Ghlac
b)Lasmuigh den Scoil ☐ Ghlac ☐ Níor Ghlac

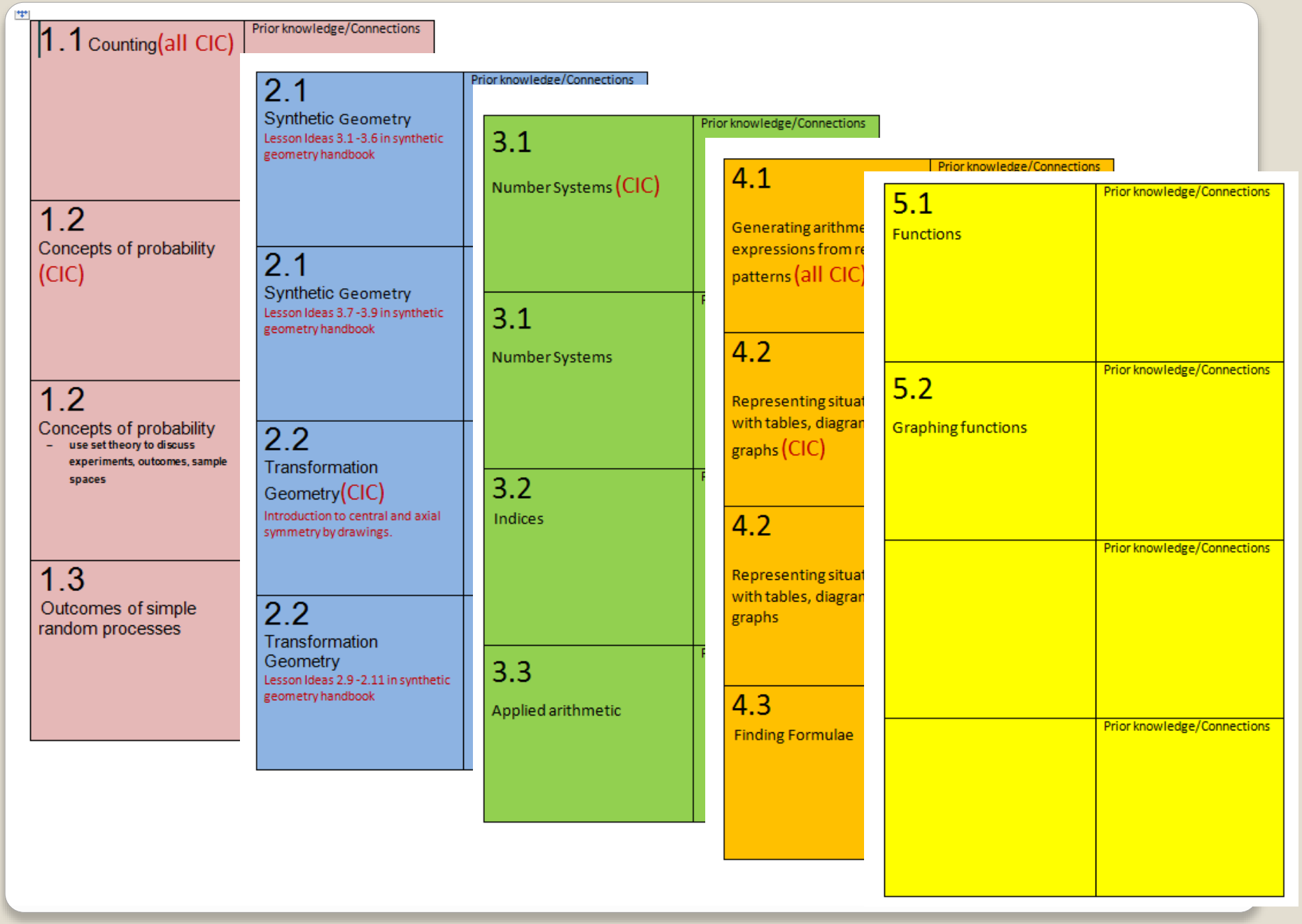
16) An bhfuil tú in ann:

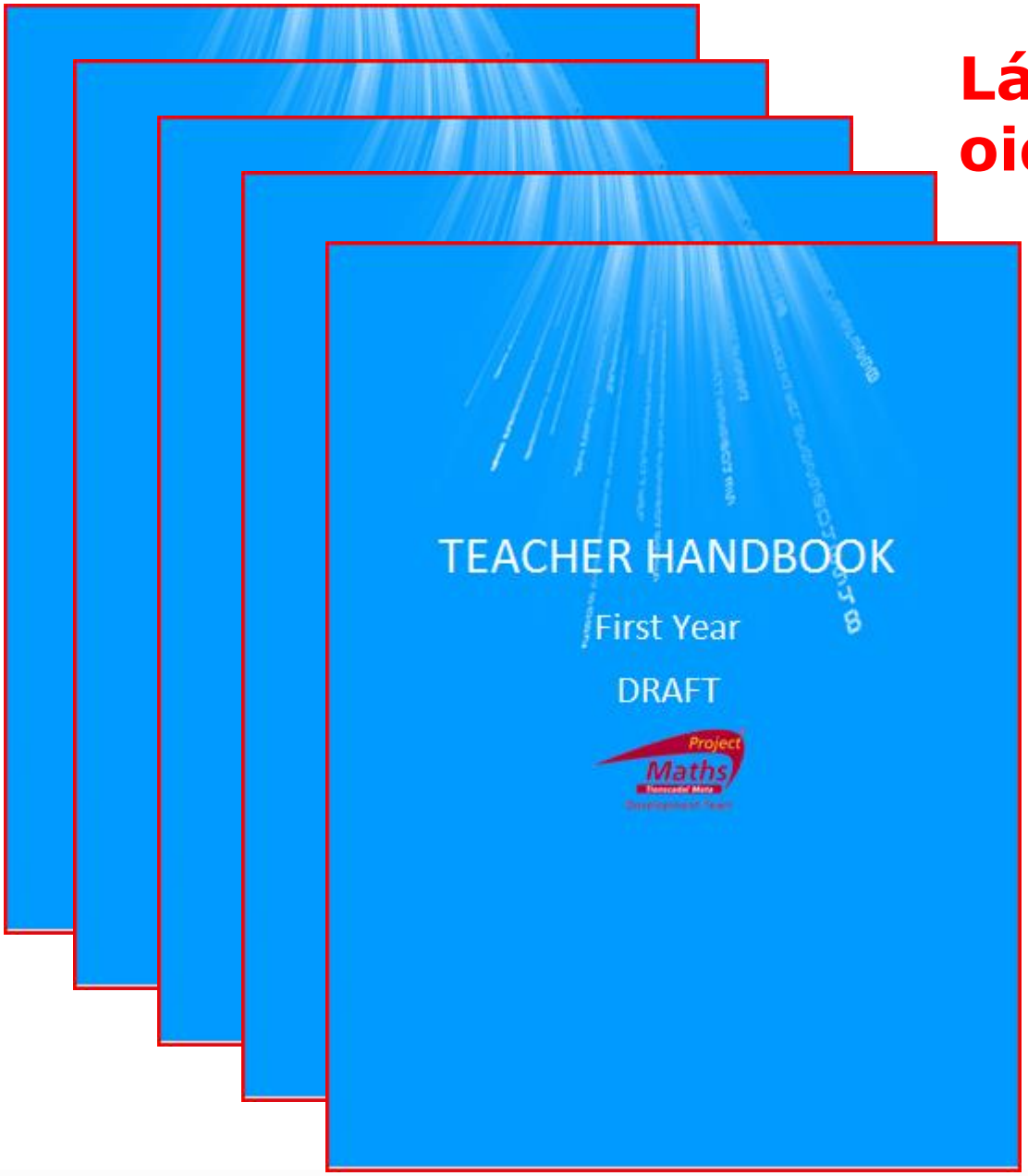
a)Snámh 25m? ☐ Tá ☐ Níl ☐ Ní dhearna mé iarracht riamh
b) Rothaíocht ☐ Tá ☐ Níl ☐ Ní dhearna mé iarracht riamh

17) Ainmnigh Oilimpeach cailiúil agus luaigh an comórtas inar ghlac sé/sí páirt ann.

....

Seicheamhú


1.1 Counting(all CIC)
Prior knowledge/Connections
1.2
Concepts of probability
(CIC)
1.2
Concepts of probability
– use set theory to discuss experiments, outcomes, sample spaces
1.3
Outcomes of simple random processes
2.1
Synthetic Geometry
Lesson Ideas 3.1 -3.6 in synthetic geometry handbook
Prior knowledge/Connections
2.1
Synthetic Geometry
Lesson Ideas 3.7 -3.9 in synthetic geometry handbook
2.2
Transformation Geometry(CIC)
Introduction to central and axial symmetry by drawings.
2.2
Transformation Geometry
Lesson Ideas 2.9 -2.11 in synthetic geometry handbook
3.1
Number Systems (CIC)
Prior knowledge/Connections
3.1
Number Systems
3.2
Indices
3.3
Applied arithmetic
4.1
Generating arithme
expressions from re
patterns (all CIC)
Prior knowledge/Connections
4.2
Representing situat
with tables, diagran
graphs (CIC)
4.2
Representing situat
with tables, diagran
graphs
4.3
Finding Formulae
5.1
Functions
Prior knowledge/Connections
5.2
Graphing functions
Prior knowledge/Connections
Prior knowledge/Connections
Prior knowledge/Connections



Lámhleabhair an oide

Timthriall Sinsearach AL

Timthriall Sinsearach GL

3ú Bliain

2ú Bliain

1ú Bliain

An Seicheamh Toipicí a Mholtar – Bliain 1

Roinn	Snáithe	Bunsmaoineamh an cheachta	Teideal	Líon Rangthréimhsí	Iomlán carnach
Roinn1			Réamhrá		
Roinn 2	3.5	1.1	Tacair	6	6
	3.1	1.2	Uimhirchóras	6	12
	3.1	1.3	Uimhirchóras +	10	22
	3.1	1.4	Cóimheas & Comhréir	4	26
	3.1	1.5	Uimhirchóras	7	33
Roinn 3	1.4	1.6	Réamhléiriú ar Staitistic	2	35
	1.5	1.7	Foirmiú ceiste, bailiú agus eagrú eolais	4	39
	1.6	1.8	Léiriú fíricí i bhfoirm graf agus uimhreacha	8	47
	1.1	1.9	Bunphrionsabal an chomhairimh	2	49

An Seicheamh Toipicí a Mholtar – ATAL

Section number	Strand	Lesson Idea	Title of lesson idea	Suggested number of class periods	Cumulative totals
Section 1	3.1	LCHL.1	Number systems	4	4
	3.2	LCHL.2	Rules for indices and scientific notation	3	7
	3.2	LCHL.3	Logarithms	4	11
	3,4&5	LCHL.4	Relations approach to algebra - revision and extension of JC material	5	16
	3.1	LCHL.5	Arithmetic and geometric sequences and series	6	22

Section number	Strand	Lesson Idea	Title of lesson idea	Suggested number of class periods	Cumulative totals
	4.2	LCHL.10	Solving equations and the *Factor Theorem*	10	49
	4.3	LCHL.11	Inequalities - linear, quadratic, rational	5	54
	4.3	LCHL.12	Modulus inequalities	3	57
Section 4	3.4	LCHL.13	Nets, length, area and volume	5	62
Section 5	2.3	LCHL.14	Revision of JC trigonometry and radian measure	4	66
	2.3	LCHL.15	The unit circle and graphs of trigonometric functions	10	76
	2.3	LCHL.16	Area of a triangle, sine rule and cosine rule	6	82

Bliain amháin ar aghaidh

Bliainghrúpa	Snáithí	Dáta an Scrúdaithe	Páipéir athraithe
6ú Bliain	1 & 2	2012	Páipéar 2*
5ú Bliain	1, 2, 3 & 4	2013	Páipéar 1* Páipéar 2
2ú Bliain	1 & 2	2013	Páipéar 2*
1ú Bliain	1, 2, 3 & 4	2014	Páipéar 1* Páipéar 2

* Níl athraithe go hiomlán ach amháin ATAL Páipéar 2 2012

Syllabus and Resources DRAFT

Leaving Certificate Strands 1 - 4

The learning outcomes in the syllabus have been matched to resources which are all available on the Project Maths web site www.projectmaths.ie .

Most Teaching & Learning Plans are available by clicking on this icon on the home page.

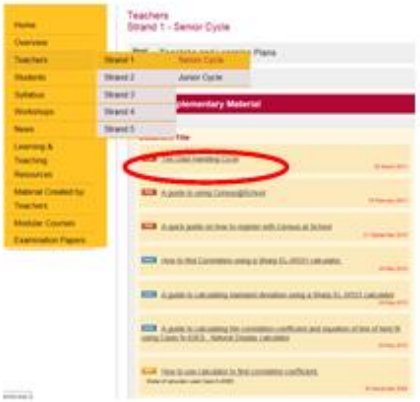
The Teaching & Learning Plans denoted by * are available under "Material Created by Teachers".

All Teaching & Learning Plans are also available under Teachers, Strand X, Senior Cycle

Patterns: A Relations Approach to Algebra is available by clicking on this icon on the home page.

Teacher Handbooks are available by clicking on this icon on the home page.

The Data Handling Cycle and other documents referred to in Strand 1 are available under Teachers, Strand 1, Senior Cycle, Supplementary Material.



There are activities on the Student's CD referring to the learning outcomes underlined or circled in blue. Some of these are in the Junior Certificate section.

There are hyperlinks to most of the resources referred to in the body of this document.

Strand 1: Statistics and Probability

Handbook

Students learn about	Students working at FL should be able to	In addition, students working at OL should be able to	In addition, students working at HL should be able to
1.1 Counting	– list outcomes of an experiment – apply the fundamental principle of counting	– count the arrangements of n distinct objects ($n!$) – count the number of ways of arranging r objects from n distinct objects	– count the number of ways of selecting r objects from n distinct objects
1.2 Concepts of probability	– decide whether an everyday event is likely or unlikely to occur – recognise that probability is a measure on a scale of 0-1 of how likely an event is to occur – use set theory, discuss experiments, outcomes, sample spaces – use the language of probability to discuss events, including those with equally likely outcomes – estimate probabilities from experimental data – recognise that, if an experiment is repeated, there will be different outcomes and that increasing the number of times an experiment is repeated generally leads to better estimates of probability – associate the probability of an event with its long run relative frequency	– discuss basic rules of probability (AND/OR, mutually exclusive) through the use of Venn diagrams – calculate expected value and understand that this does not need to be one of the outcomes – recognise the role of expected value in decision making and explore the issue of fair games	– extend their understanding of the basic rules of probability (AND/OR, mutually exclusive) through the use of formulae • Addition Rule: $P(A \cup B) = P(A) + P(B) - P(A \cap B)$ • Multiplication Rule (Independent Events): $P(A \cap B) = P(A) \times P(B)$ • Multiplication Rule (General Case): $P(A \cap B) = P(A) \times P(B \mid A)$ – solve problems involving conditional probability in a systematic way – appreciate that in general $P(A \mid B) \neq P(B \mid A)$ – examine the implications of $P(A \mid B) \neq P(B \mid A)$ in context
1.3 Outcomes of random processes	– construct sample spaces for two independent events – apply the principle that in the case of equally likely outcomes the probability is given by the number of outcomes of interest divided by the total number of outcomes (examples using coins, dice, spinners, urns with coloured objects, playing cards, etc.)	– find the probability that two independent events both occur – apply an understanding of Bernoulli trials* – solve problems involving up to 3 Bernoulli trials – calculate the probability that the 1st success occurs on the n^{th} Bernoulli trial where n is specified	– solve problems involving calculating the probability of k successes in n repeated Bernoulli trials (normal approximation not required) – calculate the probability that the k^{th} success occurs on the n^{th} Bernoulli trial – use simulations to explore the variability of sample statistics from a known population and to construct sampling distributions – solve problems involving reading probabilities from the normal distribution tables

*A Bernoulli trial is an experiment whose outcome is random and can be either of two possibilities: "success" or "failure".

T & L
Intro to Fundamental Principals of Counting *

2 T & Ls
Permutations, Combinations and Probability & Permutations leading to Combinations *

T & L
1, 2, 3, 4 & 5

Student's CD

T & L
Binomial Distribution *

2 T & Ls
Probability using Playing (Deck of) Cards *

Syllabus and Resources

Draft

Junior Certificate Strands 1 - 4

The learning outcomes in the syllabus have been matched to resources which are all available on the Project Maths web site www.projectmaths.ie .

Most Teaching & Learning Plans are available by clicking on this icon on the home page.

The Teaching & Learning Plans denoted by * are available under "Material Created by Teachers".

All Teaching & Learning Plans are also available under Teachers, Strand ?, Junior Cycle

Patterns: A Relations Approach to Algebra is available by clicking on this icon on the home page.

Teacher Handbooks are available by clicking on this icon on the home page.

The Data Handling Cycle is available under Teachers, Strand 1, Junior Cycle, Supplementary Material.

There are activities on the Student's CD referring to the learning outcomes underlined or circled in blue.

There are hyperlinks to most of the resources referred to in the body of this document.

Appendix: Common Introductory Course for Junior Cycle Mathematics

Handbook

The Common Introductory Course is the minimum course to be covered by all learners at the start of junior cycle. It is intended that the experience of this course will lay the foundation for conceptual understanding which learners can build on subsequently. The order in which topics are introduced is left to the discretion of the teacher. The topics and strands should not be treated in isolation; where appropriate, connections should be made between them. Classroom strategies should be adopted which will encourage students to develop their synthesis and problem-solving skills.

Once the introductory course has been completed, teachers can decide which topics to extend or explore to a greater depth, depending on the progress being made by the class group.

The following table, when read in conjunction with the section on the Bridging Framework for Mathematics (see page 8), may help teachers to prepare teaching and learning plans for the Common Introductory Course in order to facilitate a smooth transition for learners from their mathematics education in the primary school.

Strand /Topic Title	Learning outcomes Students should be able to
Strand 1: 1.1 Counting	– list all possible outcomes of an experiment – apply the fundamental principle of counting
Strand 1: 1.2 Concepts of probability It is expected that the conduct of experiments (including simulations), both individually and in groups, will form the primary vehicle through which the knowledge, understanding and skills in probability are developed.	– decide whether an everyday event is likely or unlikely to occur – recognise that probability is a measure on a scale of 0 - 1 of how likely an event is to occur
Strand 1: 1.5 Finding, collecting and organising data	explore different ways of collecting data – plan an investigation involving statistics and conduct the investigation – summarise data in diagrammatic form – reflect on the question(s) posed in light of data collected
Strand 1: 1.6 Representing data graphically and numerically	– select appropriate graphical or numerical methods to describe the sample (univariate data only) use stem and leaf plots, line plots and bar charts to display data
Strand 2: 2.1 Synthetic geometry *(see Geometry for Post-primary School Mathematics)* The geometrical results should be first encountered through discovery and investigation.	convince themselves through investigation that theorems 1-6 are true construct 1. the bisector of a given angle, using only compass and straight edge 2. the perpendicular bisector of a segment, using only compass and straight edge 4. a line perpendicular to a given line l, passing through a given point on l 5. a line parallel to a given line l, through a given point 6. divide a line segment into 2, 3 equal segments, without measuring it 8. a line segment of given length on a given ray
Strand 2: 2.2 Transformation geometry	use drawings to show central symmetry and axial symmetry
Strand 2: 2.3 Co-ordinate geometry	– coordinate the plane – locate points on the plane using coordinates

T & L
Intro to Fundamental Principals of Counting *

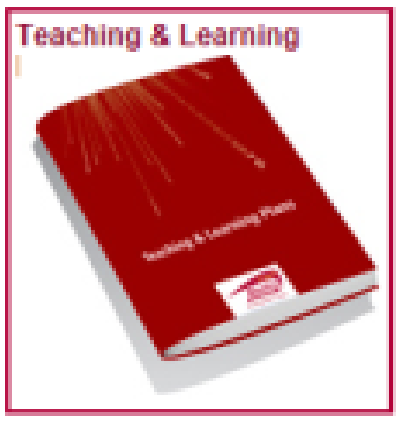
T & L s
1, 2, 3, 4 & 5

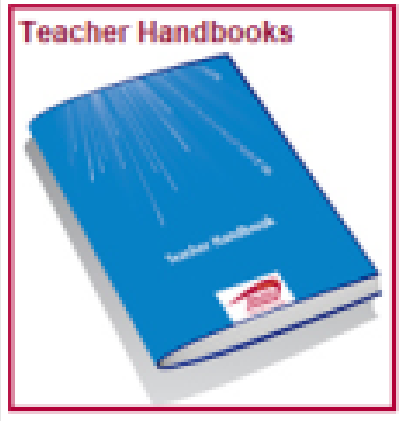
Data Handling Cycle

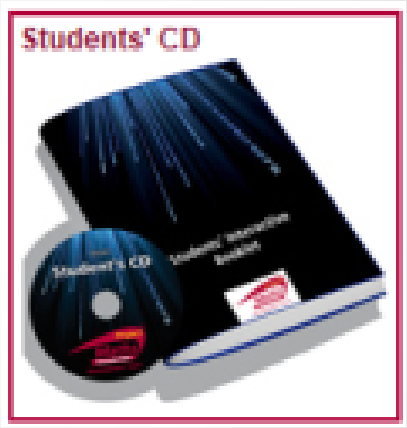
Student's CD

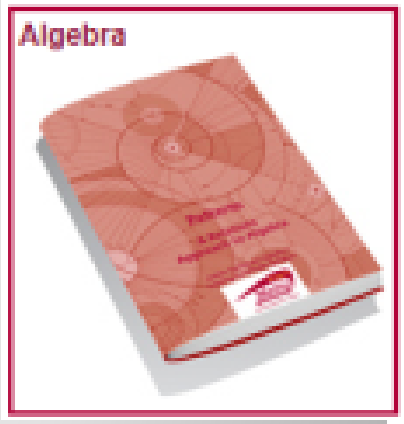
T & L
Co-ordinate Plane *

Acmhainní









Supplementary Material

Modular Courses

www.projectmaths.ie

Achoimre

- Snáithe 1 (Staitistic & Dóchúlacht)
- Snáithí 3 & 4 (Teoiric Uimhreach go hAilgéabar)
- Seicheamhú
- Siollabas & Acmhainní