

NATIONAL 5 LIFESKILLS MATHS

Numeracy

PERCENTAGES NUMERACY	
<p>LI To select and carry out relevant calculations</p> <p>SC Learners should be able to:</p> <ul style="list-style-type: none"> • Round up to 3 decimal places • Round to 1 and 2 significant figures • Convert equivalences between common fractions, decimal fractions and percentages. • Use percentages including reverse percentages • Calculate percentage increase and decrease • Calculate VAT, Hire Purchase cost • Calculate compound percentage increase and decrease 	<p>Resources TJ Credit/Int 2 Book 1 Ch 1 Worksheets on: Percentages, VAT, Inflation, Compound Interest, Appreciation & Depreciation, Hire Purchase</p> <p>Throughout this unit, the equivalence of percentages and decimals should be stressed and pupils aim to use the quick method for compound percentages e.g. 420×1.03^5</p> <p>Practical Activities</p>
RATIO & PROPORTION NUMERACY	
<p>LI To select appropriate calculations and use appropriate numerical notation and units.</p> <p>SC Learners should be able to:</p> <ul style="list-style-type: none"> • Use appropriate units for time, length, weight, volume and temperature • Calculate speed, distance and time, including time differences and changing units (m/s to km/hr) • Calculate and use ratio including 3 parts • Calculate direct and indirect proportion/. Foreign exchange 	<p>Resources Worksheets on: Units, SDT & Travel, DT graphs, Time Intervals, Foreign Exchange, Proportion, Ratio</p> <p>Practical Activities</p> <p>GAIM - Design a better timetable</p> <ul style="list-style-type: none"> - Every Second Counts - Fashion Workshop - Beach Guesthouse <p>Cre8te Maths - The Cre8te Salon</p>

<ul style="list-style-type: none"> Record measurements using a scale or instrument to the nearest marked, minor unnumbered division on an instrument for length, weight, volume and temperature 	
TABLES, GRAPHS and CHARTS NUMERACY	
<p>LI Using a combination of statistical information presented in different diagrams</p> <p>SC Learners should be able to interpret and construct</p> <ul style="list-style-type: none"> Stem and leaf diagrams (back to back) Bar charts and histograms Line graphs Pie charts 	<p>Resources MiA Nat 5 Lifeskills ch 6 TJ</p> <p>Practical Activities Choose a topic of interest to the pupil. Carry out an investigation and write a statistical report with conclusions on their chosen topic</p>
PROBABILITY NUMERACY	
<p>LI Develop and understanding of real life risk</p> <p>SC Learners should be able to</p> <ul style="list-style-type: none"> Understand and calculate simple probability Understand and calculate expected frequency Calculate probability for multiple events (tree diagram/table) 	<p>Resources</p> <p>Practical Activities</p>
FRACTIONS NUMERACY	
<p>LI Select and carry out calculations involving fractions</p> <p>SC Learners should be able to</p> <ul style="list-style-type: none"> Find fractions of shapes and quantities Recognise and use mixed fractions eg $3\frac{1}{2}$, $\frac{1}{3}$, $4\frac{1}{4}$ Add and subtract simple fractions eg $\frac{1}{2} + \frac{1}{4}$ 	<p>Resources</p> <p>Activities</p>

- Find the number of fractional parts in a mixed number eg $2\frac{1}{2}$ = 5 halves
- Convert between fractions, decimals and percentages

Managing Finance and Statistics

EARNINGS FINANCE

LI To investigate income and deductions for different circumstances and career choices.

SC Learners should be able to:

- Understand the terms basic pay, gross pay and net pay.
- Calculate overtime using a fraction of hourly rate e.g. time and a half.
- Understand incentive pay e.g bonuses, commission
- Understand deductions e.g. NI, tax, superannuation, pensions
- Calculate commission as a percentage of sales.
- Calculate NI contributions
- Calculate income tax given information about allowances and bands.

Resources

TJ Nat 5 Lifeskills ch 20 pages 191 - 200

MiA Nat 5 Lifeskills ch 1

MinA S4 -3 P 24 – 49

Nationwide worksheets

Skills Workshop: Jobs and Salaries

(<http://www.skillsworkshop.org/resources/jobs-and-salaries>)

Practical Activities

Investigate pay offered by various jobs and careers using job adverts and published pay scales. For chosen job work out monthly/ weekly take home pay.
Complete a simplified payslip.

SPENDING and SAVING FINANCE

LI To investigate the impact of interest rates on savings and loans.

SC Learners should be able to:

- Convert between several currencies in either direction (at least 3 in a multi task stage)

Resources

TJ nat 5 LS ch 21-22pages 202-222

MiA Nat 5 Lifeskills ch 4

TJ Cred/Int 2 Ch 2, 17

Nationwide worksheets

<ul style="list-style-type: none"> • Use repayment tables to find the cost of a loan. • Calculate simple interest for a year or part year. • Calculate compound interest for several years • Know that APR stands for Annual Percentage Rate and use a quoted rate to calculate annual interest. • Investigate the effect of compounding using repeated calculations • Determine the best deal, given 3 pieces of information 	<p>Practical Activities Imagine trying to obtain a loan for a specific purpose e.g. buying a computer/ car etc. Use real-life repayment tables to extract information and perform calculations. Compare places to invest a small inheritance and places to save regularly.</p>
<p>BUDGETING and FINANCE FINANCE</p>	
<p>LI Analysing a financial position using budget information</p> <p>SC Learners should be able to</p> <ul style="list-style-type: none"> • Budget and plan for personal use or plan an event • Balance incomings and outgoings from a range of sources • Understand financial terms e.g. income, expenditure, surplus, deficit, inflation • Understand APR and be able to calculate APR given the monthly interest rate • Calculate costs using inflation rates and make and justify decisions • Consider different mortgage deals 	<p>Resources TJ Nat 5 LS ch 23 224-230 MiA Nat 5 Lifeskills ch 9 Nationwide sheets</p> <p>Practical Activities Discuss budgeting implications of their pay calculations. Use advertisements for properties to rent to find an affordable place to live; budget for food and bills and determine disposable income (if any!). Investigate different mortgage deals on the internet for first time buyers.</p>

Revision

End of chapter preparation for assessment

For revision of all Managing Finance outcome www.bbc.co.uk/education and follow links.

SOLAR

Practice unit assessments

STATISTICS	
STATISTICS	
<p>LI Using Statistics to analyse and compare data sets</p> <p>SC Learners should be able to</p> <ul style="list-style-type: none"> • Understand and calculate mean, median, mode and range • Understand and calculate quartiles, interquartile and semi interquartile range • Construct, interpret and compare boxplots • Calculate and interpret standard deviation 	<p>Resources</p> <p>TJ Nat 5 LS ch 24 p 232-243</p> <p>MiA Nat 5 Lifeskills ch 5</p> <p>TJ</p>
SCATTERGRAPHS and PROBABILITY	
STATISTICS	
<p>LI Draw a line of best fit from given data</p> <p>SC Learners should be able to</p> <ul style="list-style-type: none"> • Plot points from given data and draw a line of best fit • Determine any correlation as positive, negative, strong, weak • Find the equation of a line of best fit using $y = mx + c$ 	<p>Resources</p> <p>TJ Nat LS ch 25 pages 246 – 250</p> <p>TJ Nat 5 LS ch 26 pages 253 - 255</p> <p>MiA Nat 5 Lifeskills ch 11</p> <p>TJ</p> <p>TWIG – Insuring the Titanic</p> <p>Practical Activities</p> <p>Conduct a survey of favourite films or computer games and use information to set up a fictitious lending library.</p>

	Obtain mortality rates for smoking and non-smoking individuals and relate to life expectancy.
--	---

Revision

End of chapter preparation for assessment

For revision of all Statistics outcome www.bbc.co.uk/education and follow links.

SOLAR

Practice unit assessments

Geometry and Measures

AREAS and VOLUMES GEOMETRY	
LI To find the area and volume of simple shapes and real-life composite shapes SC Learners should be able to <ul style="list-style-type: none"> • Calculate the perimeter of shapes including circumference • Calculate the area of quadrilaterals and circles • Calculate the volume of prisms and cylinders • Solve problems involving a composite solid which includes part of a circle • Solve problems involving the volume of a composite solid 	Resources TJ Nat 5 LS Ch 17 P156 -159 MiA Nat 5 Lifeskills ch 2 P 25 - 29 Practical activities
GRADIENT and STRAIGHT LINES GEOMETRY	
LI Investigating a situation involving gradient SC Learners should be able to <ul style="list-style-type: none"> • Know how to calculate gradient of a slope or a line • Understand zero, positive, negative and undefined gradients • Use gradient to calculate vertical or horizontal distances • Use the equation of a line to find gradient and y intercept 	Resources: TJ Nat 5 LS ch 150 - 152 MiA Nat 5 Lifeskills ch 3 Practical Activities
PYTHAGORAS THEOREM GEOMETRY	
LI To solve two step problems using Pythagoras' Theorem SC Learners should be able to <ul style="list-style-type: none"> • Use Pythagoras' theorem to calculate any side in a RAT • Use Pythagoras' theorem repeatedly to solve a problem in 2D 	Resources TJ Nat 5 LS ch 15 p144 - 147 MiA Nat 5 Lifeskills ch 8

<ul style="list-style-type: none"> • Use Pythagoras' theorem to solve a problem in 3D • Use Pythagoras' theorem with 3D coordinates 	<p>Activities Design a climbing frame to attach a children's slide see Cre8ate resource: Childcare/ Playground design</p>
<p>MEASURES MEASURES</p>	
<p>LI Consider the effects of tolerance Carry out efficient container packing Using precedence tables to plan tasks</p> <p>SC Learners should be able to</p> <ul style="list-style-type: none"> • Given the tolerance, calculate the limits • Minimise the amount of containers used by considering orientation of boxes • Plan tasks involving simultaneous and sequential events 	<p>Resources: TJ Nat 5 LS 112 - 115 MiA Nat 5 Lifeskills ch 2</p> <p>Practical Activities</p>
<p>SCALE DRAWING MEASURES</p>	
<p>LI To construct or interpret a scale drawing, map or plan</p> <p>SC Learners should be able to</p> <ul style="list-style-type: none"> • Enlarge or reduce a shape given the scale factor • Construct a scale drawing where the scale is given as a ratio • Choose a suitable scale for a scale drawing • Draw / interpret a navigation course using 3 figure bearings 	<p>Resources TJ Nat 5 LS p127 - 131 MiA Nat 5 Lifeskills ch 10 Int 2 Applications booklets</p> <p>Activities Cre8ate resources – Growing Food/ Building Silos. (Context: farming) GAIM – Planning a bathroom (easy)/ planning a kitchen (harder) Game On Scotland – Designing a Stadium</p>

Revision

End of chapter preparation for assessment

For revision of all Geometry & Measure outcomes www.bbc.co.uk/education and follow links.

SOLAR
Practice unit assessments