

CSF LEVEL: 4

UNIT TITLE: HOME OWNER

**RELATED KLA_s: TECHNOLOGY AND HUMANITIES
(ECONOMICS, GEOGRAPHY and HISTORY)**

4.1 MANUC 401

Use written methods to add and subtract decimal numbers.

This is evident when the student is able to:

- **Add and subtract decimal numbers with equal numbers of decimal place without using a calculator**
- **Explain the role of place value in the written methods chosen to add and subtract**

4.2 MAMEU 402

Investigate the relationship between area and perimeter and calculate the area of polygon.

This is evident when the student is able to:

- **Use a calculator to determine the area of a rectangle where side lengths are given to one decimal place.**

5.3 MAMEU 503

Calculate and use rates.

This is evident when the student is able to:

- **Find and use rates involving areas (e.g. paint requirements etc...)**

5.1 MACDS 501

Present collected data in tables, databases and spreadsheets.

This is evident when the student is able to:

- **Enter and manipulate data in a database with defined fields or in a spreadsheet with template set up.**

5.4 MANUC 504

Select and use appropriate sequence of operations and appropriate computation methods to solve problems.

This is evident when the student is able to:

- **Use calculators and spreadsheets to solve problems efficiently.**

HOME OWNER



AIM: You are to buy and furnish a house with a limited amount of money. Budget \$600, 000



It may be purchased in a location of your choice, with a preference for a 3 bedroom, brick veneer home. Certain furnishings must be purchased for each room. These items are listed in the column headed: "**Necessary Items.**" An optional list of "**extras**" is shown for each room and you must purchase at least one item from this list. More than one item may be purchased from the optional "**extra**" lists if you desire. You may choose to include items of your own choice.

It might be a good idea to visit "Real Estate Agents" for booklets etc..

Throughout this project you will be required to calculate the amount and cost of floor coverings necessary for each room. You will be supplied with the measurements for each room, three alternatives of carpet prices and a standard price for vinyl coverings. The lounge room and the bedrooms are to be carpeted. The kitchen and laundry are to have vinyl floor covering. You must calculate the amount of floor covering needed and the total cost for laying this covering. This will depend on the price of the carpet you decide to purchase for each room.

For the purposes of this project we will assume that the house that you purchase has curtains.

A running total of your remaining money will need to be constantly recorded so that you can refer to it at any time. Think wisely as to how you can record and set this out.

You may find that you will spend less than the total amount of the money available to you. That's great! However, if you find that you are running out of money, you must have to back track and re-evaluate your spending. **The simplest way to avoid this is to buy the necessary items in ALL rooms before purchasing any optional extras.**

You may decide to shop around to get a cheaper price on some items. **(The Melbourne Trading Post or internet is a valuable resource.)** However you must show your evidence of prices available.

No loans are available so careful planning and budgeting are the keys to success.

The project is clearly divided into sections. You will need to collect "junk mail," newspaper advertisements, catalogues dealing with furniture and light fittings, appliances etc... Each item purchased must be pasted in your project, the sale price clearly visible.

Your project must be handed in **every two weeks** so that a review of your progress can be made.


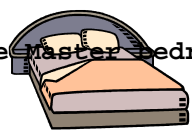
You must also include a photocopy of map, indicating the location of your house, (you may wish to highlight any areas e.g. schools, shopping centres, public transport etc... that might influence the cost of buying in that area.

You could also include a floor plan of your house which would assist in your presentation. Grid paper is available throughout

Good luck and happy shopping!

This Project is due: 9th September

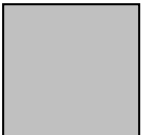


MASTER BEDROOM	
NECESSARY ITEMS	OPTIONAL ITEMS
1. Double bed	• Stool
2. Queen size doona	• Cover for doona
3. Light fitting	• Pillows
4. Carpet	• Table
	• Lamp
	• Your own choice
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <p>4m</p>  <p>4m</p> </div> <div style="text-align: center;"> <p>Measurement of the Master bedroom.</p>  </div> </div>	

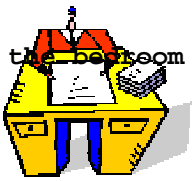
BEDROOM TWO	
NECESSARY ITEMS	OPTIONAL ITEMS
1. Single bed	• Study table
2. Doona	• Cover for doona
3. Light fitting	• Pillows
4. Carpet	• Chest of draws
	• Lamp
	• Your own choice

3m

3m



Measurement of the bedroom two.




BEDROOM THREE


NECESSARY ITEMS	OPTIONAL ITEMS
1. Single bed	• Your own choice
2. Doona	• Cover for doona
3. Light fitting	• Pillows
4. Carpet	• Chest of draws
	• Lamp

4m

3m
three



Measurement of the bedroom



Carpet Prices	Vinyl
• Scotch guard \$60 per square metre	• \$30 per metre square
• Industrial blend \$75	
• Stain master \$110 per square metre	
• *Please note extra \$30 laying fee per metre	

MATHEMATICS UNIT PLANNER

UNIT TITLE:	HOUSE DESIGN
HOST KLA:	Mathematics
RELATED KLA'S:	Technology
FOCUS STRAND:	Measurement
TERM, YEAR:	Term 3, 2005
TEACHER:	Mr Metric
TARGET GROUP	Grade 5 students

CURRICULUM FOCUS
<p>Students obtain the areas of various regular shapes using metric units</p> <p>Students investigate and work with balance and ledger sheets both using Excel or own spreadsheet formats</p> <p>Understand scale and use appropriate units of measurements when converting</p> <p>Draw and construct house plans to scale where necessary</p> <p>Estimation skills E.g. estimate the costing of various household goods and whether or not they will have sufficient funds. What is the most feasible?</p>

<u>UNDERSTANDINGS</u>	<u>FOCUS QUESTIONS</u>
<p>The main ideas and/or concepts students should acquire during this unit of work.</p> <p>Select and use appropriate measuring device to lengths, distances or perimeters</p> <p>Use square metres for measuring the area of various sections of a house</p> <p>Convert square metres to monetary value</p> <p>Explains how to complete a spread sheet using either a format devised themselves or Excel</p> <p>Extend mathematical challenges by asking questions e.g. Can I add extensions to my house and if so at what cost</p> <p>Interpret measurements on a simple plan</p> <p>Use terms length, area, costing, value, balance and budget</p> <p>Explain and understand how to use a simple budget</p> <p>Explain the area of rectangles by multiplying the length and width</p> <p>Investigate the cost of surfacing these areas by multiplying by a monetary value</p> <p>Understanding of the value of money and place value to hundreds of thousands.</p>	<p>The key organisers to guide student learning through the inquiry process</p> <p>What is area?</p> <p>How do we work it out?</p> <p>How big do you think \$600 000 is?</p> <p>What is a budget?</p> <p>How do you do a balance sheet/</p> <p>Can you use excel?</p> <p>What would be the best value?</p> <p>If you over spend what could you do?</p> <p>What do I do to convert metres to monetary value?</p> <p>How can we measure the area of a scale drawing?</p> <p>How do we judge which unit is suitable and appropriate to give the most accurate measurement?</p>

KEY TERMS

Area, breadth, base, centimeter, dimensions, irregular, house, square, kilometer, length, metre, millimeter, polygons, perimeter, rectangle, regular, square centimetre, square metre, surface area, width, budget, value, spreadsheet, balance sheet, property, market,

KEY CONCEPTS

Relationships between attributes evidence exception completeness reasonableness	Concepts Mathematical concepts Repertoire of strategies Communicate Relationships between Attributes Metric units	Quantities Rates Scales Graduations Modify Mathematical model	Functions Types/kinds Investigate Dimensions Shapes Objects
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K.L.A's to be integrated (Highlight)

English Maths Science	Society & Environment Technology Health & Physical Education	The Arts LOTE Religious Education
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SKILLS

Clarifying Values Co-operating Criticizing Describing Discussing Empathising Evaluating Explaining Gathering Information Presenting Data Actively Listening	Classifying Comparing Hypothesizing Imagining Interviewing Listening Making Decisions Predicting Presenting a point of view Agreeing/Disagreeing Expressing Opinions	Expressing Preferences Giving Instructions Interpreting Data Logical Thinking Naming Observing Reporting Orally
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PLANNING OUTLINE

INQUIRY APPROACH	ACTIVITIES	ASSESSMENT TASKS
<p><u>Tuning in and Preparing to find out:</u> How can we engage the students in this unit? How can we assess their prior knowledge? <u>Strategies:</u> Mind Mapping Brain storming Drawing, diagrams Listing questions</p>	<p>Children are given paper and asked to draw a mind map about what they know about budgeting Children draw a mind map and ask to list all things they think they would need to know about purchasing and furnishing a house Students define key words that arise from the discussion</p>	

<p><u>Finding Out:</u> What experiences can we organize that will enable children to gather new information about the unit.</p>	<p>Children are given experiences where they are find out the area of regular shapes Children are given experiences where they are find out the area of everyday shapes</p>	
<p><u>Sorting Out:</u> How can we provide students the opportunity to process the information they have gathered and present this in a number of ways</p>	<p>Students work with the IT specialist on Excel and how they can apply formulas to spreadsheets Students work with multiplication and estimation skills to determine the costing of various floor spaces once they have determined the area</p> <p>Using catalogues and the internet the students research and find a suitable property to purchase Using the internet and catalogues the students purchase items to furnish their house Students lay flooring converting square metres to a monetary value</p>	
<p><u>Going Further, Making Conclusions:</u> How can we assist the children to pull it all together?</p>	<p>Using examples of spreadsheets and monitoring the progress of each student throughout they are given the opportunity to share their workings and model what they achieved. In doing so each student may be inspired by their peers efforts Children transfer their workings on the computer in various forms of spreadsheets and balance sheets If the students do not use a computer then they present</p>	

	in a manageable manner that is easy to follow and interpret	
<u>Reflection and Taking Action</u> How can we empower children to act on what they have learnt?	Students share their project with the class as an oral presentation Complete a reflection/self evaluation on the project	
Strategies: Self-assessment Peer-assessment Learning logs Learning maps Informing others Oral presentations	All students project will be assessed following a specific guideline/format	

SUPPORTING RESOURCES AND MATERIALS	

MATHS CHALLENGE-HOME OWNER PROJECT SELF-EVALUATION

NAME: _____

What did you enjoy the most about this project?

What did you enjoy the least?

What was the most challenging aspect of this project?

What would you do differently next time to perhaps improve your end result?

What could Mr. Collis do to improve this challenge?

MATHS PROJECT – HOME OWNER

	Outstanding	Very Good	Satisfactory	Needs improvement	No Evidence			
Evidence of workings	√							
Images/pictures	√							
Balance/spread	√							
Overall content	√							
Presentation	√							
Effort	√							
Additional Comment	<p>Quite an exceptional project Lily. Your spreadsheets highlight your excellent understanding of Excel and the use of formulas. The clear manner in which you have set this work out has again shown a terrific example to all. Your enthusiasm and effort from 'Day One' has been infectious; inspiring many to aim for and produce projects above Mr. Collis' expectations. Congratulations again Lily on your mathematical workings, dedication and WOW factor!</p>							
Mark/Score	A+	A	B+	B	C+	C	D+	D

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