

Making a cake

E2-E3 Functional Maths revision

Name _____ Date _____

All-in-one sponge cake (Delia Smith's recipe)

<http://www.deliaonline.com/how-to-cook/baking/how-to-make-all-in-one-sponge.html>

<http://www.youtube.com/watch?v=X-jJxA53SFI>

100g self-raising flour

1 tsp baking powder

100g butter

100g caster sugar

2 large eggs

2-3 drops vanilla essence



Pre-heat the oven to 170°C.

Grease two sponge tins (18cm diameter) and line with greaseproof paper.

Take a large roomy mixing bowl and sift flour and baking powder into it, holding the sieve high to give the flour a good airing. Then add all the other ingredients to the bowl and whisk them – preferably with an electric hand whisk – till thoroughly combined. If the mixture doesn't drop off a wooden spoon easily when tapped on the side of the bowl, then add 1 or 2 teaspoons of warm water, and whisk again.

Divide the mixture between the two prepared tins, level off and bake on the centre shelf of the oven for about 30 minutes. When cooked leave them in the tins for only about 30 seconds, then loosen the edges by sliding a palette knife all round and turn them out onto a wire cooling rack. Peel off the base papers carefully and, when cool, sandwich the cakes together with jam or lemon curd, or jam and fresh cream, and dust with icing sugar.

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Price List

Margarine	£1.22
Caster sugar	£1.39
Self-raising flour	52p
Cadbury mini eggs	£1.35
Bicarbonate of soda	86p
Butter	98p
Plain flour	42p
Baking powder	83p
Granulated sugar	97p
Vanilla essence	£1.04
Medium eggs	£1.57
Vanilla yogurt	61p
Large eggs	£1.68

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Cake Decorations

Squirty cream	92p
Hundreds & Thousands	85p
Marshmallows	£1.09
Jelly Diamonds	79p
Birthday candles	£1.27
Chocolate stars	£1.33
Sugar alphabet	£1.39
Silver pearls	£2.48
Ready to spread Icing	£2.15

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Tutor instructions



1. Set up weighing scales with different amounts or draw weighing scales on whiteboard. Students to read the scale and write down the amount on their mini whiteboards. Compare answers and check any misunderstandings.
2. Look at the cake recipe. Discuss units, times, vocabulary of position, measurement, shape, etc.

Then instruct learners as follows:

3. Find the items you need to from the shopping list. Write them down.
4. Calculate how much it will cost to buy all the ingredients (using a calculator).
5. Write down a way you can check that your answer is right.
6. Write down which note you would choose to pay with: £5, £10, £20
7. Write down how much change you should get.
8. Round each price to the nearest 10p.
9. Choose 3 items from the list of decorations. Calculate how much they will cost.
10. Write down a way of checking your answer is right.
11. Write down which note you would choose to pay with: £5, £10, £20
12. Write down how much change you should get.
13. Round each price to the nearest 10p.

*Optional student worksheet for steps 3-13 on pages 5-6.
The worksheet is generic and can be used with any cake recipe.*

Extra and extension ideas

14. Double and halve the ingredients.
15. Draw halves and quarters of "cakes" in square / circular / rectangular cake tins
16. You are making 4 / 5 / 10 cakes for a fair. Only 3 tins will fit in the oven at once. How many times will you have to refill the oven? How long will it take to cook all the cakes?

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You will need a recipe and price lists.

You must show all your working out even if you use a calculator.

You are going to make a cake.

1. Look up the items you need to buy from the list and write them down.

A large, empty rectangular box with a thin black border, intended for students to write down the items they need to buy. The bottom right corner of the box is folded over, creating a shaded triangular area.

2. Work out how much it will cost to buy all the ingredients. You can use a calculator.

3. Write down a way of checking your answer is right.

4. Write down which note you would choose to pay with: £5, £10, £20

5. Write down how much change you should get.

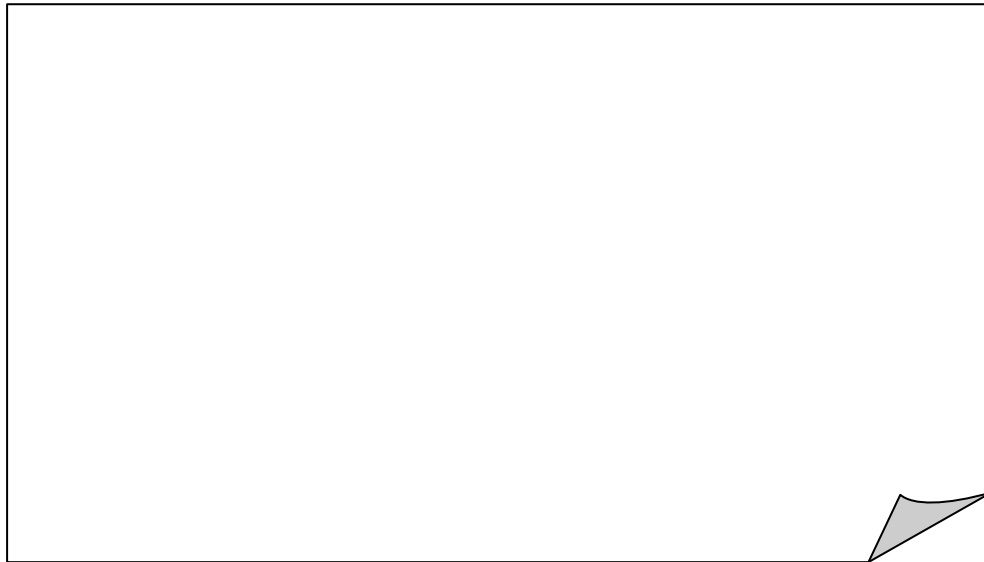
6. Round each price to the nearest 10p.

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7. Now choose 3 items from the list of decorations.



8. Calculate how much your decorations will cost.

9. Write down a way of checking your answer is right.

10. Write down which note you would choose to pay with: £5, £10, £20.

11. Write down how much change you should get.

12. Round each price to the nearest 10p.

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Teaching notes and curriculum mapping

Background and teaching notes

I first used this activity with a mixed group of young adult learners with a range of learning difficulties. I found it worked better to give them a list of prices rather than asking them to find their own, because then they could focus on the main tasks. However, with a different group or more time, you could ask the learners to research prices on various grocery websites. The cake recipe has a surprising amount of maths vocabulary embedded in it, so some of the learners read it aloud to the group and we discussed the meaning in some detail.

Ruth Read

Functional Mathematics

This resource is ideal for underpinning and revising many Functional Maths coverage and range statements – particularly at Entry Levels 2 and 3. However, in Functional Maths it is the process skills that are assessed; these are key to successful Functional Maths learning and must always be developed and stressed during teaching (see next page).

Also covers many **adult numeracy curriculum** <http://www.excellencegateway.org.uk/sflcurriculum> elements. For related resources and further curriculum links please visit the download page for this resource at www.skillsworkshop.org.

Coverage and Range statements (indicative only)

Coverage and range statements provide an indication of the type of mathematical content candidates are expected to apply in functional contexts. Relevant content can also be drawn from equivalent National Curriculum levels and the Adult Numeracy standards.

Highlighting and ✓ indicates the main coverage and range skills covered in this resource, although these will vary with the student group and how the resource is used by the teacher.

Entry Level 2

- understand and use whole numbers with up to two significant figures ✓
- understand and use addition/subtraction in practical situations ✓
- use doubling and halving in practical situations ✓
- recognise and use familiar measures, including time and money ✓
- recognise sequences of numbers, including odd and even numbers
- use simple scales and measure to the nearest labelled division ✓
- know properties of simple 2D and 3D shapes ✓
- extract information from simple lists ✓

Entry Level 3


- add and subtract using three-digit numbers ✓
- solve practical problems involving multiplication and division by 2, 3, 4, 5 and 10 ✓
- round to the nearest 10 or 100 ✓
- understand and use simple fractions ✓
- understand, estimate, measure and compare length, capacity, weight and temperature ✓
- understand decimals to two decimal places in practical contexts ✓
- recognise and describe number patterns
- complete simple calculations involving money and measures ✓
- recognise and name simple 2D and 3D shapes and their properties ✓
- use metric units in everyday situations ✓
- extract, use and compare information from lists, tables, simple charts and simple graphs ✓

References: Ofqual (2009), *Functional Skills criteria for Mathematics: Entry 1, Entry 2, Entry 3, level 1 and level 2.*

<http://www.ofqual.gov.uk/files/2009-11-functional-skills-criteria-for-mathematics.pdf>

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Teaching notes and curriculum mapping

FUNCTIONAL MATHEMATICS PROCESS SKILLS			 Skillsworkshop tips To develop this skill, encourage learners to:
Process Skills (all levels)	Entry 2 skills standards	Entry 3 skill standards	
Representing <i>Selecting the mathematics and information to model a situation</i> <ul style="list-style-type: none"> Recognise that a situation has aspects that can be represented using mathematics Make an initial model of a situation using suitable forms of representation Decide on the methods, operations and tools, including ICT, to use in a situation Select the mathematical information to use 	<ul style="list-style-type: none"> Understand simple practical problems in familiar contexts and situations Select basic mathematics to obtain answers 	<ul style="list-style-type: none"> Understand practical problems in familiar contexts and situations Begin to develop own strategies for solving simple problems Select mathematics to obtain answers to simple given practical problems that are clear and routine 	Represent <ul style="list-style-type: none"> Highlight information they need and/or cross out unneeded information. ✓ Arrange or reorganise given or selected information as needed e.g. in a table or list. ✓ Show all their working out. ✓ Note that calculators are permitted at all levels of Functional Maths assessment but learners should get into the habit of recording all their working out – whether or not a calculator is used. Analyse <ul style="list-style-type: none"> Check all their calculations or procedures and show proof that they have done so. ✓ Investigate other options / situations (e.g. researched topics on the web) Create new questions about given information and try them out on others. ✓ Mark each other's work. Interpret <ul style="list-style-type: none"> Draw conclusions Discuss and justify their choice of method and their answer Explain their answers and conclusions to others – verbally ✓ and in writing. <p>✓ = tip that works particularly well with this resource</p>
Analysing <i>Processing and using mathematics</i> <ul style="list-style-type: none"> Use appropriate mathematical procedures Examine patterns and relationships Change values and assumptions or adjust relationships to see the effects on answers in models Find results and solutions 	<ul style="list-style-type: none"> Use basic mathematics to obtain answers to simple given practical problems that are clear and routine Generate results to a given level of accuracy Use given checking procedures 	<ul style="list-style-type: none"> Apply mathematics to obtain answers to simple given practical problems that are clear and routine Use simple checking procedures 	
Interpreting <i>Interpreting and communicating the results of the analysis</i> <ul style="list-style-type: none"> Interpret results and solutions Draw conclusions in light of situations Consider the appropriateness and accuracy of results and conclusions Choose appropriate language and forms of presentation to communicate results and solutions 	<ul style="list-style-type: none"> Describe solutions to simple given practical problems in familiar contexts and situations 	<ul style="list-style-type: none"> Interpret and communicate solutions to practical problems in familiar contexts and situations 	

Reference (Columns 1-3 only): Ofqual (2009), *Functional Skills criteria for Mathematics: Entry 1, Entry 2, Entry 3, level 1 and level 2*. <http://www.ofqual.gov.uk/>