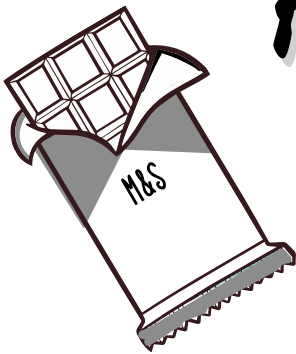




PROOF OF *the pudding*



KS2

Teacher's Notes

M&S Proof of the Pudding Summary

This workshop supports learning in several curriculum areas by providing enriching and fun learning activities. Pupils will explore the science of baking and chocolate, finding out about the functions of different ingredients in our Chocolate Melt in the Middle Pudding. They'll learn about the power of advertising, and design their own new dessert product. Finally, they'll use scientific thinking to conduct a delicious taste test.

Learning Objectives

- To learn about the science of the M&S Chocolate Melt in the Middle Pudding
- To design a new dessert product
- To use scientific thinking to conduct a taste test

Links to Curriculum Areas

Science - working scientifically, properties and changes of materials – irreversible changes

DT - product evaluation and design

Topic - Charlie and the Chocolate Factory

History – Mayan civilisation

Literacy - persuasive writing, vocabulary

Geography - Fair Trade



Resources provided with this pack

- Classroom PowerPoint slides
- Short films;
 - Intro: What is the M&S Company Archive? film
 - Film 1: Promoting the Pudding
 - Film 2: Perfect Pudding?
 - Film 3: Emulsifiers
- Ingredients cards - print and cut into packs
- Invent a Pudding worksheet
- Taste Test worksheet



You will need (not supplied with this pack)

- M&S Chocolate Melt in the Middle Puddings (sold as a 2 pack – we suggest sharing one pudding between 3-4 pupils)
- Sharp knife (for adult use only) for dividing puddings
- Spoons and plates
- Access to a microwave
- Someone to help prepare the puddings – look out for the **PUD PREP** notes.

ALLERGENS AND DIETARY REQUIREMENTS

- The puddings do not contain nuts but are **not suitable for people with nut/peanut allergies** due to the manufacturing process.
- Puddings contain **milk, egg, gluten** and **soya**.
- They are suitable for vegetarians.
- The Taste Test worksheet is editable to allow you to adapt the criteria for any replacement food you are using for pupils who can't eat the pudding.

Plan



Activity	Content	Resources
Intro film	Our Education Officer will show you around the archive and explain what we do and why. See prompt questions on page 5.	Intro film
Starter	<p>Learning Objectives – to cover with class</p> <p>Class discussion Q. What is a pudding? Encourage pupils to think of words that define a pudding.</p> <p>ACTIVITY: Pupils work in pairs or small groups to discuss the questions. Ask each pupil to feedback their partner's answers.</p> <p>Q. What's your favourite pudding?</p> <p>Q. Why do you like it?</p>	Slides 2-4
Introduction	<p>Watch the Promoting the Pudding film (film 1)</p> <p>Q: Why do you think so many people bought puddings after seeing the 'This is not just food...' TV advert?</p>	Slide 5 Promoting the Pudding film
Creating the Pudding	<p>It took 18 months for the pudding to be developed.</p> <p>Q: Why do you think it took so long to get the pudding right?</p> <p>Watch the Perfect Pudding? film (film 2), pupils look for ways the pudding goes wrong.</p> <p>ACTIVITY: Working in groups, pupils discuss</p> <p>Q: What would a failed pudding look, smell and taste like?</p> <p>Q: What about a successful pudding?</p>	Slides 6-9 Perfect Pudding? Film Paper for group work
Ingredients	<p>Pupils identify key ingredients of this type of pudding. ACTIVITY: Match ingredient pictures to descriptions and molecular structure.</p>	Slides 10-12 Ingredients card pack
Why do we like chocolate?	<p>Class discussion. Q: Who likes chocolate? Why do you like it?</p> <p>Learn about caffeine, theobromine and why we love chocolate.</p>	Slide 13
Helpful additions	<p>Q: Why are there so many more ingredients in the M&S pudding than in a homemade pudding?</p> <p>Have a closer look at emulsifiers, find out what they do and why they are important. Watch the Emulsifiers film (film 3).</p>	Slides 14-15 Emulsifiers film
Invent a pudding	<p>ACTIVITY: Pupils invent a new pudding. Using the Invent a Pudding worksheet pupils draw their pudding, give it a name, label their drawing to show the different elements and write a list of ingredients.</p>	Slides 16-17 Invent a Pudding worksheet
Taste Test	<p>ACTIVITY: Taste test the pudding and score it against a list of criteria. Discuss the scores as a class.</p>	Slide 18-19 Taste Test worksheet
Plenary	<p>Q: What makes a perfect pudding?</p> <p>ACTIVITY: Pupils mind map everything that has contributed to the success of the M&S Chocolate Melt in the Middle Pudding.</p>	Slide 20 paper

Intro film: What is the M&S Company Archive?

This is a short film to give context to the learning resources as part of the archive collection. Our Education Officer will show you around the archive and explain what we do and why.

Suggested opening questions after watching the film;

Q. Who has heard of M&S?

Q. Who has been inside an M&S shop?

Q. Do you think that M&S is a big company or small company?

- There are around 900 M&S stores in the UK
- We have stores in 45 different countries around the world

Q. Do you think it is an old company or new company?

- M&S was established in 1884 in Leeds Market

Q. Why is it important to keep and look after things from the past?

- So that we can learn about what life was like for people in the past
- To help us to understand how and why something has happened
- To inspire us and give us ideas for the future

You can find out more about the history of the business on our website and our My Learning pages – see Useful Links at the end of the Teacher's Notes.



Starter

Slides 2-4

Class discussion

Q. What is a pudding?

A. Encourage pupils to think of words that define a pudding as opposed to a snack, biscuit or sweet.

ACTIVITY: Pupils work in pairs or small groups to discuss the following questions. Ask each pupil to feedback their partner's answers.

Q. What's your favourite pudding?

Q. Why do you like it?



Explain that we're going to be looking closely at one pudding in particular, and what makes it so special.

Extension ideas

- Pupils make a tally chart recording all the favourite puddings.
- Use the data to make a pie chart (see what we did there?), bar chart, work out percentages etc to make a visual display of your class' favourite puddings.

Introduction

You will need: Promoting the Pudding film (film 1)

Watch the Promoting the Pudding film to introduce the pudding and how it was first promoted to customers.

Q: Why do you think so many people bought puddings after seeing the ‘This is not just food...’ TV advert?

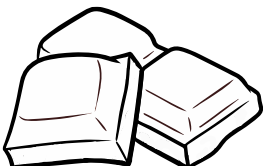
Answers might include:

- New pudding
- Slow motion
- Soothing voiceover
- Words used to describe the pudding
- Included an offer

Extension ideas

Analyse the advert further

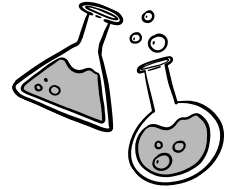
- How does the advert appeal to a customer’s senses?
- What sort of information does the advert provide?



Creating the Pudding

You will need: Perfect Pudding? Film (film 2), paper

Pupils can work individually or in small groups.



Explain that it took 18 months for the pudding to be developed. This is a long time in food development terms.

Q: Why do you think it took so long to get the pudding right?

Answers might include: it was a totally new pudding, liquid centre inside a sponge cake.

Watch the Perfect Pudding? film. Ask pupils to watch for all the ways the pudding goes wrong. Can they suggest what has happened each time to cause the failure?

Answers might include;

Time	Image	What's happened?	Possible explanation
01:11	Conveyor belt	Sauce has dried up	Sponge has absorbed sauce, sauce is too thin
01:22	Lorry	Pudding is damaged	Sponge is too thin, too much sauce to sponge, unsuitable packaging
01:57	Oven	Collapsed sponge, leaking pudding, dried out pudding	Wrong ingredient proportions, sauce to sponge ratio, over cooking
01:59	Puddings	Pudding is burnt	Cooking temperature too high and/or cooking time too long

Continues overleaf

Creating the Pudding cont.

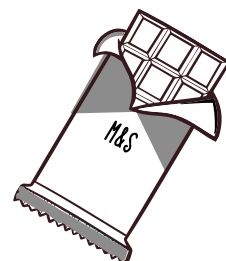
Slides 8-9

ACTIVITY: Working in groups pupils discuss the following questions and mind map their ideas on paper. They can use the examples already discussed as starting points.

Q: How would you describe a failed pudding? Think about what it would look, smell and taste like and why.

Pupils list all the ways the pudding could go wrong and the explanation for the failure. Answers may include;

- Bitter taste – wrong ingredients or ingredient proportions
- Too dry/too sloppy – ingredients not in correct proportion or wrong cooking time or method
- Damage to pudding – poor packaging design
- Mouldy/rotten – poor hygiene, incorrect storage



Q: How would you describe a successful pudding? Think about what it would look, smell and taste like and why.

Pupils list as many words as they can to describe a successful pudding.

Extension ideas – Pudding Poetry

- Pupils use their mind map and list of words to make poems. Poems could be about failed or perfect puddings or about the transition from one to the other!
- Pupils write a poem from their pudding's point of view about what has happened to it.

Ingredients

Slides 10-11

You will need: Ingredients card pack – 1 pack per group of pupils (print and cut along dotted lines)

Pupils work in groups of 4-6.

Q: What were the five key ingredients used to make the pudding in the Perfect Pudding? film.

A: Flour, butter, sugar, eggs and chocolate.

Explain that there would be other ingredients added to the recipe to make our M&S pudding, but we are going to find out more about these five essential ingredients for this activity.

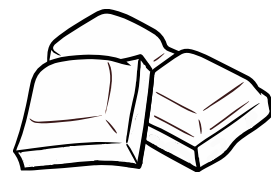
ACTIVITY: Each card pack contains 5 photographs (1 of each ingredient) and 5 written descriptions. Pupils match the descriptions to the correct photograph.

This is a great opportunity to link to science and talk about irreversible changes e.g. eggs changing from liquid to solid.

See next page for the answers.

Extension ideas

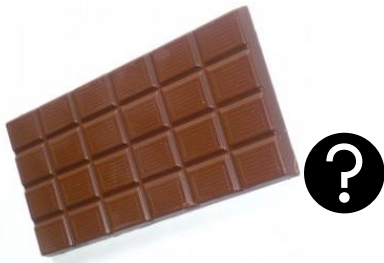
- Ask pupils how they could adapt the pudding for people with dietary needs or preferences e.g. vegan, gluten-free, low fat, sugar-free.
- Can they suggest alternative ingredients for the ones that would have to be removed?



Ingredients Card Match Answers



This ingredient changes from a liquid to a solid when heated. It adds flavour and helps to hold the structure of the sponge. When you beat it, it traps air bubbles in the pudding mix.



This ingredient is solid at room temperature, but when eaten it absorbs heat from your mouth and melts at body temperature – producing a melt-in-the-mouth effect. It contains a weak stimulant, sugar and caffeine.



This ingredient forms gluten when mixed with water. This helps the sponge to hold hot air bubbles as the pudding rises. This ingredient helps the pudding to hold its shape.



This ingredient contains vitamins and enhances the flavours of other ingredients. It helps to keep the pudding moist and gives the sponge a smooth texture.



This ingredient provides sweetness and helps to keep moisture in the pudding mix. Reducing the amount of this ingredient can cause loss of moisture and sweetness.



See overleaf for information about theobromine

Why do we like chocolate?

Slide 13

Discussion activity

Q: Who likes chocolate? Why do you like it so much?

Ask pupils to suggest reasons why chocolate is so popular with people in general. How does it make us feel?

A: It's all about the science of chocolate

Chocolate is a source of quick energy because it contains lots of carbohydrates, it also has tiny amounts of natural chemicals which give us the "feel good" feeling we sometimes get from chocolate.

Two of these chemicals are mentioned on the ingredient cards; caffeine and theobromine.

Q: Have you heard of caffeine before? Which drinks contain lots of caffeine? (tea, coffee, cola, energy drinks)

- It is a stimulant – it wakes us up and increases our mental activity for short periods of time.
- In children, only a small amount can cause stomach upsets, headaches and dehydration (by making us need to wee more!).

Let's find out about Theobromine

- Theobromine comes from the cacao bean and gives chocolate its bitter taste.
- It's also a weak stimulant that triggers the pleasure centre in our brains making us feel good – it's one of the main reasons we enjoy eating chocolate.
- It's also toxic to dogs, which is why you shouldn't give dogs human chocolate!

Helpful Additions

Slide 14

You will need: Emulsifiers film (film 3)

Explain that the slide shows the ingredient list for the M&S Chocolate Melt in the Middle Pudding.

Ask pupils:

Q: Why are there more ingredients in the M&S pudding than in a homemade pudding?

Hint: When you bake at home, when do you eat your cakes? Straight away! Our puddings have to stay fresh for a lot longer to get from our factories to the stores, and then to the customers.

A: Most ready-to-eat convenience foods that you buy in the shops have more ingredients than the food you'd cook at home. This is because;

- Preservatives and stabilisers extend the shelf life of the foods – keeping them fresh for longer.
- Convenience foods must be perfect when they reach the customer.
- The texture, flavour and colour have to be exactly the same every single time.
- Flavourings, preservatives and stabilisers keep the foods perfect through the whole production process.

Continues overleaf

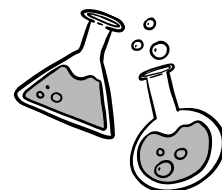
Helpful Additions cont.

Slide 15

You will need: Emulsifiers film (film 3)

Explain we're going to look at one of these ingredients in more detail.

Watch the Emulsifiers film and then **ask pupils**;



Q: What do emulsifiers do?

- Emulsifiers stop oil (fats) and water (non-fats) from separating.
- They act as connectors between two liquids that would normally be impossible to mix.

Q: So why are emulsifiers important for making chocolate?

- Chocolate is made of non-fat solids - cocoa solids and sugar - mixed with fatty cocoa butter.
- Emulsifiers help the fatty and non-fat ingredients stay mixed together, otherwise they would split apart.
- Emulsifiers mean that chocolate can be easily shaped and moulded to make chocolate bars, eggs, rabbits, frogs etc.

Extension ideas

- Can pupils think of any other foods that might contain emulsifiers to help mix fats with other ingredients?
Salad dressings, pasta sauce, peanut butter...

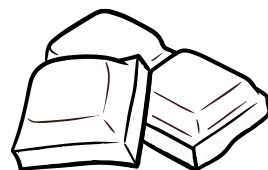
Invent a Pudding

Slides 16-17

PUD PREP: While pupils are working on this task start cooking the puddings in the microwave.

You will need: Invent a Pudding worksheet

Pupils work individually.



ACTIVITY: Pupils invent a new pudding. Using the Invent a Pudding worksheet pupils draw their pudding, give it a name, label their drawing to show the different elements and write a list of ingredients.

This can be an open task or you could create a design brief tailored to your activity or topic. Your brief can be very simple or can be more complex – it's up to you.

Example provided in the PowerPoint:

Your invention will

Be a pudding

Contain at least one fruit ingredient

Be designed for a special occasion

Feel free to tailor this brief for your class on slide 15 of the Classroom PowerPoint slides.

Invent a Pudding Top Tips overleaf

Invent a Pudding Top Tips

INVENTING TIP – Getting started

Coming up with a new idea can be really tricky. Pupils could think about their top two favourite puddings and combine the best bits to make something totally new!

INGREDIENTS TIP - Challenge

Before pupils start writing their list of ingredients, how far can they break down their pudding components to the basic ingredients?

For example

Trifle = sponge cake, fruit, jelly, custard, cream

- Sponge cake = eggs, butter, sugar, flour
- Jelly = gelatine, fruit juice
- Custard = eggs, milk, cream, sugar

Extension ideas

- Pupils design packaging or an advert for their pudding.
- Pupils write design briefs for each other – put them in a hat and choose at random!

Taste Test

Slides 18-19

PUD PREP: Once the puddings are cooked let them cool for at least 3 minutes. Divide into portions ready to be handed out to pupils. The puddings are quite rich, so have pupils' drinks handy.

You will need: M&S Chocolate Melt in the Middle Puddings, access to a microwave and/or oven, sharp knife, plates, spoons



Pupils work individually.

Explain that pupils are going to conduct a taste test with the M&S Chocolate Melt in the Middle Pudding – just like our food technologists do with all our food products. They will need to eat **slowly** so they can concentrate on what they can taste and what textures they can feel.

ACTIVITY: Pupils taste the pudding and score it out of five against the criteria on the worksheet. Feel free to edit the criteria on the worksheet to suit your class.

When everyone has finished, ask pupils;

Q: Which criteria did you give the lowest score and why?

Q: Which one did you give the highest score and why?

Q: Suggest one thing that would improve the pudding.

Extension ideas

- Pupils devise their own criteria for testing
- Pupils taste test a range of M&S puddings or a range of melt in the middle puddings

Plenary

You will need: Paper for mind maps

Pupils work in groups or individually.

Q: What made the M&S Chocolate Melt in the Middle Pudding such a success?

ACTIVITY Pupils mind map everything that has contributed to the success of the M&S Chocolate Melt in the Middle Pudding.

Think about:

- The idea for the pudding
- How the pudding came about
- The quality of the product
- Why people still love it so many years later.

Extension ideas

- Pupils have a go at making their pudding inventions!



Resource Evaluation Form

We hope you've enjoyed using this resource. To make sure that we're providing the best resources that we can, we'd be grateful if you could answer the following questions and let us know how we're doing.

School name:

Date you used the resource:

How did you find out about the resource?

How does this resource link to your classroom activities or planning?

What did you like most about the resource?

What would you change?

Would you recommend the M&S Company Archive resources to colleagues?

Why?

Thank you for your comments

Please email your answers to company.archive@mands.com

or post to M&S Company Archive, Michael Marks Building,

University of Leeds, LS2 9JT





Useful information

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<https://mylearning.org/collections/the-mands-company-archive>

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