

# Edward Peake C of E VC Middle School



## Medium Term Plan

<b>Subject: Design Technology</b>	<b>Unit: Chocolate Mould</b>	<b>Term/Duration: Rotation 4 weeks</b>	<b>Year Group: 7</b>
<b>Prior Learning:</b> <ul style="list-style-type: none"><li>• How to produce design ideas.</li><li>• How to work safely in the workshop.</li><li>• How to use a coping saw to cut curved and straight lines in timber.</li><li>• How to use files and glass paper to smooth the edges of timber</li><li>• How to evaluate design ideas and a finished design.</li></ul>		<b>Key Vocabulary:</b> <ul style="list-style-type: none"><li>• Vacuum forming</li><li>• High impact polystyrene</li><li>• Thermolastic</li><li>• Thermosetting plastic</li><li>• Medium density fibreboard</li><li>• Mould</li><li>• Former</li><li>• Aesthetics</li><li>• Function Evaluation</li></ul>	
<b>By the end of this unit...</b>			
<b><i>All pupils will be able to:</i></b>  Give a simple explanation of vacuum forming. Analyse an existing product. Produce 2 ideas for the chocolate mould that are coloured and simply annotated (labelled). Make a model from card. Make a former from MDF. Select the correct tools to make the former. Think about how making the chocolate mould went.			
<b><i>Most children will have made more progress; they will be able to:</i></b>  Explain the stages of vacuum forming. Know the difference between thermoplastics and thermosetting plastics.			



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Analyse an existing product using ACCESSFM.

Use ACCESSFM to annotate ideas.

Ideas include detail about how they would be suitable for vacuum forming.

Evaluated what is good about your model and what needs changing.

Explain how your design has changed from your initial idea sketch.

Use different layers of MDF to add raised detail to your former.

Select the correct tools to make the former.

Name the tools you have used.

Explain how your chocolate mould has developed from the original design idea.

Explain what went well and how you could improve at each stage of making the chocolate mould.

Know which materials you used to make the chocolate mould.

### ***Some children will have progressed further; they will be able to:***

Give examples of different types of plastic and their uses.

Analyse an existing product explaining the points you make and use your analysis of to inform your designing.

Explain the points you annotate.

Ideas include strengths and weaknesses of the designs in the annotation. .

Explain the changes you are going to make before making your former.

Use indents to add detail to your former.

Explain why the tools you have used are suitable.

Explain how you could change your chocolate mould to improve it further.

Explain why the materials you used were suitable.

### **◆ Notes:**

Visit: Cadburys World including one hour educational session KS3&4 Design and Food Technology.

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	Learning Objectives	Content	Assessment	Resources /Health and Safety	ICT Opportunities
1	<p><b>To develop knowledge of plastics and vacuum forming.</b></p> <p><b>To be able to analyse an existing product.</b></p> <p><b>To be able to write a specification.</b></p>	<p>Starter - What zoomed products are below? Students try to work out what the products are. Use random questioning to feedback. What is the link between the products? Think, pair, share. Explain this is the process that is going to be worked with.</p> <p>Discuss the two categories of plastic, the differences between them, examples and uses of each and which plastic will be used for the chocolate mould.</p> <p>Students answer questions on plastics in their work booklets.</p> <p>Monitor students progress and give assistance as required.</p> <p>Explain what the process of vacuum forming is. Show students the video clip and talk through the pictorial stages of how the process works. Demonstrate how to vacuum form a mould, focusing on the key features of the mould and the key stages of the process.</p> <p>Students fill in the section on vacuum forming in their work booklets.</p> <p>Monitor student progress and give assistance as required.</p> <p>Discuss why it's important to look at existing products before starting designing. Explain what ACCESSFM stands for and how to use it in analysing a product.</p> <p>Model analysing the first two points of ACCESSFM for the example chocolate mould, focusing on what needs to be covered and explaining the points made.</p>	<p>Highlight learning objective, must, should or could in the booklet.</p> <p>Questions on plastics</p> <p>Specification</p>	<p>Year 7 Chocolate mould powerpoint</p> <p>Printed work booklet</p> <p>Example chocolate moulds</p> <p>HIPs</p> <p>Former</p> <p>H&amp;S - see Room 5 risk assessment</p>	

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		<p>Students to complete the analysis of the existing chocolate mould in their work booklets.                  Monitor student progress and give individual and/or class assistance as required.                  Read through the brief for the project and discuss what it means. Recap what a specification is and discuss how ACCESSFM can be used to write the specification. Emphasise the importance of explaining the points of the specification.                  Students fill in the specification table in their work booklets.                  Monitor student progress and give assistance as required.</p> <p>Use random questioning for students to feedback points of their specification.</p>			
2	<p><b>To use the information you have found out from analysing an existing product to produce design ideas.</b></p> <p><b>To be able to develop a design idea into a working solution.</b></p>	<p>Starter - What can you remember about thermoplastics and thermosetting plastics. Think, pair, share.</p> <p>Recap on the design brief, and how the specification can be used when designing. Discuss how layers and indents can be used to enhance the designs and about the size of the mould.                  Explain and model how to produce design ideas.                  Recap on drawing in pencil, colouring in coloured pencil, labelling the design decisions, labelling how the design links to the points of the specification, explaining the points in the labelling. Remind students they need to show the indents and raised sections.</p>	<p>Highlight learning objective, must, should or could in the booklet.                  Design Ideas                  Card model</p>	<p>Year 7 chocolate mould powerpoint                  Printed work booklet                  Example moulds</p> <p>H&amp;S - see Room 5 risk assessment</p>	

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		<p>Monitor students progress as they produce their ideas giving assistance as required.</p> <p>Discuss identifying the strengths and weaknesses of the designs. This should focus on how well it works as a mould to form the chocolate not on the neatness of drawing, colouring etc.</p> <p>Students evaluate the strengths and weaknesses of their designs in their work booklets.</p> <p>Students explain which idea they plan to make and why.</p> <p>Monitor students progress and give support as required.</p> <p>Watch the video clip on iterative design. Discuss what iterative design means.</p> <p>Discuss what a prototype is and why it is important to make one of the chocolate mould. Model how to make a prototype from card and discuss what you have found out by doing it.</p> <p>Students make a prototype of their chosen design idea. The completed prototype should be glued into their work booklets and annotated to explain what they have found out. Emphasise the importance of explaining the annotation points.</p> <p>Students explain what they will need to change when making their idea.</p> <p>Discuss the materials being used to make the former from and why these are suitable. Discuss which tools will be used to make the chocolate mould.</p>			
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		Using random questioning recap information learnt about materials and processes and why they are suitable for the chocolate mould.			
3	<b>To be able to develop a design idea into a working solution.</b>	<p>Starter - What do we need to remember about making a vacuum forming mould? What are the names of these tools and what are they used for? Think, pair, share.</p> <p>Explain and model how to mark out the chocolate mould, use the coping saw to cut out the shape of the chocolate mould, how to file the edges to remove the idents, and the glass paper to get a smooth finish. Students work through the stages of making their chocolate mould.</p> <p>Monitor student progress and give assistance as required.</p> <p>Recap how to use the vacuum former, demonstrate how it works going through the stages. Demonstrate how to trim the edges of the chocolate mould.</p> <p>As students complete their chocolate moulds in groups they vacuum form them. Assist students with the process.</p> <p>Discuss how to fill out the production record for making the chocolate. Explain how a plan of production is usually made before making a product and why. Recap on the tools and equipment needed to make the chocolate mould and the stages of production.</p> <p>As students finish their moulds they fill in the production record.</p>	<p>Highlight learning objective, must, should or could in the booklet.</p> <p>Completed design ideas.</p> <p>Completed prototype</p>	<p>Year 7 chocolate mould powerpoint</p> <p>Printed work booklet</p> <p>Coping saw</p> <p>Flat file</p> <p>Half round file</p> <p>Glass paper</p> <p>MDF blocks</p> <p>HIP sheets</p> <p>Vacuum former</p> <p>H&amp;S - see Room 5 risk assessment</p> <p>Focus on use of coping saws, files and vacuum former</p>	

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		<p>Monitor student progress and give assistance as required.</p> <p>Using random questioning recap the tools and materials used to make the chocolate mould and why these are suitable.</p>			
4	<p><b>To be able to evaluate the final chocolate mould.</b></p>	<p>Starter - Can you remember the name of the material you used to make your former? What makes this material suitable? Can you remember the name of the plastic you used to make your mould? What makes this material suitable? Think, pair, share.</p> <p>Recap on the key features of a vacuum forming mould.</p> <p>Students draw their completed mould and label the key features that make it suitable.</p> <p>Monitor student progress and give assistance as required.</p> <p>Discuss how students' ideas may have changed from their original idea on paper to their final mould and the reasons for this.</p> <p>Students explain in their work booklets how their idea has changed and if there were any further changes they would choose to make.</p> <p>Monitor student progress and give assistance as required.</p> <p>Take students through to the food room to make chocolates in their moulds.</p>	<p>Highlight learning objective, must, should or could in the booklet.</p> <p>Completed record of production</p> <p>Completed evaluation</p> <p>Completed questions on materials and processes</p> <p>Chocolates</p>	<p>Year 7 chocloate mould powerpoint</p> <p>Printed work booklet</p> <p>Washing up bowls</p> <p>Tea towels</p> <p>Dish clothes</p> <p>Washing up liquid</p> <p>White trays</p> <p>Chocolate</p> <p>H&amp;S - see Room 5 risk assessment</p> <p>.See Room 6 risk assessment</p>	

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	<p>Discuss why it is important to wash the mould before using it. Students wash their moulds and put them onto the white trays.</p> <p>Melt the chocolate and pour into the chocolate moulds. Put the moulds into the fridge for the chocolate to set. Return to the tech room.</p> <p>Students answer the questions about materials and processes used to make the chocolate mould. Monitor student progress and give assistance as required.</p> <p>If students still need to vacuum form their mould, this can be done alongside the booklet tasks.</p> <p>Students feedback one thing they have learnt while doing the vacuum forming project.</p>			
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