

## Edward Peake Church of England Middle School

**Design Technology**

**Topic: Chocolate Mould**

**Year: 7**

What should I already know?

- How to produce design ideas.
- How to work safely in the workshop.
- How to use a coping saw to cut curved and straight lines in timber.
- How to use files and glass paper to smooth the edges of timber
- How to evaluate design ideas and a finished design.

What will know by the end of the unit?

- How to carry out the process of vacuum forming.
- The difference between thermoplastics and thermosetting plastics and some examples of each.
- What HIPS is and the properties that make it suitable for vacuum forming.
- What MDF is and the properties that make it suitable to make a former from.
- How to make a MDF former.
- What ACCESSFM stands for and how to analysis an existing product.
- What iterative design is.

### Vocabulary

Vacuum Forming	A process of forming sheet plastic over a former to make a 3D shape.
HIPs	High Impact Polystyrene, a type of thermoplastic.
Thermoplastic	Plastics that can be heated more than once and then reshapes.
Thermosetting plastic	Plastics that once heated are set in shape.
MDF	Medium Density Fibreboard, a type of manufactured board.
Mould	A hollow shape that holds a liquid that sets to a solid.
Former	A 3D shape a mould is formed round.
Aesthetics	The appearance of something.
Function	What something does.
Evaluation	Explaining how a task has gone.

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Design Technology

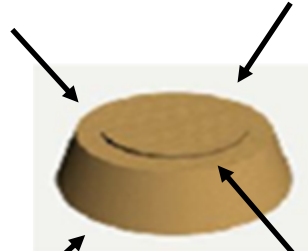
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### Vacuum forming mould

Angle on the sides

Smooth finish



Made from MDF

Rounded edges

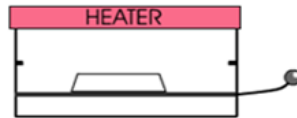
### Key information

- Thermoplastics once heated and shaped can be reheated and reshaped.
- HIPS (High Impact Polystyrene) is a thermoplastic used for vacuum forming.
- Vacuum forming works by creating a vacuum (taking all of the air out) between a former and a piece of heated thermoplastic (HIPS), which allows the plastic to be pulled down/pushed onto the former.

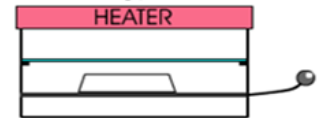
### Vacuum forming



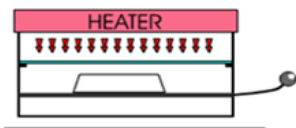
The mould is made from MDF (Medium Density Fibreboard).



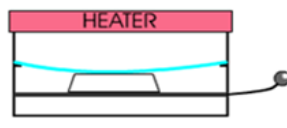
The mould is placed on the bed of the vacuum former and is lowered.



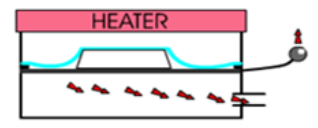
The HIPS plastic is secured onto the vacuum former.



A heater is then applied onto the HIPS plastic.



The HIPS plastic then becomes pliable.



The MDF mould is then brought up so that the HIPS plastic takes the shape of the mould.

### Investigation tasks

1. Find out about everyday objects made from plastics. Are they made from thermoplastics or thermosetting plastics? What type of plastic are they made from and why is it suitable?
2. Make a presentation sheet to educate people on some of the effects of plastic on the environment.
3. Research other methods of forming plastics and the products made using these methods.