Specific	Latent	Heat
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 $E = m L_F$ 

 $E = m L_V$ 

## Remember to take care with units - could be J/kg or kJ/kg

1. A 2.5 kg ingot of aluminium is melted to be cast. How much energy is required to melt the aluminium once it has been heated to its melting point? The  $L_F$  of aluminium is 400,000 J/kg.

2. An ice cube tray containing 200 g of water is put in the freezer. How much energy is released by the water as it freezes? The  $L_F$  of water is 330,000 J/kg.

3. A pan of water is left boiling on a hob. The hob supplies 500 kJ of energy. What mass of water boils off from the pan? The  $L_V$  of water is 2,300 kJ/kg.

4.	A goldsmith heats 40 g of gold to cast some jewelry. Once it reaches its melting point, 2.5 kJ of energy is required to melt the gold. What is the specific latent heat of fusion of gold?
5.	How much energy is needed to:
	a) heat 1 kg of water from 20°C to 100°C
	b) vaporize 1kg water into steam at a constant temperature of 100°C
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