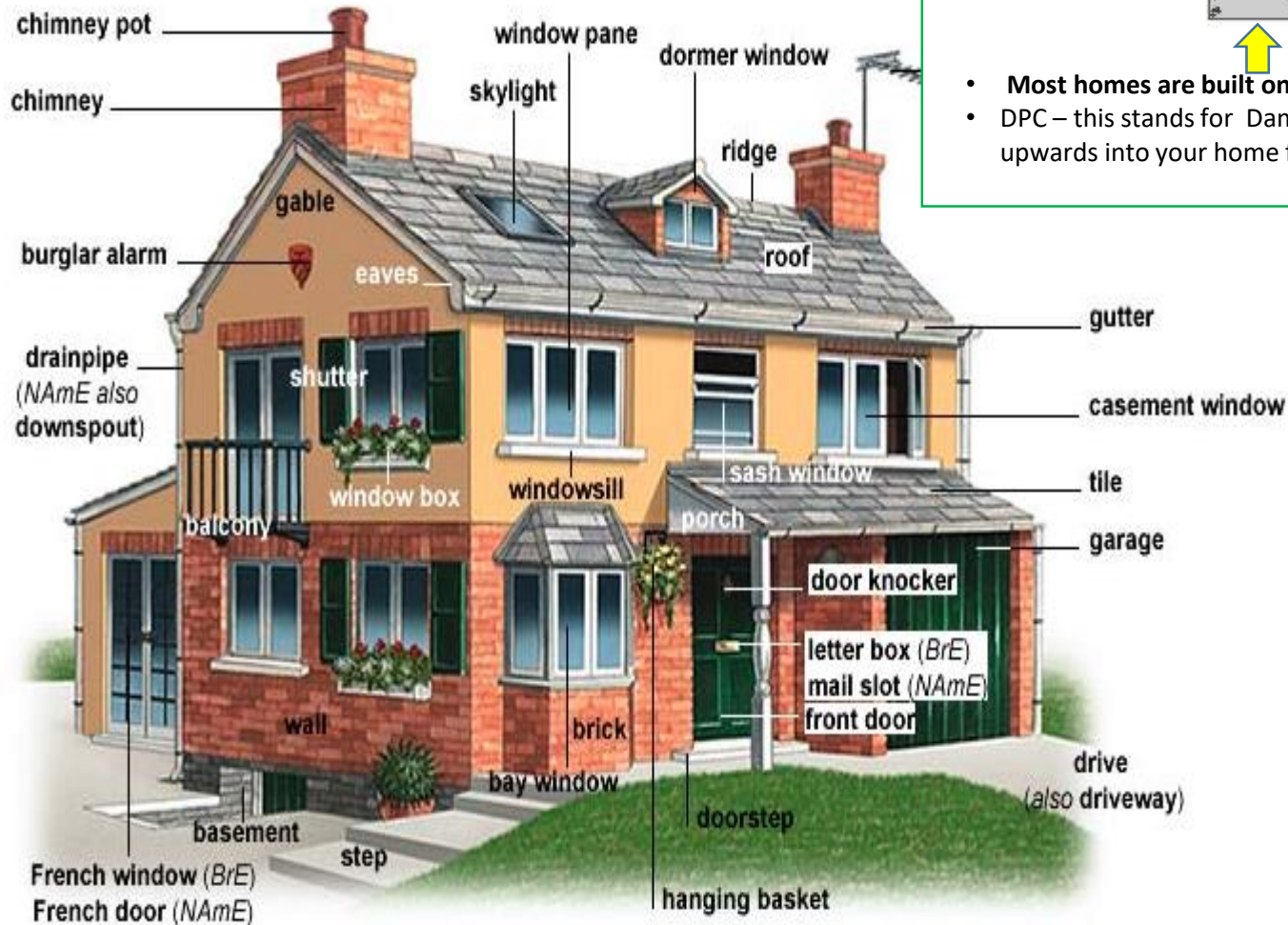
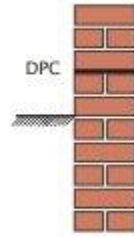


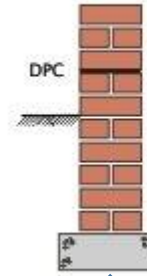
## Parts of a house



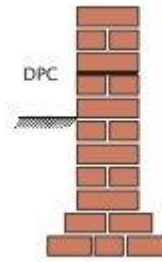
No foundation



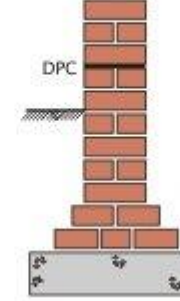
Concrete foundation



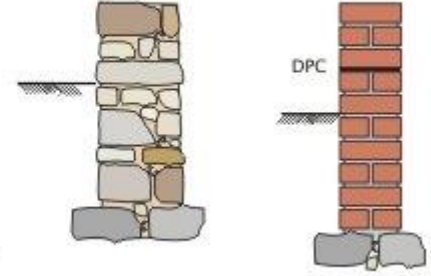
Brick footing



Brick footing on concrete foundation



Rubble/flagstone foundations



- **Most homes are built on a concrete foundation**
- DPC – this stands for Damp Proof Course. It is a layer of plastic like material that prevents water soaking upwards into your home from the ground beneath

## A cross section of a typical cavity wall



Brick layer – these are known As ‘facing’ bricks because they are the bricks that you see

Wall ties – as the name suggests they help to tie the brickwork and blockwork together making a stronger structure

Thermal insulation

Internal blockwork – these are the inside walls of a house

# Year 11 Construction TERM 1 KNOWLEDGE ORGANISER

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### Fire Resistance

All buildings should be fire resistant. The Grenfell tower disaster proved that this is not always the case but important lessons have been learned from that tragedy.

Fire resistant materials include:

- Plasterboard
- Concrete
- Blockwork
- Intumescent Paint – this is fire resistant paint that is usually seen on metal structures



Modern buildings should also have:

- Fire escapes
- Sprinkler systems
- Smoke detectors



### Sound Insulation

Buildings should be insulated from sound. You would be pretty fed up if you were kept awake at night by traffic noise, aircraft noise or even noisy neighbours.

Types of sound insulation include:

- Double or triple glazing
- Blockwork – *these help to absorb sound waves*
- Plasterboard – *a double layer of plasterboard is really effective at cutting out noise*
- Carpeting – *carpets help to reduce sound in a room*
- Acoustic ceilings – *these are designed to specifically break up sound waves*



This shows a plasterer creating a ceiling with 2 layers of plasterboard. This will make the room better insulated from sound

### Thermal Insulation

Buildings should be able to stay warm in the winter and cool in the summer. This helps to reduce energy loss and also energy bills. Any thermal insulation will have a **U-VALUE**. This is simply a measurement to determine heat loss from a building.

Types of thermal insulation include:

- Sheep's wool – *expensive but environmentally friendly*
- Glass Fibre – *made from re-cycled glass, the itchy stuff!*
- Foam – *not environmentally friendly*
- Cellulose – *made from re-cycled newspapers*



Cellulose insulation



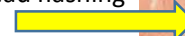
### Weather Resistance

Making a building or a home weather resistant is very important. You would not want to live in a house that leaked water every time it rained or that allowed wind to get in. Making a home weather proof is known as Weather resistance.

Types of weather resistance includes:

- Guttering and downpipes to transport water to the drains from your roof.
- Rubber seals around doors and windows to prevent rain from getting in
- Sloping roofs – these are known as pitched roofs
- Overhanging eaves – these are parts of the roof that overhang the brickwork
- Lead flashings – you see these on houses where a sloping roof meets a wall e.g. on a chimney stack

Lead flashing



Roof overhang  
(overhanging eaves)