



BIG DIG

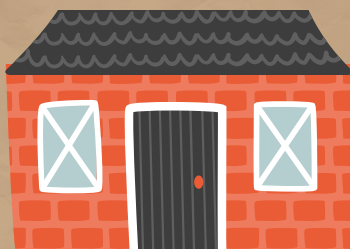
Make a WW2 Hut

To build a hut you will need:

- bricks
- mortar
- a trowel

Look at our 'materials' page for inspiration! Can you name the parts of a brick?

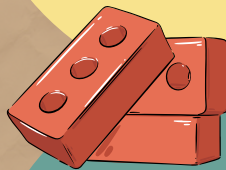
1. Mix your mortar. It is best when it is spreadable (not too liquid or solid).
2. Practice your build without mortar before you get started. How will you make your corners right angles?
3. Using your trowel, put mortar on the bottom bed and headers of your brick.
4. Lay your first course (row) of bricks, one brick at a time. Use your trowel to scrape off any mortar that sticks out.
5. Use tessellation to continue bricklaying.



WW2 CAMP

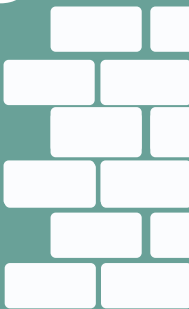
Newbattle Abbey College had been open for less than three years when it was turned into a training camp at the start of World War 2 in 1939, with space for up to two thousand trainees!

The camp had classrooms, a gymnasium, a dining hall and huts made of either brick or wood to house the trainees, as well as a separate block for toilets. The huts housed up to twenty six people at one time, with rows of beds and a central stove.



THE MATHS

Brick walls are a good example of tessellation; each brick is the same shape and they all fit together. Calculate the number of bricks needed to build your hut and make sure your corners are right angles!



THE HISTORY

Newbattle Abbey Training Camp provided training for the Royal Army Medical Corps and the ATS (Auxiliary Territorial Service) also called The Women's Army. Many of the huts still remain intact.



THE UNIVERSITY
of EDINBURGH



We're being supported by the
ScottishPower Foundation in 2024

east lothian
works



HISTORIC
ENVIRONMENT
SCOTLAND

ÀRAINNEACHD
EACHDRAIDHEIL
ALBA

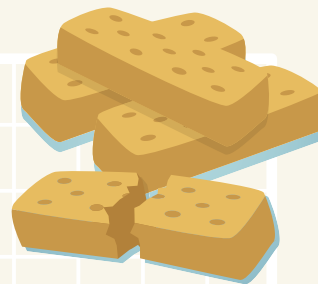
Materials

There are lots of materials you can use as bricks, mortar and a trowel. Experiment with ratio to make your own mortar.



Bricks

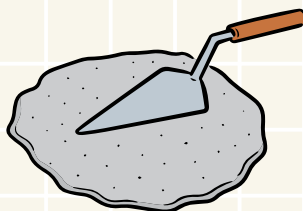
- wooden blocks (jenga)
- shortbread biscuits
- other 3D cuboids
- try making small bricks out of clay or playdough



Mortar

Make your own mortar

- 1 part salt
- 3 parts flour
- 2 parts water
- Mix to a spreadable consistency



Trowel

- teaspoon
- blunt knife
- what else could you use?



Demolition

To take your building apart, dissolve the mortar in warm water and remove any excess with a sponge.

It takes more than bricks and mortar...

Bricklayers, builders, engineers and architects use Science, Technology, Engineering and Maths (STEM) Skills and Meta Skills every day. Which skills will you use to build?

Meta skills



Self-management	Social Intelligence	Innovation
Focusing	Communicating	Curiosity
Integrity	Feeling	Sense-making
Adapting	Collaborating	Creativity
Initiative	Leading	Critical thinking

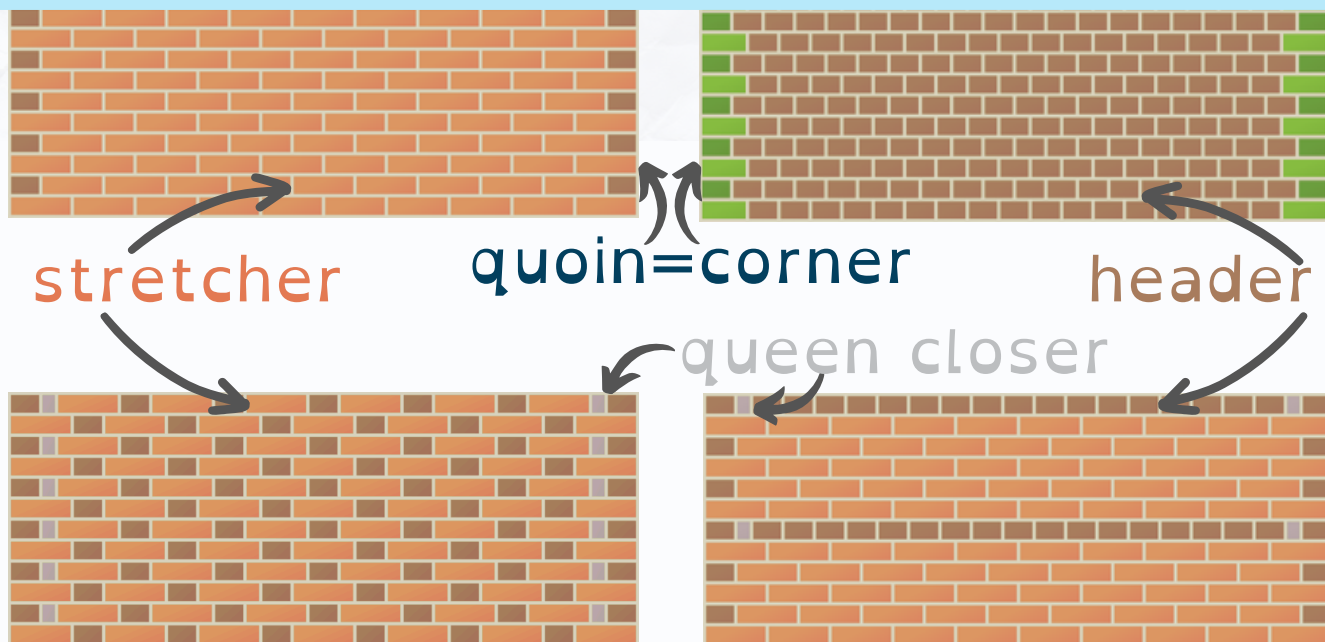
Source: Meta Skills Progression framework - Skills Development Scotland

3D Brickwork

There are many types of brickwork (brick patterns) using different combinations of stretchers, headers and queen closers on different courses (rows). Explore brickwork using your 3D bricks. Which bond will you build?

Stretcher bond

Header bond



Flemish bond

Scottish bond

2D Tessellation

Explore tessellation (repeating pattern of shapes with no gaps in between) by using cut out paper or card rectangles to represent 2D (flat) brickwork:

- stretcher
- header
- queen closer



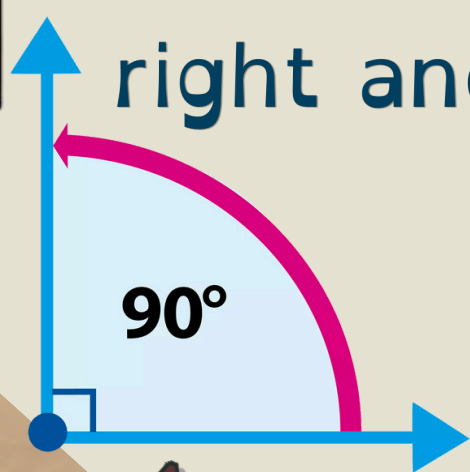
Which bond is your favourite?

Can you make your own brickwork bond?

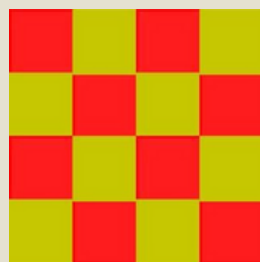


BIG DIG Make a WWII Hut

right angle



tessellation



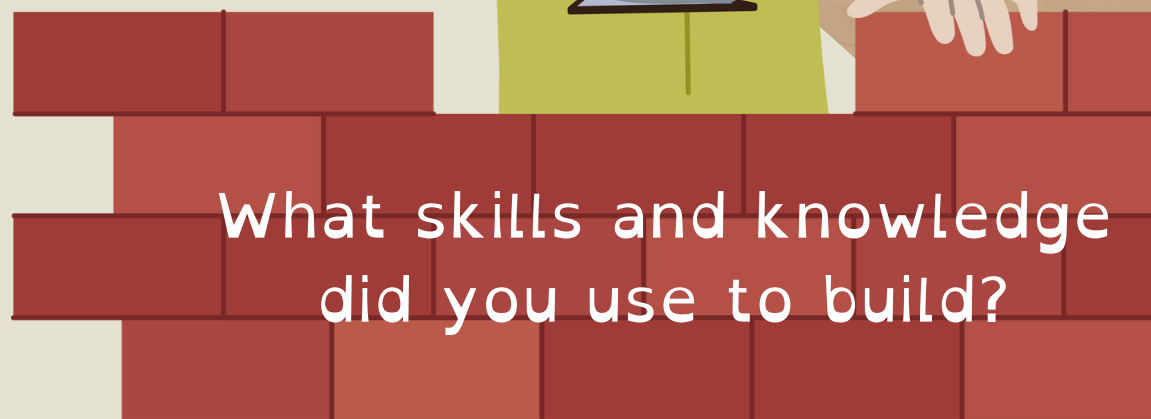
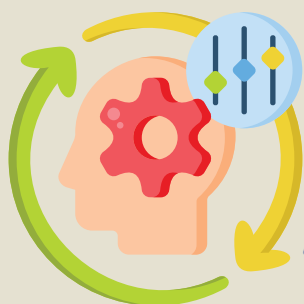
pattern



estimation



resilience



What skills and knowledge did you use to build?

calculation



shape



creativity



measure



THE UNIVERSITY OF EDINBURGH



We're being supported by the ScottishPower Foundation in 2024

east lothian works

AOC Archaeology Group



HISTORIC ENVIRONMENT SCOTLAND

ÀRAINNEACHD EACHDRAIDHEIL ALBA



Original Nissen huts, which were built by the War Office on the grounds belonging to Newbattle Abbey. These units still stand and form the modern day Business Park

© Imperial War Museum

IWM

Collection: MRS. IMPSON
IWM 7605-02



Officers receiving training in architectural drawing

© Imperial War Museum



THE UNIVERSITY
of EDINBURGH



We're being supported by the
ScottishPower Foundation in 2024



HISTORIC
ENVIRONMENT
SCOTLAND

ÀRAINNEACHD
EACHDRAIDHEIL
ALBA



An outdoor commerce class in the grounds of Newbattle Abbey
© Imperial War Museum

IWM

Collection: MRS. IMPSON
IWM 7605-02



The King's Lines barracks, showing the wooden huts and military vehicles
© Imperial War Museum





IWM

Image: IWM (H 34707)

A.T.S. MAKE CHRISTMAS TOYS.

H.34707.

For story see caption sheet.

The House that Jill Built! Cpl. Dinah Marsden (left), of Gayton, merchants, puts the final touches to the dolls house which she helped to build, while Cpl. Margaret Tinline, of Denholm Mill, Hawick completes the furniture.

SECRET: Training Centre, Dalkeith.

taken by Lt. Lockyear.

7.12.43.

RELEASED

IWM

Image: IWM (H 34707)



THE UNIVERSITY
of EDINBURGH



We're being supported by the
ScottishPower Foundation in 2024



HISTORIC
ENVIRONMENT
SCOTLAND

ÀRAINNEACHD
EACHDRAIDHEIL
ALBA