Introduction

Learn how to edit objects and extrude in Blender by creating a simple house from a single block.

What you will make

Here is how your finished piece will look:

What you will need

Hardware

- A desktop or laptop computer capable of running the Blender software

Software

- Blender (v2.73 or higher)

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Step 1: Vertices, edges and faces

Activity Checklist

Open Blender and close the splash screen. You will see that a cube has been automatically added for you.
If you rotate the cube using the middle mouse button, you'll see that it doesn't look particularly house-like at the moment. You might be tempted to go to the Create tab in the Toolbox and add a cone on top of the cube. For example:

But that's not a very good solution at all. It is far easier to edit the cube itself to make it look like a house.

Select the cube, then go to the lower menu and select Edit Mode.

Now you are in a mode which allows you to edit every part of the cube to reshape it.
There are three options: you can select to edit vertices, edges, or faces from the bottom menu.
Vertices

Choose **vertices** from the menu — this means you can select the corners of the cube.

Select a vertex (corner) of the cube by right-clicking on it.

Drag the vertex using the blue, green, and red handles to create a new shape.

If you don’t like the new shape you have created, you can press **CTRL + Z** to undo the changes.
Edges

Choose edges from the menu — this means you can select the edges of the cube.

Right-click on an edge to highlight it in white.

Move the edge using the blue, green, and red handles to create a new shape.

Faces

Choose faces from the menu — this means you can select the sides of the cube.
Select a face by right-clicking on it.

Move the face using the blue, green, and red handles to create a new shape.

For now, undo the changes you have made by pressing CTRL + Z until you get back to the original cube.
Step 2: Create half a roof

To create the roof, start by selecting an edge.

Activity Checklist

- Select the edge tool from the bottom menu.
- Right-click to select the upper right edge of the cube.
- Drag it upwards using the blue handle.

Now you have half a house with one edge going up to a point. You need to create the other half of the roof, but you cannot do that with a cube, because
there are not enough parts to this cube to create the right shape.
In the next step you will learn how to use a tool called extrude, which will allow you to complete your house.

**Step 3: Extrude**

✅ **Activity Checklist**

- Select **faces** from the menu at the bottom.

- Right-click to select the right outer face of the cube.

- Go to the Toolbox bar on the left, and make sure the **Tools** tab is selected. In the **Add** section you'll see a whole selection of **extrude** tools.
Select **Extrude Region**. You can now move the mouse from left to right to add another side on the house. When you are happy with what you've added, left-click to finish editing.

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**Step 4: Create the other half of the roof**

✔️ **Activity Checklist**

☐ Select **edges** from the lower menu.
Right-click to select the upper right edge.

Drop the edge down to match the other side of the roof. The result will be something that looks a little bit more house-like.
Your house might look a bit unbalanced, so it's up to you to experiment and make it look better. Using the techniques you've just learnt, it is possible to start making some very complicated models.
Challenge: colour in your house

Can you add colour to your house?

You can select a face and add a material to the face to colour it in:
+ Go to the Material tab on the right and click the +, then create a New material.

+ Select a colour for your material under Diffuse.
+ Go to Edit mode and select the face you want to colour.
+ Select the material, then press Assign to assign the material to the face.
+ Try giving your house multiple colours. For example, you could add a grey roof: