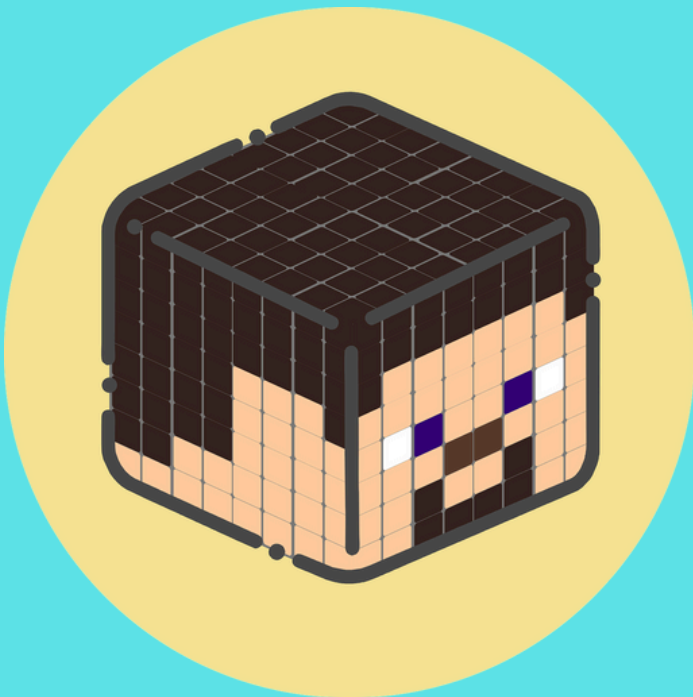
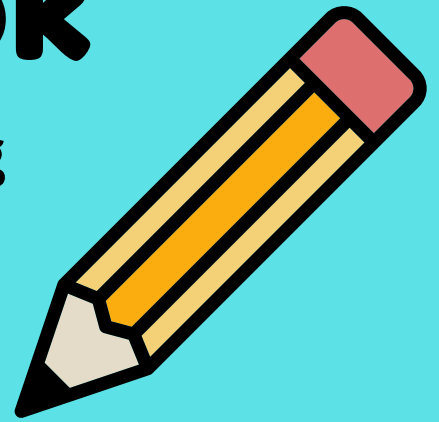


# Maths In Motion

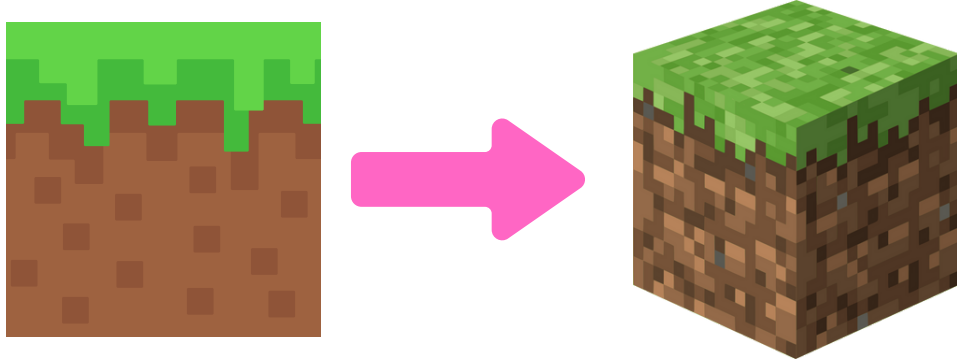
## MINECRAFT

# Workbook

Lesson 3: 3D drawing



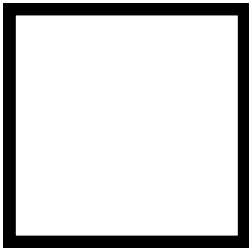
# Turn a 2D picture into 3D



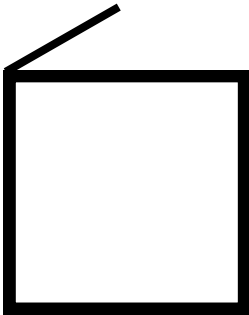
## Oblique

Try yours here:

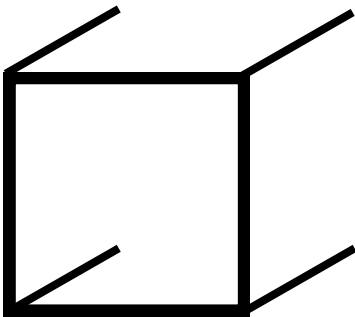
# Oblique



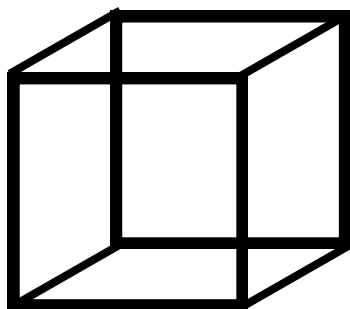
- Start with a shape (square or rectangle is easy to start with)



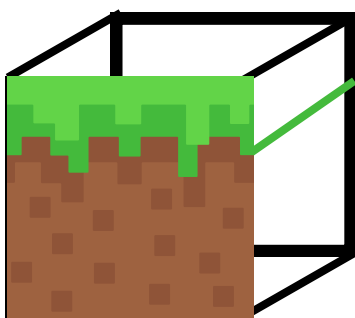
- Choose a corner and draw a straight line going back



- Repeat on every corner (same length, same angle)



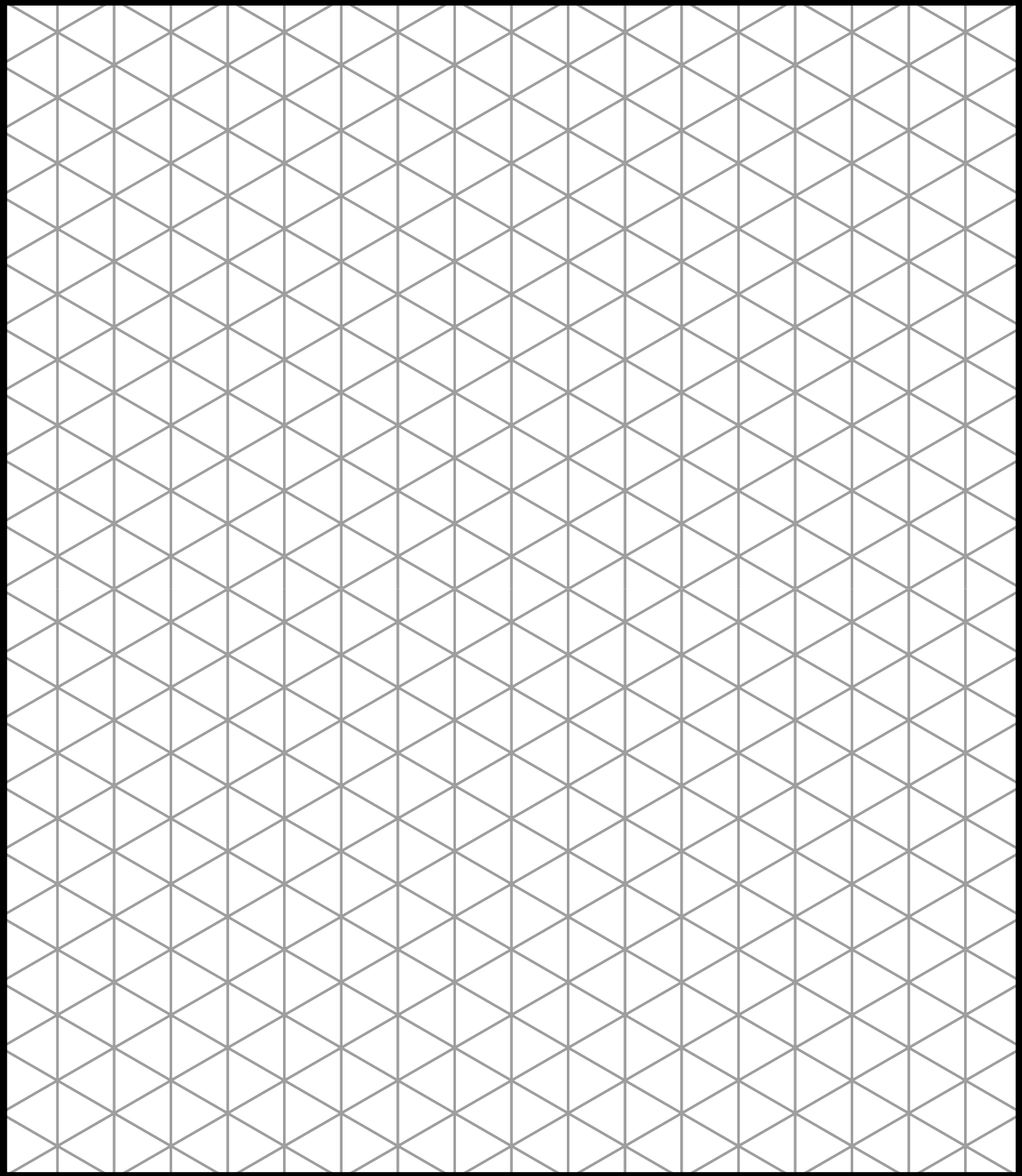
- Join up the missing sides using parallel lines

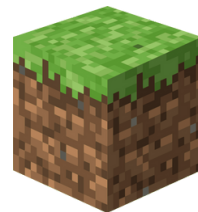


- Decorate your block following parallel lines with your colours

# Isometric

Try yours here:



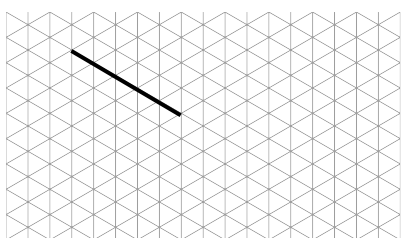


# Isometric

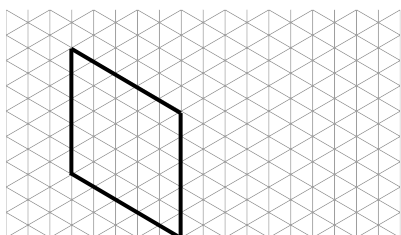
Isometric paper is all made of equilateral triangles.

That means that when you draw a cube, every line you draw will be exactly the same length.

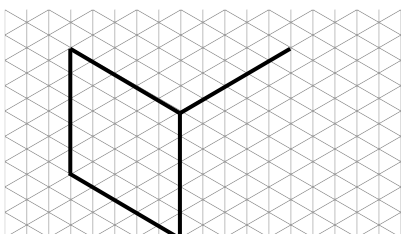
So choose a side length and stick to it.



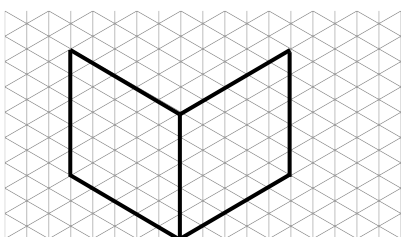
Start with 1 line. Start in a corner and count how many corners you visit after that for the length.



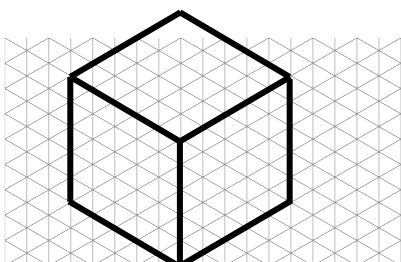
Turn it into a “square” by drawing a line down on each side, visiting the same number of corners. The join.



Next, go back to the 1st line and draw the same length line, heading in the direction you haven't yet (following the lines of the triangles)

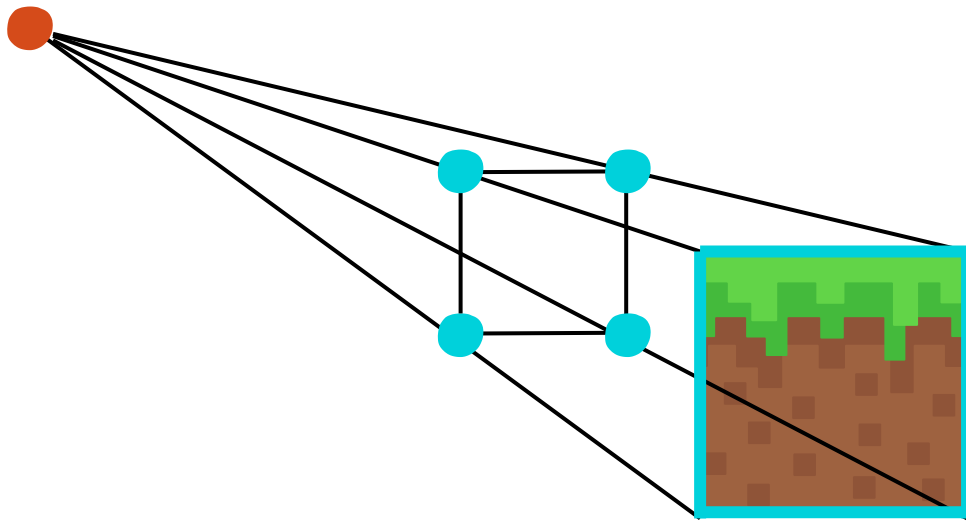
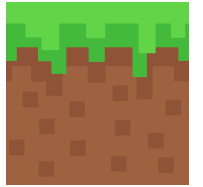


Turn that into a “square” too.



Turn the top into a “square” as well, with 2 more parallel lines.

# Vanishing point

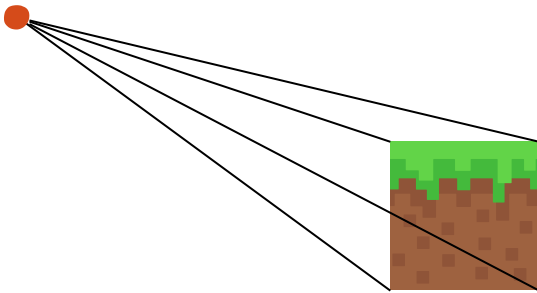


Try yours here:

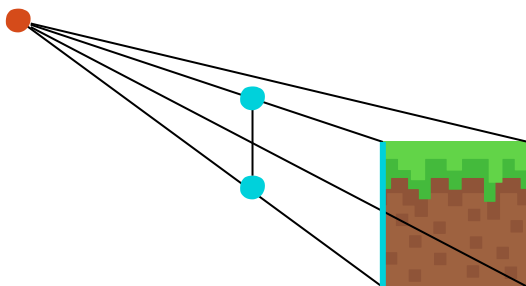
# Vanishing point



Start with a square and a point.

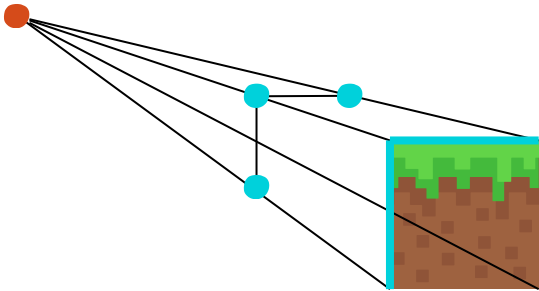


Use a ruler to draw straight lines back from each corner to the point. These are your “vanishing” lines.

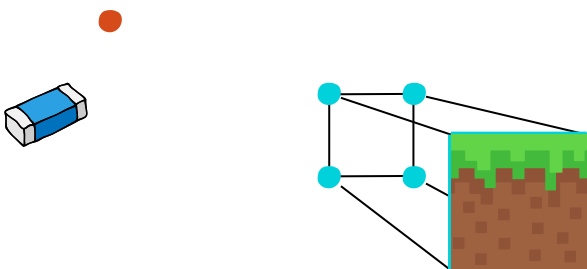
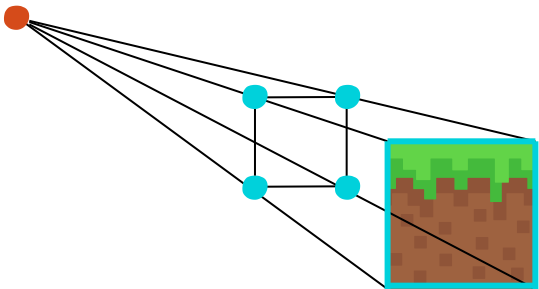
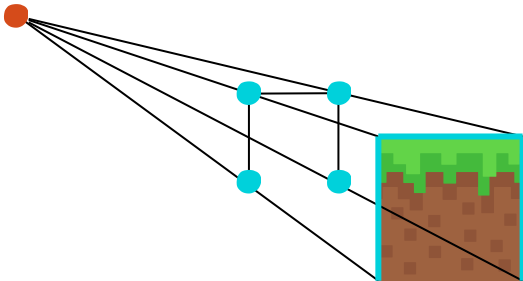


Choose one side. You are going to draw a parallel line to that side. It must also join the “vanishing” lines that come from the ends of that line.

# Vanishing point



Now you do the same for each side of the square. Making sure that your new lines connect.

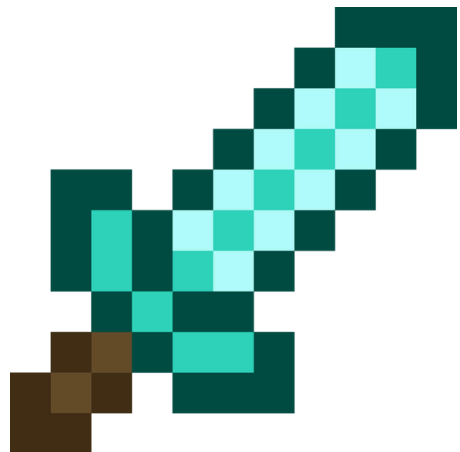


Finally, rub out the “vanishing” lines and decorate your square.

# Make these object 3D

You might want to cut them out and pop them on some other paper if you would like more space

# MINECRAFT



# Minecraft challenge:

Create a build in Minecraft then draw it in 3D. put your picture here:



# Minecraft challenge:



Draw your Minecraft character in 3D

Put a picture here



## Non Minecraft challenge:

Build something using Lego or blocks and draw it in 3D.

Put a picture here

