

School holiday activity

# Creating a virtual 3D station using Minecraft



A step-by-step guide for students to use Minecraft to explore mathematical concepts, as well as problem-solving skills to design a virtual 3D station.

This activity is suitable for students 7 to 12 years old with access to Minecraft software. If you do not have Minecraft on your computer or smart device, parents must provide permission to download as charges may apply.

**Did you know:** If you don't have access to Minecraft, there's other 3D software that is available on the web such as, Google Sketchup8 or Lego Digital Designer. Otherwise, why not try creating your own mini 3D metro station out of craft items such as cardboard, paper, boxes, pop-sticks, plasticine, Lego, blocks, or other recyclable materials? Use this guide as an inspiration and then make your own station!

## Getting started

### Materials




- Desktop computer, laptop or iPad/Android device
- Download app "Minecraft" onto your device (charges apply – get permission from your parent/guardian)

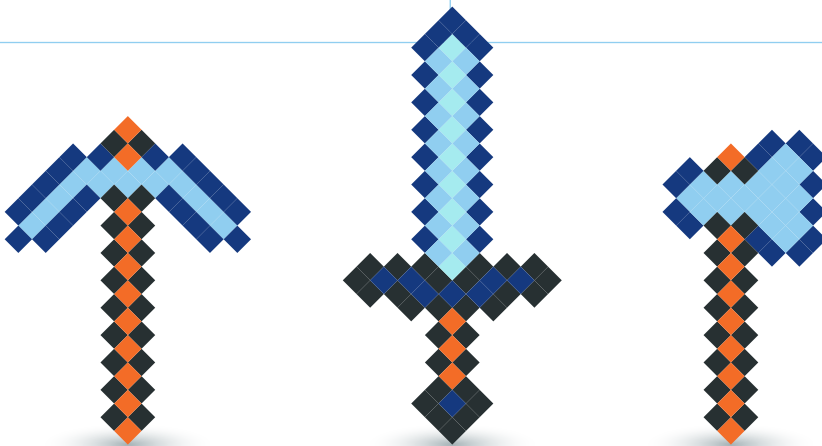
Make sure you have at least two or three hours (or more!).


## Your mission

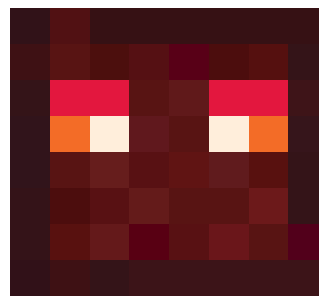
Imagine you are a Sydney Metro architect. You have been given the task of designing a new metro station for your local community. You must consider features of your new station that meet your future customers' needs and your local environment. This should include, safety, pedestrian walkways, interchange for cars, buses and taxis, accessibility for customers with prams, wheelchairs and limited mobility as well as other customer facilities including bicycle storage.

## A step-by-step guide

<p><b>1 Set up your Minecraft account</b></p> <p><b>Get permission</b> from a parent/guardian to download the “Minecraft app” on your desktop, laptop or iPad/Android device (charges may apply).</p> <p> <b>Quick tip</b></p> <p>If you already have the Minecraft program or another 3D modelling software then you do not need to do this step.</p>	<p><b>2 Get inspired</b></p> <p>Get permission from a parent/guardian to do some online research at <a href="https://www.sydneymetro.info">sydneymetro.info</a></p> <p>Using the Sydney Metro <a href="https://www.sydneymetro.info">website</a> conduct an investigation to learn more about station design.</p> <ul style="list-style-type: none"> <li>• Watch an introduction to <a href="#">Sydney Metro video</a></li> <li>• Check out the <a href="#">interactive map</a> and click on each of the stations</li> <li>• Watch the <a href="#">video</a> on station design.</li> </ul> <p> <b>Quick tip</b></p> <p>Write down at least five ideas that you could add to your station inspired by current metro stations.</p>	<p><b>3 What does your future customer want?</b></p> <p>Consider the future customers that will use your station. Think about their customer journey, how will they get to the station? What do they want at the station?</p> <p>Write down at least three features of your own metro station that doesn't exist in any metro station. It could be something fun like a chocolate fountain or jumping castle.</p>
<p><b>4 Learn how to use Minecraft</b></p> <p>If you aren't familiar with using Minecraft, get permission from a parent/guardian to watch these Minecraft creative mode tutorials.</p> <p>For desktop or laptop <a href="https://youtu.be/LbQqmWJf_Bk">https://youtu.be/LbQqmWJf_Bk</a></p> <p>For iPad/Android device <a href="https://youtu.be/xmiyaThBfn0">https://youtu.be/xmiyaThBfn0</a></p>	<p><b>5 Set up your Minecraft world</b></p> <p>Open your Minecraft program:</p> <ul style="list-style-type: none"> <li>• Select single player</li> <li>• Name your world “Sydney Metro”</li> <li>• Change game mode to ‘creative mode’</li> <li>• Select ‘create world’.</li> </ul>	<p><b>6 Roll up your sleeves and get creative</b></p> <p>Start with the basics. Pick a flat place to start building your station.</p> <p> <b>Quick tips</b></p> <p>The new Metro North West Line includes three types of station design:</p> <ul style="list-style-type: none"> <li>• Open cut stations (Tallawong, Bella Vista and Cherrybrook stations)</li> <li>• Above ground / elevated stations (Rouse Hill and Kellyville stations)</li> <li>• Underground stations (Norwest, Hills Showground and Castle Hill stations).</li> </ul>



7 What's in a station?	8 Extension	9 Save and share your stations
<p>At Sydney Metro, our stations are designed for our customers. Features to consider when designing your station:</p> <ul style="list-style-type: none"> <li>• Easy access for all customers including those with specific accessibility needs (wheelchair users, those with restricted mobility, reduced vision and hearing, customers with prams)</li> <li>• A safe environment</li> <li>• A comfortable environment (protected from weather, good ventilation, daylight)</li> <li>• Customer facilities (e.g. toilets, seats, ticket facilities, bicycle storage)</li> <li>• Public areas (unpaid concourse, paid concourse and platforms)</li> <li>• Staff areas</li> <li>• Station systems (platform screen doors, video help points).</li> </ul>	<p>If you have finished building your metro station and still feeling creative why not build a rail network? Create some train tracks, build another station or two (this time build a different type of station design) and run your Minecart along the network.</p> <p> <b>Quick tips</b></p> <p>Get permission from a parent/guardian to watch this video on making a railway in Minecraft  <a href="https://youtu.be/4lefh75FA_k">https://youtu.be/4lefh75FA_k</a></p>	<p>Make sure you save your work so you can go back and add more to your stations or network. Once you've finished, show your parents and family your handy work!</p> <p>For more advanced users, you can also save and share your world with your friends. This is different for PC, Mac and iPad users, so please refer to this on your program for the best way to share.</p> <p>Screenshot some of your station designs with a short description of what you have created and email us at <a href="mailto:sydneymetroedu@transport.nsw.gov.au">sydneymetroedu@transport.nsw.gov.au</a></p>



## My 3D Metro Station

### Station design ideas

Customers will want to use my metro station because...

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

My station is different from all other metro station because...

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## My station checklist

- Station entry and exits
- Opal card readers
- Platforms
- Safety screen doors
- Video help points
- Weather protection
- Customer facilities (seats, bicycle storage)
- Accessibility features (lifts, stairs)
- Plants
- Sustainability features

