

# Make a train

## Parts

- 1 x balsa wood engine body
- 1 x engine upper
- 2 x carriage bodies
- 12 x wheels
- 12 x 16mm screws
- 3 x 40mm nails
- 2 x eye screws
- 2 x hook screws

If any of these are missing, please contact Young Woodworkers.

## You will need

- Hammer suitable for children. We recommend a ‘stubby’ 8oz hammer.
- Pozi drive 2 screwdriver (this looks similar to, but is different from, a Phillips screw driver). Pozidrive 2 (often denoted PZ2 rather than PH for Phillips) are probably the most common of the “cross head” screwdrivers. We recommend a ‘stubby’ version.

## Before you start

You can do this project either sitting at a table or standing at a workbench. It is important that children are positioned high enough that they can use the hammer properly. This might mean kneeling on a chair.

We recommend using something like a chopping board to protect any work surfaces.

## Instructions

Our train is made up of three parts. The Engine at the front and two carriages that it pulls.

We’ll make the Engine first. This is made of two pieces of Balsa wood that are nails together.

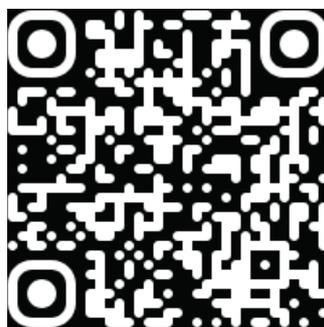
You can tell the wood for the engine because it’s lighter wood (both in colour and weight). It’s also NOT pre-drilled with any holes.



First, place the small part on top of the large part. It should look like this



Now use two nails to join them. If you've not used nails before (or would like a refresher), scan the below QR code for a video, or head to: [https://www.youtube.com/watch?v=ZDvwn\\_C\\_tD0](https://www.youtube.com/watch?v=ZDvwn_C_tD0)



Our engine now needs some wheels, so we'll add these next using screws. Push the screw through the hole in the wheel and then push the screw into the engine slightly. You can then use the screwdriver to tighten the screw.

If the screw is too tight, the wheel won't turn, so you'll need to back it off a little bit to let it spin freely. For more information, take a look at our video by scanning the below QR code or heading to [https://www.youtube.com/watch?v=VU36uYu\\_PJE](https://www.youtube.com/watch?v=VU36uYu_PJE)



Now we've made the engine, we need to make some carriages.

The carriages are made of a slightly different wood: pine. You might be able to smell the difference. Pine is harder and heavier than balsa, so to make it a bit easier, we've pre-drilled some holes in it for the wheels.

The process of adding the wheels, though is the same as on the engine, only this time you have to put the screw into one of the existing holes before you start to screw it in. If it becomes difficult to screw, make sure that the screw is properly in the hole.

Now you have the engine and carriage, you just need a way of joining them together. We'll do this using the hook screw and eye (circle) screw.



These work just like the other screws we've been using except that you don't need to use a screw driver. Screw the hook into the middle of the base of the engine. Make sure that when you're finished, it is vertical.

It should look like this:



There is a pre-drilled hole in the end of your carriage for the eye screw. Put the screw in the hole, and screw it in. This time, when you finish it needs to be horizontal. It should look like this:

Now you can hook your carriage onto your train and go for a ride!



And that's all there is to it! Now you know how to make a carriage, you just need to do the same again to make the second one. This time however, you have to put a hook in the first carriage and an eye in the second.