



C56

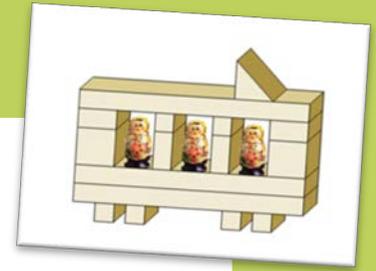


15-20 minutes

TRAMS, TRAMS, TRAMS

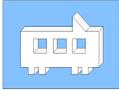


To develop the ability to analyse the structure of an object – the shapes, relative sizes and spatial relationships between the main functional features
 To practise building structures without detailed information
 To practise identifying an object's main features and their functions (trams)
 To foster self-regulation – choose the blocks first and plan the build sequence required



FROM YOUR BLOCK SET

- ❖ Access to all the blocks
- ❖ Ghost Model of a tram



- ❖ Pictures of trams



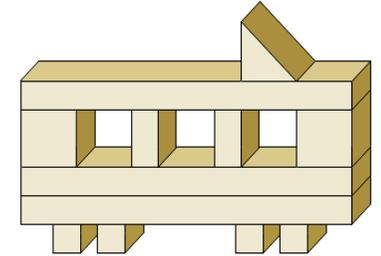
- ❖ The Ghost puppet from C20



- ❖ A large cloth or sheet
- ❖ 3 small toy figures, between 4 and 6.5 cm tall (per child)



Note: Build this exact model of a tram before you start and cover it with a sheet/cloth. Keep the Ghost Model and the Ghost hidden until you need them, and don't let your child see the images on these pages either.



Have You Ever Seen a Tram? (Analysis and Explanation)

Discuss any trams that your child has seen, and show them the pictures. Talk about what they are for and where you find them (usually in cities). Draw their attention to the fact that trams run on rails and are powered by electricity. Help them compare trams to buses using the photo showing both to help you – how they have the same purpose – to carry people – but that trams run on a fixed route on their own section of road and are therefore less affected by traffic than buses. Then help your child to compare trams with trains such as an underground metro system – how the latter has the same purpose, to help people move from one place to another more quickly than walking, but how they usually have a track with longer straighter sections, so people get to where they need to go faster, and this means that they are built underground on a fixed route where there are no buildings, traffic or people in the way.

Confirm the advantages of trams – they can carry people around the city without getting stuck in traffic, they are very safe because they stay on the same rail all the time, they move smoothly on the rails which makes them comfortable, they can be built above ground, and how people can see the city out of the windows while travelling around which can be a pleasant experience for them.

CONTINUED ON THE NEXT PAGE



- Your child can build a tram according to your example.
- Your child can make their tram higher to accommodate small toy figures.
- Your child can identify the main parts of a tram and say what they are for.
- Your child can build trams corresponding to a Ghost Model, taking into account both functional and structural requirements (i.e. all the components of the tram are present and the shape and relative proportions are appropriate).
- Your child uses the language of spatial orientation appropriately (e.g. over, under, next to, across, on both sides, opposite, beyond).



KEY TO LEARNING
@HOME

TRAMS, TRAMS, TRAMS – continued



Tram Twin (Concealed Construction and Copycat Construction)

Reveal your built model of a tram. Analyse the structure and identify the main functional parts together – the wheels, floor, sides, windows, roof and the pantograph (the device that connects the tram to the electricity supply). Discuss how the different parts of the tram have been built and the spatial relationships between them. Compare it and its parts to the pictures of trams.

Tell your child that the city needs more trams like this, and that they are going to be a tram builder. Say: *You need to choose all the blocks that you will need before starting to build, as otherwise someone else might come and buy those same materials for another project and then there might not be enough when you need them.*

Once they have their blocks, ask them to build an exact copy of the tram – each child doing the session should build their own copy of your model. If they need support and can't do it alone, show them how to do it systematically – beginning with the wheels, then the floor, the sides, the windows, the roof and finally the pantograph – discussing it with them as they go.

Make it Higher (Meet the Criteria)

Now produce 'passengers' (your small toy figures), and explain that they would like to ride on the trams. Note that this will create a problem to be solved since the figures are too big to stand inside the trams). Wait for your child to notice that the trams are too small and then discuss how to solve the problem. Agree that they should make the roof of the tram higher.

Ask your child to adapt their tram so that the figures can ride inside them.



3D Ghost Tram (Building According to a Ghost Model)

Take the tram that they have just made apart, and put the blocks back with your other blocks. Produce the Ghost puppet and explain to your child that the Ghost has set them another Ghost Model mystery to solve. Put out the Ghost Model of a tram. Ask them a series of questions to help them analyse the Ghost Model, to help them internalise the questioning process and how to analyse, as in previous sessions, for example: *What could this be? What is it for? Which are the main component parts? What are they called? Which blocks could we use to build each of these parts? Which part would we need to build first?*

Help them to analyse the model to decide what building blocks they need to build it. Then make sure that they have the sequence of steps needed to build the tram, and ask them to build the structure (each child should build their own). Obviously there is more than one possible way of doing it, as shown here. When they have finished, congratulate them on being such careful tram design planners and builders.

