

BALTIC

Home&School Resource Brilliant Bridges

Research, design, test and make

C #balticconnect **ONNECT**

About BALTIC

BALTIC Centre for Contemporary Art opened on Saturday 13 July 2002. Situated on the south bank of the River Tyne in Gateshead, England, it consists of 2,600 square metres of art space, making it the UK's largest dedicated contemporary art institution.

From BALTIC, you can see nearly all of NewcastleGateshead's bridges. These activities are inspired by this iconic view, and by the idea that a bridge can also be something that connects us to others, in different and unexpected ways. Did you know there are seven bridges that span this section of the River Tyne? All of which can be seen from BALTIC's Level 5 viewing platform – [click here online](#) for a virtual visit.

About the artist

This Home&School resource has been developed and illustrated by BALTIC Freelance Artist, Zoe Allen. Zoe makes sculpture and installation using materials collected from places she has lived, or with which she has a personal connection. She is interested in the way in which people can feel strong emotions toward particular buildings, materials or spaces. She creates assemblages in which she considers shelter, habitat, family and shared histories. Her work explores ways in which objects or structures can be vessels to carry memories or allude to experiences.

What you will need for this resource:

- Access to the internet, if possible
- Someone to talk to
- Paper, pencils or pens
- Scissors
- Glue
- String or ribbon
- Building materials: dried spaghetti and any cardboard you would normally recycle like cereal boxes, packaging or kitchen roll tubes
- Decorating materials like coloured paper, stickers, tinfoil, tape or anything you have
- Some (full) cans of beans or soup – it doesn't matter what's inside, they are good for weight and structure.



Let's talk about bridges

What does a bridge look like?

Describe one you have seen or travelled across.

What does a bridge do?

A bridge is a link between two places – it connects one thing to another.

Who builds a bridge?

Architect? Engineer? Artist? Builders? All of them? Teamwork?

Who does a bridge belong to?

The people? A city?

If you stand in the middle of a bridge connecting two places, which place are you in?

What is the function of a bridge?

A bridge is to enable things to cross from one place to another or over an obstacle, such as a valley, or river.

What's more important; how a bridge looks or the function it has?

What is a boundary?

A boundary is a dividing line which indicates the edge or limit of something – for example a field or the border between two countries. Mountains, rivers, roads and fences can all be borders or boundaries. Boundaries can also be invisible. A boundary can also be a rule or law for the way we behave towards other people.

There are lots of different types of bridges.

Describe or sketch the following, use a Google search to help:

- 1 **Beam Bridge**
- 2 **Arch Bridge**
- 3 **Truss Bridge**
- 4 **Suspension Bridge**
- 5 **Cantilever Bridge**
- 6 **Cable-Stayed bridge**

What is a viaduct?

What is an aqueduct?

Have a look again at the bridges over the Tyne – what type of bridges are they? What are the names of the bridges? (Hint: some are a mixture of more than one kind... The Gateshead Millennium Bridge is an arch bridge and what other kind?)

What do NewcastleGateshead's bridges cross?

What are they connecting? What would happen if they weren't there?

Design Brief:

Use paper & pens. Here is your brief...

Our city needs a new bridge!

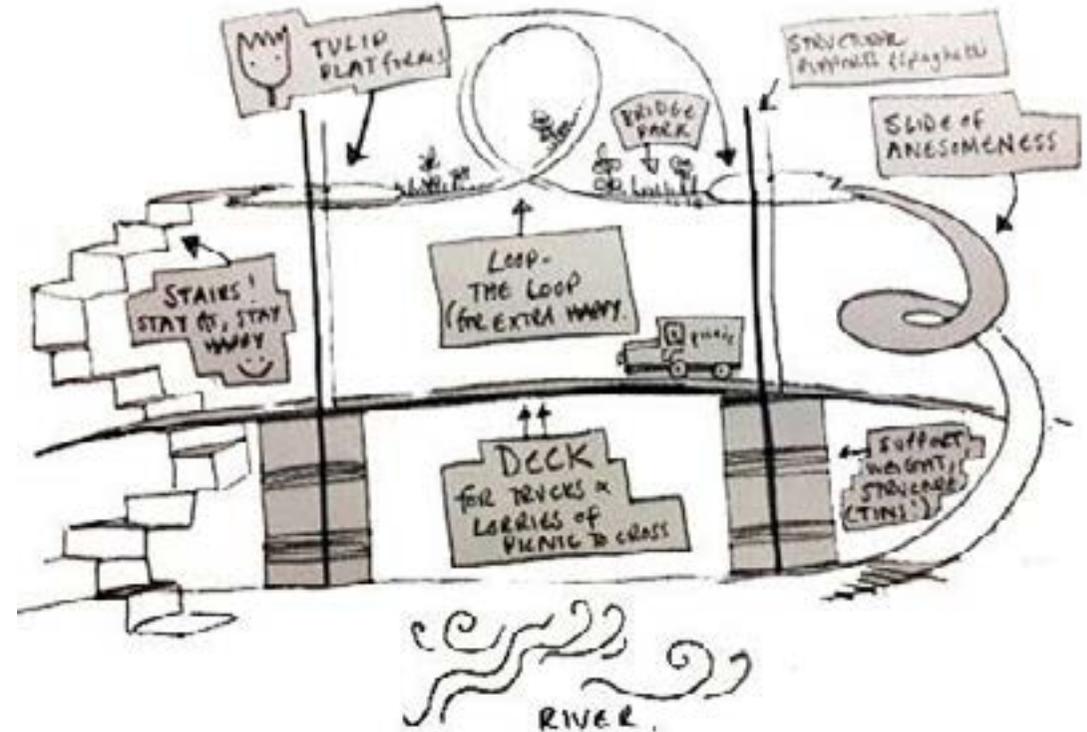
A great big celebration of strength and togetherness is planned for just as soon as we can have it, during which a huge picnic will take place, with food from all the different countries and cultures represented in the North East.

Sounds good right?

We need a new bridge to transport people (walking and cycling) and wagons (driving all the picnic food) from one side of the River Tyne to the other. This will be the best bridge the world has ever seen (no pressure). It will put the fun into functional and to design it you need to be inventive as possible...

It is important to make a design before you start to build anything. This is your plan. Designing helps you to have a clear idea of what you want to build, and what materials you might need to do it. It is also a good time to talk to the people around you, and see what they think. Architects, engineers, artists and builders all have to talk to each other – no one can build a bridge all on their own.

Sketch up your ideas, share them with the people around you. Gather feedback, adapt your design if you need to.



Build it...! Yes...build it!

Think it through

Check your design – what do you need to make your bridge?
Think about the materials you have and how you can use them.

Can you make flat (2D) materials 3D? Can you make them into cones, cylinders or cuboids..?

Can you fold them? Scrunch them? Change their shape?

Will you start at the bottom or the top?

Do you need something to support the weight of the roadway?
(This is where you might use your tins to create a substructure).

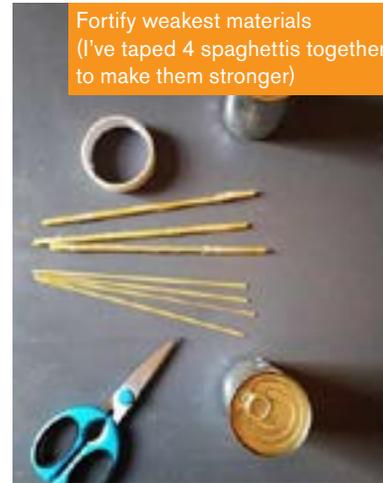
You can do it...!



Box of materials READY!



Measure bridge length...
(I've gone for 1 spaghetti length)



Fortify weakest materials
(I've taped 4 spaghetti together
to make them stronger)



Attach to tins for stability.
Add cardboard deck



Add Tulip Platforms...



...and an awesome slide



Attach a loop-the-loop of happiness.
I've done this with glue and tape for extra strength.



Et Voila! Bruuuuuuuuuuuuummmmm...

Did it work?

Can your bridge carry the weight of a toy truck or train?

What is the heaviest load it can take?

Where is the weakest point in your bridge?
How did you make sure it was strong enough for the load going over it?

Did anything not go as planned?
How did you adapt your design?

Is your bridge beautiful? Does it matter?

What did you learn by building your bridge?

Share your amazing creations using **#balticconnect**
We can't wait to see them!



Further ideas

Playing with scale

In 2002, BALTIC commissioned sculptor Chris Burden to make a scale model of The Tyne Bridge using Meccano. See his work [click here online](#).

What other playful materials could you use to make bridges?

What other bridges would you like to build scale models of?

Can you make a bridge that you and your family can fit under?

Image © Chris Burden *Tyne Bridge Under Construction* 2002



A to Z of street names

Japanese artist Yoshimoto Nara and creative design team graf created this installation at BALTIC in 2008 as part of their A to Z project. Have a look [click here online](#).

Yoshimoto Nara + graf created street names working from A through to Z in the alphabet, could you do the same?

Think about the name of your street or house, why do you think it was called that?

Research online about the origins of street names – there's some funny ones!

Find out *Frying Pan Alley* or *Knick Knack Lane* to start you off.

Yoshitomo Nara + graf: A-Z Project 2008 Image: Colin Davison © BALTIC Centre for Contemporary Art 2008



Recycled buildings

Check out images of Pedro Cabrita Reid's exhibition *A Place Like That* [click here online](#).

Recreate a mini version of this work using materials you would normally recycle.

Who would live inside? A pet? A tiny version of yourself? What would you need inside?

Can you make lots of little houses, or a town?

Pedro Cabrita Reis, *A Place Like That* 2002. Image: Colin Davison © BALTIC Centre for Contemporary Art 2002



Key Words

structure/ construct/ measure
designers/ architects/ materials
substructure/ superstructure
deck/ bearings/ sculpture
piers & abutments/ connect