



**Build**



**Learn**



**Grow**

## Reading Educational Opportunities

Educating through Construction

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**Balfour Beatty**



## Introduction

Reading Borough Council is investing in its education division by expanding 14 schools between 2014 and 2016 to provide an additional 2500 pupil places for the borough. All 14 schools will see an element of building construction works on their school sites and this offers a unique opportunity/project to enhance the education of those children affected by the building works.

For more support or information regarding this toolkit, please contact a member of the working group that has created this document. You will find their details in section 6.

**“A school building project will not only enhance the educational provision for pupils at its completion but has the potential to be a learning opportunity from the onset of planning and throughout the build itself.**

**Children will acquire knowledge through the various processes and trades and, at the same time, will be able to apply this, knowledge to deepen understanding and develop skills across the curriculum, e.g. mathematics, literacy, IT, citizenship, etc.**

**Engagement of the school, through whole school activities and the ‘Construction Club’ and the involvement of the planning and construction teams, is essential if the most is to be made of it, what for many, will be the ‘once in a career’ opportunity.”**

Val Preston  
Head teacher,  
Alfred Sutton Primary School

## What does this mean for my school?

This means there are lots of opportunities to use the building works as a focal point to centre learning around. This document sets out some of the opportunities that are readily available and can enhance the learning experience of your pupils.

### Section 1

Provides a summary of the key areas and demonstrates how the activities have been organised.

### Section 2

This section outlines in more detail all activities within each key stage—foundation, 1 & 2.

### Section 3

Provides a framework to describe how the opportunities/activities can span across the key stages.

### Section 4

Provides additional detail on the activities contractors have agreed to support and engage in.

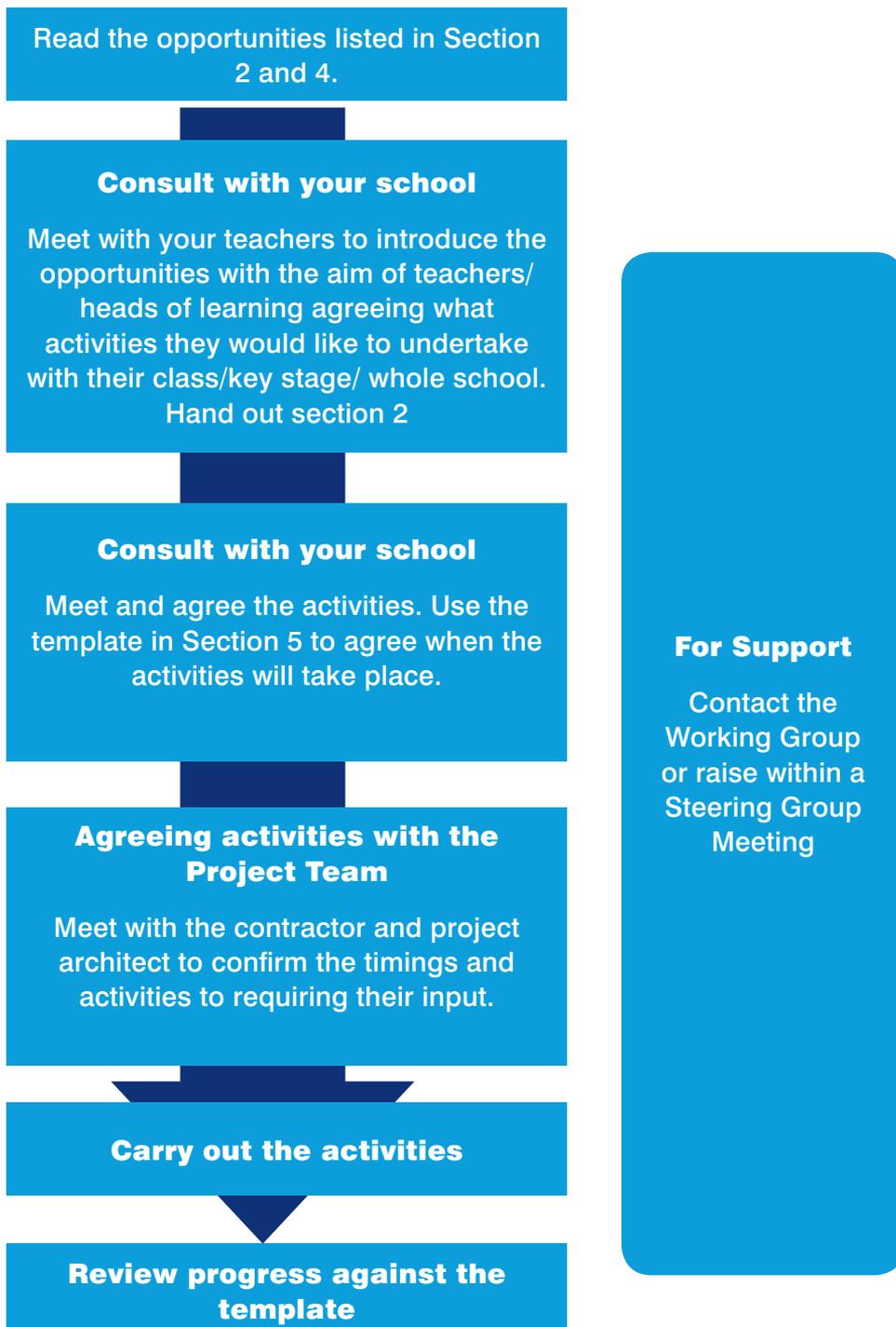
### Section 5

Provides a template to enable you to think about how and when the learning activities can be undertaken within your school. There is also an example of how one school has tabled the activities across the period the construction is taking place at the school.

### Section 6

Provides some feedback from the contractors and others that have been involved in creating the toolkit detailing their experiences of developing and using the toolkit. Contact details for further support is also contained within this section.

## What is the Process I should undertake to agree the educational opportunities for my school?



# Section 1: The Opportunities



**This toolkit starts with activities that focus on problem solving. Getting children to focus on why the construction is taking place and what it might include. All other activities follow on from this and are broken down into the following areas;**

### **Health & Safety**

Activities focus on providing an introduction to site safety; what to expect happening on the site and staying safe throughout the construction period.

### **Time lines and sequencing**

Introduction as to how a building or project is planned out. Why plans are important and what information they portray. Activities under this heading utilise IT and maths to show different ways to present sequencing and activities to help introduce the concept of following a plan.

### **Hoarding design**

These are art based activities with the aim to utilise the art designs created to cover the building sites external hoardings / fencing. The activities also give opportunities to develop marketing skills through persuasive writing.

### **Using IT in Construction**

This activity introduces a computer programme that can help to design and maintain buildings. The activity utilises Google sketch up to allow pupils to build a 3D model on a computer.

### **Design workshops**

Design workshops will focus on explaining the principles of design. Art and design and technology based activities will be used to set a project and support the group enabling them to start to design their project through to building their final design. Maths based activities can be utilised to test the design. Science activities explore the principles of different construction materials.

## **Applying Cross curricular links within Construction**

These activities cover a number of curricular aims within the activity. These activities link the learning in the curriculum to the project being delivered at the school. For example there is an activity using maths skills to estimate the cost of the building.

## **Hands on practical experience**

Practical have a go activities.

## **Career opportunities within Construction**

Activities to explore what different trades are involved in building the extension. These activities are instrumental in giving insight to children as to the varied careers within the construction industry. For many children this will be the first up close look at large scale construction and offers inspiration that can be fostered over years to lead to the next generation of the construction industry. There are activities that can be broadened to involve careers outside the construction trade.

## **Site Photographs**

Activities to make use of monthly site photographs.

## **Construction Club**

Your school could set up a construction club to provide a forum for many of the activities. The club offers an opportunity for children to feed back to their peers about what they have learnt/explored.

“Working with RBC and HCC on the new educational opportunities toolkit has provided a great resource for the Schools within the expansion programme.

When working within an educational environment we believe that continued engagement is paramount to achieve successful delivery. Having the pupils involved in aspects of the works offers a wider understanding of construction not only enhancing learning but also providing a safer environment, a recognised ‘friendly face’ and positive experience.

The toolkit that has been created provides a consistent and structured approach for the activities that can be undertaken during construction, highlighting the educational benefits and learning opportunities across many subjects. Utilising this toolkit prior to start on site allows both the school and the contractor time to collaboratively plan the chosen activities without disruption to site activities or the curriculum.

Having the toolkit in place can only benefit the Client, the School and the Contractor and we will certainly be using this on our future primary school projects.”

Balfour Beatty

# Section 2: The Activities



# Foundation Stage

## Problem solving

1-1 correspondence activities leading to 'not enough classrooms for all of the children'

How can we solve it? Too far to go to other schools, cannot increase class sizes. Conclude with the need to build more classes.

Link with homes for pets, zoo animals, etc. Looking at needs, e.g. does a hamster have the same requirements as a giraffe?

- What are we going to need? Walk around outside of school to identify building materials to include bricks, wood, glass, roof tiles, etc.
- Activities matching the material to the right part of building
- Basic properties of materials, e.g. why glass for windows?
- Where shall we build and who will build it?

## Timelines/sequencing

Build the house in the right order game (like Beetle Drive), e.g. roll the dice and get a 'one' for the walls, 'two' for the door, etc. ending with the roof.

Consolidate with construction kits. Chronological language development – first, then, next, etc.

Contractor Led activity – explain what is critical to build first. Show how programmes look to count up the number of weeks to build the extension at the school.

## Careers

Who will build our school? Identify key roles and skills

Building site role play area to include builders' merchants. Opportunities to use tools, e.g. hammering nails in wood, cutting wood, mixing 'mortar'

Guess the trade: Key trades people to talk to children. Identification of tools and their uses. Recap of health and safety. How to use tools safely.

## Following plans

Using Lego bases, copy the design – shapes, size and colour. Initially 2D but could move on to 3D.

In pairs, give instructions to your partner to duplicate your simple 2D shape design, e.g. Put a blue rectangle next to the red square. Put a yellow triangle on top of the red square. This could progress on to using Lego. Positional vocabulary. IT – '2 Simple'

## Health & Safety

- Keeping safe
- Contractor talk on keeping safe on site, what changes will be seen during the construction phase? Introduction to HSE. Q&A
- H&S poster competition
- Draw a picture of Ivor Goodsite Or
- Draw a picture of a safety sign or risk to be avoided

## Hoarding design

We want to use the hoarding to tell people about our school. Illustrate: What do you like to do at school? Pictures to depict 'My school day'.

Can choose a H&S poster to put on the hoarding. The Contractor will print and install on the hoarding. Or the contractor can provide hoarding and paint to the school. The school can then paint designs directly onto the hoarding.

## Design

Role play area – architect's office. Drawing equipment, pictures of different styles of houses

Identify need, e.g. a house for a playmobil figure, animal home. How many rooms, what will the rooms be used for, etc?

Make a building with multiple rooms using shoe boxes as individual rooms. Identifying need for windows, doors to get from one room to another. Could be done as a whole class building with bigger boxes and for a doll or teddy.

Select suitable materials for walls, flooring, etc.

List what needs to go in the room and furnish

Patterns in building

- Shapes in buildings
- Making rigid structures
- Tessellations
- Brickwork bonds

## Practical experience -On the move

Site visit to look at machines, e.g. diggers, dumper trucks etc. Recap of health and safety. What do the machines do? What skills are needed to use the machinery?

# Key Stage One

## Problem solving

Basic plans of school identifying teaching spaces. Where will your classroom be next year? And the next? Realisation of 'not enough classrooms for all of the children'

How can we solve it? Too far to go to other schools, cannot increase class sizes. Conclude with the need to build more classes.

Link with homes for pets, zoo animals, etc) Looking at needs, e.g. does a hamster have the same requirements as a giraffe?

What are we going to need? Walk around outside of school to identify building materials to include bricks, wood, glass, roof tiles

Activities matching the material to the right part of building

Basic properties of materials, e.g. why glass for windows, weatherproofing, insulation

Using simple site plans, identify location for build. Discuss getting permission, etc.

## Timelines and sequencing

Identify different stages of project and put in order. Have a class time line showing months of the year and key school events, e.g. holidays. Put stages of project on to timeline, adding detail and who will be on site as project progresses.

Contractor Led activity. Explain what is critical to build first. Show how programmes look to count up the number of weeks to build the extension. Use lego bricks to represent weeks and build the programme. If lego brick represents a week how many weeks to build walls, put roof on, do the landscape etc.

## Careers

Who will build our school? Identify key roles and skills

Guess the trade  
Key trades people to talk to children. Identification of tools and their uses. Recap of health and safety. How to use tools safely.  
Building site role play area to include builders' merchants. Opportunities to use tools, e.g. hammering nails in wood, cutting wood, mixing 'mortar'  
Writing opportunities: Who am I? riddles  
Careers/citizenship – skills and training needed to work in the construction industry

## Cross Curricular

Applying Maths within construction  
Provide plans of the school / or a classroom and children to work out how many bricks/other materials will be required and at what cost.  
Contractor to provide samples of different material/price options and they need to work out the best material based on the budget allowed.

## Health & Safety

Keeping safe  
Contractor talk on keeping safe on site, what changes will be seen during the construction phase. Introduction to HSE. Q&A

Health and Safety follow up  
Identifying risks around school and on route to school

H&S poster competition  
Discuss key H&S points, slogans, and features of posters. Pupils to choose from selection of class slogans to design poster. Contractor to provide prize

## Hoarding design

What do we want to communicate to the community. What might we want the community to know about the school in general and the expansion project? What is the best way to let them know? Who might see the hoardings? Styles of communication /advertising.

Decide on what will go on the hoarding and the contractor will either print the design on the hoarding or provide hoardings for the school to paint directly onto.

## Design

- Role play area – architect's office. Drawing equipment, pictures of different styles of houses, client requirement lists, etc.
- Identify need, e.g. a house for a playmobil figure, animal home. How many rooms, what will the rooms be used for, etc?
- Make a building with multiple rooms using shoe boxes as individual rooms. Identifying need for windows, doors to get from one room to another. Could be done as a whole class building with bigger boxes and for a doll or teddy.
- Select suitable materials for walls, flooring, etc. Properties of materials
- List what needs to go in the room and furnish – maths opportunities

### Patterns in building

- Shapes in buildings
- Making rigid structures – strength and durability – tallest towers, bridge to support a toy car, etc.
- Tessellations
- Brickwork bonds

Following plans; Using Lego bases, copy the design – shapes, size and colour. Initially 2D but could move on to 3D. In pairs, give instructions to your partner to duplicate your simple 2D shape design, e.g. put a blue rectangle next to the red square; put a yellow triangle on top of the red square. This could progress on to using Lego. Positional vocabulary.

### IT

Instructional writing, following instructions  
Area calculations, e.g. how many Lego bricks will you need to make a wall of certain size.

## Practical Experience

### On the move

Site visit to look at machines, e.g. diggers, dumper trucks etc. Recap of health and safety. What do the different machines do? What skills are needed to do use the machinery?

### Hands on

Have a go' opportunities, e.g. mixing, bricklaying, measuring equipment, cutting and joining wood, electrical circuits

### Applying skills

Electrical circuits – light up class model

Using wood and hacksaws – making simple photo frames, etc.

## Time capsule

Each class to produce something for a time capsule

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## Celebration of completion

Creating invites, making decorations and food. Arranging entertainment.

Writing articles for the local paper and other social media

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## Using Photos

### Journal

Keep a class scrapbook of 'Our school building project'. Ongoing with examples/photos of work, photos of progress of building. Scrapbook to be taken up to next class in September and to be continued.

**“As initiatives go this is inspired, and if adopted throughout our framework, it can rekindle interest in construction as a career, at a time when the industry needs staff across the full skill range.”**

Myles Milner  
School Services Service Manager  
Reading Borough Council

# Key Stage Two

## Problem solving

Population of Reading increasing. What does this mean for town planners – homes, hospitals, schools? Identify, on map, where housing is being developed in relation to schools.

Upper Key Stage 2 to work out need for additional primary school places and suggest how this can be addressed. How would they choose which schools to expand – selection criteria?

Reading Expansion Programme shared with implications for own school.

Pupils to suggest possible process, e.g. plans, consultation, overcoming difficulties, budgets and selecting contractors.

Pupils to run own consultation on how the school should be expanded and to identify what is important to them – presentations to different audiences, e.g. governors. Opportunities for persuasive writing, debating skills

## Hoarding design

What do we want to communicate to the community? What might we want the community to know about the school in general and the expansion project? What is the best way to let them know? Who might see the hoardings? Styles of communication/ advertising. Classes/year groups to have pages that will be used on hoardings

Decide on what will go on the hoarding and the contractor will either print the design on the hoarding or provide hoardings for the school to paint directly onto.

## Use of IT in construction

BIM presentation to pupils and how IT is used to help build, test and manage the site  
Using Google Sketch Up, pupils to build classroom, home or other building in 3D

## Health & Safety talk

Keeping safe

Contractor talk on keeping safe on site, what changes will be seen during the construction phase. Introduction to HSE. Q&A

## Health & Safety follow up

Identifying risks around school and on route to school (use school plans and street maps). Introduce need for and use of risk assessments.

## Health & Safety poster competition

Discuss key H&S points, slogans, and features of posters (link to literacy). Design H&S poster – could use ICT, short video clip.

Contractor to provide prize and choose winner.

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## Timeline / Sequencing

Programme time frames – IT session. Introduction on how to plan for a project using IT to create a chart. Counting the weeks – what will be happening and who will be on site as the project progresses.

Can you order the phasing?

## Design Concept – workshop 1

Architect Basket Lead to lead session. Explain building to be created, identifying different zones within the school. In groups, pupils take a zone and create collage of requirements to set the scope.

Examples used to show how concept is used to build scope of works.

Identify and demonstrate skills architects use throughout process before build takes place.

Touch on costs and how cost team get involved to limit the scope.

Using school's own expansion plans, pupils to identify a possible 'mini project' to follow.

## Design your own – workshop 2

Taking principles of workshop 1, groups to create a design for a school specific project, e.g. role play area for FS pupils, dolls' house/room.

Create collage of ideas, presenting ideas on paper, working together to agree ideas. Designing and deciding how to build it, size, materials, etc.

Groups to make formal presentation to rest of class/year group to choose design

Presentations by year groups to rest of school to make final choice (send designs to architect for feasibility decision).

## Cross Curricular

Kitting out an area, e.g. classroom

- What will it need? – from floor to ceiling
- Value for money
- How much to buy
- Where do we get it from?
- Orders – run in time, etc

Applying Maths within construction

Provide plans of the school / or a classroom and children to work out how many bricks/other materials will be required and at what cost.

Contractor to provide samples of different material/ price options and children need to work out the best material based on the budget allowed.

## Careers

A day in the life of...

Different trades to give talk on what they do in a day and how this links to the project – team work reliant on each other

Discuss skills, qualifications needed, career path and possibilities

Pupils to formulate questions and conduct video interviews with representatives of different trades.

Follow up to be used in a newsletter/newspaper and on website.

Could be used as part of Careers' Week in school and for school to invite in parents/governors to also present their career.

## From design to reality – workshop 3

Develop chosen design. Identify processes, timescales, measurements, testing for the right choice of materials, choice of location and skills/trades needed.

Involvement of children at all stages.

School to identify how this will be managed and built, e.g Construction Club

## Hands on practical experience

School could divide classes/ year groups into trades, e.g. Y5 Electricians

Contractor to look at SATRO/ local college – pupils could visit to see trainee trades practising skills. Children to have a go.

Pupils to visit site to watch operatives at work, demonstrations and children to have a go. Demonstrations within the school rather than on site.

Applying skills  
Electrical circuits, switches. Wiring up FS and KS1 models

Using tools for woodworking, interior decoration and maintenance

Making benches using bricks and wood. Could be supported by contractor or parents.

## Using Photos

Keep a class scrapbook of 'Our school building project'. Ongoing with examples/photos of work, photos of progress of building, key events, e.g. topping out. Scrapbook to be taken up to next class in September and to be continued.

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## Time capsule

Each class to produce something for a time capsule

Contractor to bury in an agreed place.

Celebration of completion  
Organising official opening, e.g. Creating invites, making decorations and food. Arranging entertainment.

Writing articles for the local paper and other social media

# Section 3:

## Progression across the Key Stages



This section provides summary of how activities are progressed across the key stages. This is a useful section as you can see how activities are adapted for each key stage.

## Problem Solving

### Foundation Stage

- 1-1 correspondence activities leading to 'not enough classrooms for all of the children'
- How can we solve it? Too far to go to other schools, cannot increase class sizes. Conclude with the need to build more classes.
- Link with homes for pets, etc.
- 
- What are we going to need? Walk around outside of school to identify building materials to include bricks, wood, glass, roof tiles
- Activities matching the material to the right part of building
- Basic properties of materials, e.g. why glass for windows?
- Where shall we build and who will build it?

### Key Stage One

- Basic plans of school identifying teaching spaces. Where will your classroom be next year? And the next? Realisation of 'not enough classrooms for all of the children'
- How can we solve it? Too far to go to other schools, cannot increase class sizes. Conclude with the need to build more classes.
- Link with homes for pets, etc.
- What are we going to need? Walk around outside of school to identify building materials to include bricks, wood, glass, roof tiles
- Activities matching the material to the right part of building
- Basic properties of materials, e.g. why glass for window, weatherproofing, insulation
- Using simple site plans, identify location for build. Discuss getting permission, etc.

### Key Stage Two

- Population of Reading increasing. What does this mean for town planners? – homes, hospitals, schools. Identify, on map, where housing is being developed in relation to schools.
- UKS2 to work out need for additional primary school places and suggest how this can be addressed. How would they choose which schools to expand? –selection criteria.
- Reading Expansion Programme shared with implications for own school.
- Pupils to suggest possible process, e.g. plans, consultation, overcoming difficulties, budgets and selecting contractors.
- Pupils to run own consultation – presentations to different audiences, e.g. governors, persuasive writing, debating skills

## Health and Safety Poster Competition

### Foundation Stage

- Picture of Ivor Goodsite
- Contractor to choose winner

### Key Stage One

- Discuss key H&S points, slogans, features of posters.
- Pupils to choose from selection of class slogans to design poster
- Contractor to choose winner

### Key Stage Two

- Discuss key H&S points, slogans, features of posters (link to literacy). Design H&S poster – could use ICT, short video clip.
- Contractor to choose winner

## Design

### Foundation Stage

- Role play area – architect's office. Drawing equipment, pictures of different styles of houses
- Identify need, e.g. a house for a playmobil figure, animal home. How many rooms, what will the rooms be used for, etc?
- Make a building with multiple rooms using shoe boxes as individual rooms. Identifying need for windows, doors to get from one room to another. Could be done as a whole class activity building with bigger boxes and for a doll or teddy.
- Select suitable materials for walls, flooring, etc.
- List what needs to go in the room and furnish

### Key Stage One

- Role play area – architect's office. Drawing equipment, pictures of different styles of houses
- Identify need, e.g. a house for a playmobil figure, animal home. How many rooms, what will the rooms be used for, etc?
- Make a building with multiple rooms using shoe boxes as individual rooms. Identifying need for windows, doors to get from one room to another. Could be done as a whole class activity building with bigger boxes and for a doll or teddy.
- Select suitable materials for walls, flooring, etc. Properties of materials
- List what needs to go in the room and furnish- maths opportunities

### Key Stage Two

- Architect Basket Lead to lead session.
- Explain building to be created, identifying different zones within the school. In groups, pupils take a zone and create collage of requirements to set the scope.
- Examples used to show how concept is used to build scope of works.
- Identify and demonstrate skills architects use throughout process before build takes place.
- Touch on costs and how cost team get involved to limit the scope.
- Using school's own expansion plans, pupils to identify a possible 'mini project' to follow.

### Foundation Stage

- Who will build our school? Identify key roles and skills
- Key trades people to talk to children. Identification of tools and their uses. Recap of health and safety. How to use tools safely.
- Building site role play area to include builders' merchants. Opportunities to use tools, e.g. hammering nails in wood, cutting wood, mixing 'mortar'

### Key Stage One

- Who will build our school? Identify key roles and skills
- Key trades people to talk to children. Identification of tools and their uses. Recap of health and safety. How to use tools safely.
- Building site role play area to include builders' merchants. Opportunities to use tools, e.g. hammering nails in wood, cutting wood, mixing 'mortar'
- Writing opportunities: 'Who am I?' riddles
- Careers/citizenship – skills and training needed

### Key Stage Two

- Different trades to give talk on what they do in a day and how this links to the project – team work reliant on each other
- Discuss skills, qualifications needed, career path and possibilities
- Pupils to formulate questions and conduct video interviews with representatives of different trades
- Follow up to be used in a newsletter/newspaper and on website
- Could be used as part of Careers' Week in school

**At Galliford Try we want to make our schools not only feel part of their construction but we also want pupils to benefit academically from the construction process.**

**At the heart of the construction process is the basic skills each pupil will learn at primary level: Maths, English, Science. We have the opportunity through the education toolkit to enhance the tools available to teachers in core curriculum area all whilst bringing staff, pupils and parents closer to their build.**

GallifordTry

# Section 4: Contractors Contributions



This section details the contribution of the contractors. It outlines what time, resource and on any of the activities speak directly with your Project team and the Contractor.

Theme	Activity description	Target Audience	Input from	Time required for activity	What school will need to prepare
Health & Safety	Introduction to site safety What to expect at and around the school. Ivor Goodsite visit during school assembly.	All KSs	Contractor – site manager/ site team/ Ivor.	1 hour but may require 2 shorter sessions for KS1 and KS2 Shorter session for FS.	Prepare assembly times
Health & Safety	Producing H&S posters. Could be follow on from H&S talk or site manager to visit the school classes to give 15 minute talk on hazards and set the activity – to create site posters for around the site. Some posters to be chosen to be printed.	All KSs	Contractor – site manager to talk to class set the activity. Contractor to print the posters and provide small prize for chosen designs.	Contractor time 15 minutes at start of session.	Run the session, identify designs to be used. Homework or other option – spot hazards on route home and to work.
Timelines & programming	Programme time frames IT session. Introduction on how to plan for a project using IT package to create a chart. Counting the weeks. Maths and IT based An activity such as picking out the key work packages (10-15 items) for the children to work out a programme time frames putting the phasing in the right order. Schools to decide what activity they wish to do.	KS2	Programme planner HCC or Contractor to come in to explain the merits of planning and how maths / IT knowledge is applied.	1 hour session	Prepare and manage the session. Think of any additional and relevant activities for the class to apply skills.
Hoarding Design	(Dependent on the school's decision) Children to make initial design on paper and school to help children transfer design to hoarding.	All KSs	Contractor can either provide; a) hoarding boards or paint for children to paint directly onto hoarding or print designs onto hoardings.	(schools will do this to suit their own needs)	School to prepare and set criteria for the design for the hoarding. Could be to reflect school ethos, or design of new building. Could be one hoarding per year or one joint hoarding design.
Using IT in Construction	BIM presentation to children and how IT is used to help build, test and manage the building. Using Google sketch up to construct a simple 3d model. Contractor to provide step by step guide.	KS2	Contractor to give presentation of BIM and Google Sketch Up.	1 hour session	Book IT suite. Have a go at with Google Sketch up to test its capabilities. Work with the class to either build classroom or their home or another building in 3D.

materials the contractor has agreed to support your school with. For more information

Theme	Activity description	Target Audience	Input from	Time required for activity	What school will need to prepare
Design	Workshop 1 Design Concept Explaining the building to be created and the different zones that need to be created within the school. In groups children take one zone and create a collage of requirements to set the scope. Use examples to show how the concept is then used to build the scope of works. Show types of skills architects use to go through this process all before building on site. Touch on costs and how cost team get involved to limit the scope.	KS2 (Yrs 3-5)	Lead Architect Basket Lead to lead the session.	2 hour session	Support the group sessions. Follow on could include creating smaller project to apply the skills to (create a hobbit house for the KS1 children) see earlier notes.
Design	Workshop 2 design your own... workshop Taking the principles of the previous workshop working in groups to create a design for a school specific project. Design a play house for KS1 children or dolls house/ room. Creating collage of ideas, putting ideas down on paper, working together to agree an idea, designing and thinking of how to build it – what materials etc.	All KSs but will need to be tailored for age group	Lead architect / site manager to dip in to explain the activity and agree to come back to view ideas.	2 hour session	Set the session and objective of it. Run the session and work with the class to agree an idea and work up the session. Ideas could include: create dolls/ teddy play area, play house for other children, landscape, relaxation room within the school.
Design	Workshop 3 Taking the designs from workshop 2 and building the idea. If it is a play house, school will need to work with the contractor site team to create the frame and look at how the children will be involved in creating the finished play house. If it is a dolls' house or other space, could be made from lego or cardboard or similar materials. This is a 'get in and create' session	All KSs but will need to be tailored for age group	Contractor to provide materials for this session – potentially providing a Wendy house IKEA type kit to allow the children to construct within the school. Contractor site team to help create the models if it's not a play house	2 hour session	Work with the contractor site team to agree how the session will run , what materials will be used, the extend of and how the children will be involved.

Theme	Activity description	Target Audience	Input from	Time required for activity	What school will need to prepare
Applying Maths within Construction	Provide plans of the school / or a classroom and children to work out how many bricks/other materials will be required and at what cost. Give different material/price options to enable them to work out the best material based on the budget allowed.	All KSs	Contractor to provide samples of materials and talk to class about the merits of the materials. Explain the activity and work with children to work out the correct material and cost.	1 hour session	Work with the contractor site team to agree the activity. Support the session.
Hands on Practical experience	Allowing the children to understand the different trades involved in the building. Watching how things are done and having a go.  This is a provisional activity which will require more investigation as to the viability of this option.		Contractor to look at SATRO or potentially working with a local college to visit them and see trainee trades practicing. Last option would to get small areas within the school playground to set up and site operatives to give the demonstration and then let the children have a go.		Support the activity School to carry out risk assessments.
Careers Opportunity	Day in the life of ... Different trades to give talk on what they do in a day and then at a separate time allow themselves to be interviewed. Children to prepare questions and write up interview that can either be used in a newsletter or separate medium.	KS2	Range of trades to be provided across the design and site team. Each to give 7 minute presentation on what they do followed by interview time.	Presentation time, interview time, writing up time	Agree timings. After presentations, allow children time to do more background on the trade and prepare questions to ask. Support the children to write up interviews and create newsletter/article for website. Could work with parents to build bigger pool of types of work to be interviewed.
Careers Opportunity	Guess the Trade Person  Similar to above so trades to give a talk on what they do, then quiz type session where trades present themselves in typical outfit or holding typical tools and children guess what trade they are.	All KSs	Range of trades give presentation as to what they do. Then rather than be interviewed trades to come in class/ assembly would guess the trade based on what they are wearing/ carrying	Presentation time above and assembly time	Agree timings and run the assembly/ session. Could do as whole assembly or class activity
Site Photos	Monthly site photos	All KSs	Contractor to take a monthly site picture and upload onto school website	10 minutes a month	Photos can be used in whichever way the school wish to use them.

## Section 5:

Deciding on when to carry out activities



Below is a template to populate and collate your school's activities. This example has been designed to help you to think about when different activities might take place and with whom across the school

Within this section there is also an example of how one school has chosen to schedule activities over the school year through out the duration of the construction period.

Once you have chosen the actives and decided when is best to carry them out, liaise with contractors and the project within Client meetings to ensure the contractor is aware of what input is required and when.

## Template

Example:

School Term	Month	What Theme	Name of the activity	Who will be partaking in the activity
Spring 1	January	Careers	Guess the trade person	Year 1

## Alfred Sutton Educational Opportunities Calendar 2015 / 2016

School Term	Month	What Theme	Name of the activity	Who will be partaking in the activity
Spring 1	January	Problem Solving and Health and Safety	Set up Construction Club Problem Solving Health and Safety talk / assemblies by contractor Health and Safety poster competition	From across the school All pupils - rationale for building project All pupils All pupils
Spring 2	February	Timelines	Activity where contractor highlights the key work packages (10-15 items) for the children to work out the order and overall programme time frame	Building Club
			Activity where contractor highlights the key work packages (10-15 items) for the children to work out the order and overall programme time frame	Operational for all key stages
	March	Hoarding Design	BIM presentation and workshop Marketing school - what do we want to tell the community about our school Install design on hoarding	IT input for Year 5 All pupils Contractor
Summer 1	April	Design	Role play area Architect to lead session - Design Concept (workshop 1) Pupils to identify possible "mini project" to follow Identify need e.g house for play mobil figure / animal home	FS2 and KS2 Optional for KS2  Building Club KS1/2 FS2 and KS1
	May		Design - how many rooms and what will they be used for? Design your own (workshop) Design school specific project Create collage of ideas Formal presentations to class, year group, school	KS2 and Building Club KS2 and Building Club KS2 and Building Club KS2 and Building Club KS2 and Building Club
Summer 2	June	Design - make	Make a building with multiple rooms Select suitable materials for walls, floors Develop chosen design (workshop 3) Identify processes, timescales, measurements etc	FS2 and KS1 FS2 and KS2  KS2 and Building Club
	July		Furnish the room - maths opportunities  Applying maths with construction Patterns in buildings Shapes tessellations	School to identify how this will be managed  FS2 and KS1 FS2 and KS1
	August		1-1 correspondence Best material based on merits and budget limitations Rigid structures competition	FS2 and KS1 KS2
Autumn 1	September	Career	What has been happening over the summer Recap on Health and Safety On the move - machines on site When I grow up - who will build our school Guess the trade - identify tools & uses, Health & Safety	All pupils All pupils FS2 and KS1 FS and KS1 FS and KS1
	October		A day in the life of.... different trades to talk about what they do Skills, qualifications needed Pupils to conduct video interviews Follow up - newspaper, website Hands on practical experience - mixing, bricklaying measuring equipment, carpentry, electrical circuits	KS2 and Building Club  KS2 and Building Club KS2 and Building Club KS2 and Building Club All pupils
Autumn 2	November December	Applying Skills	Electrical circuits Using wood and hacksaws to make photo frames etc Electrical circuits with switches, pressure pads etc wire up FS and KS1 models Using tools for woodworking, interior decorations and maintenance	KS1 KS1  KS2 and Building Club
Spring 1	January	Nearly there	Kiting out an area - classroom from floor to ceiling Maths opportunities value for money, quantities ordering etc	All pupils
Spring 2	Feb/March	Completion	Celebration of completion, invites, parties articles for local paper	All pupils

## Contact us

For more support you can

Contact the steering group and talk directly to other Head teachers about their experiences or challenges you are faced with.

Contact a member of the working group that has created this toolkit;

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