

## Additional items

Flooring	Paving stones	See graph on page 11		✓
	Grass			✓
	Carpet		✓	
	Rubber		✓	
	Existing	£0	✓	✓
Lighting	Single street light	£950		✓
	Floor-mounted light	£220	✓	✓
	Outdoor fairy lights	£150		✓
	Floodlights	£1,000		✓
Seating	Fixed concrete bench	£500		✓
	Wooden bench	£380	✓	✓
	Temporary plastic seating	£80	✓	✓
Sound	Sound sensor trigger	£750	✓	✓
	Overhead speakers - internal	£600	✓	
	Outdoor speaker	£400		✓
Water features	Water fountain x 1	£1,800		✓
	Water pond 5m x 10m	£1,650		✓
Trees	Single mature tree	£180		✓
Marketing	Interpretation panel	£300	✓	✓
	Pop-up banner	£250	✓	
	Flag 1m x 5m	£180	✓	✓
	Leaflets x 100	£100	✓	
	Leaflets x 500	£140	✓	
	Leaflets x 1,000	£150	✓	



WILD CREATIONS

## Information Pack



Llywodraeth Cymru  
Welsh Government

## Job descriptions

### Project Manager

Your role is to oversee the whole project and make sure that, at the end of the day, you have a great project to present.

You will need to:

- Assign roles to other team members
- Manage your team members to the best of their capabilities
- Resolve disagreements
- Give encouragement and advice
- Make key decisions about the project
- Ensure there is an even distribution of workload and reassign team members where necessary
- Maintain the high standard of work produced by your team
- Take the opinions of all team members into consideration
- Have your presentation ready for the end of the day

### Finance Manager

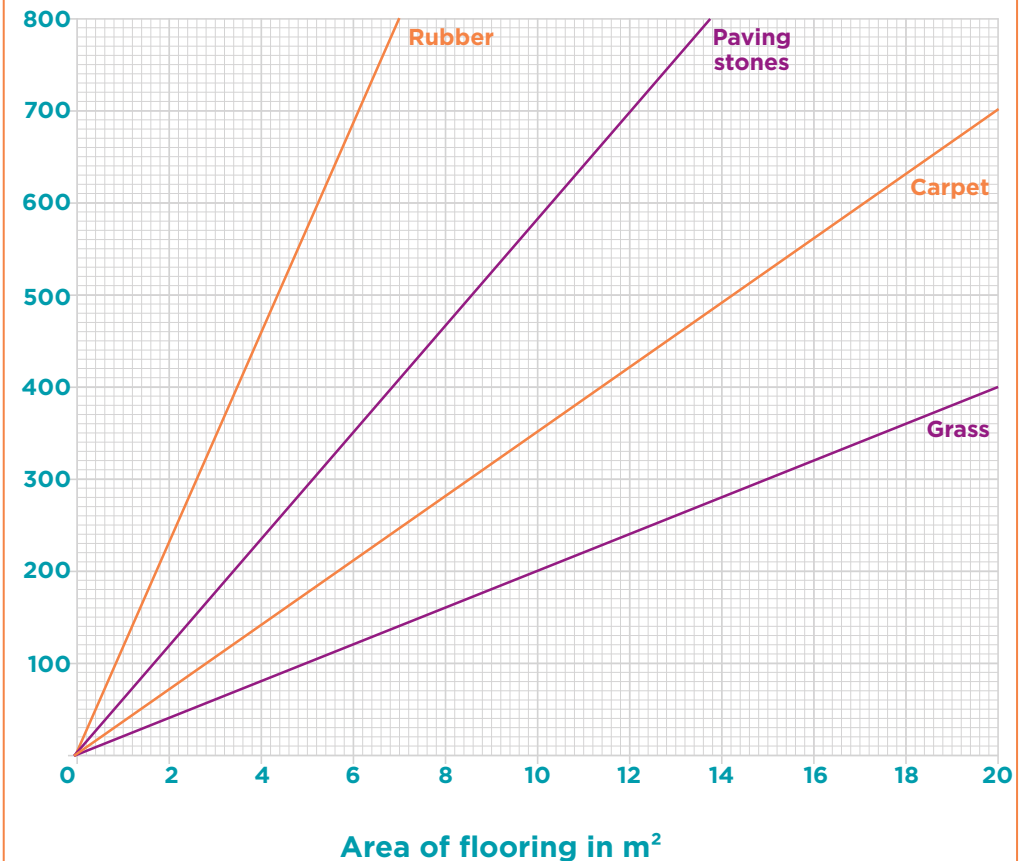
Your role is to create a detailed budget or cost for the project.

You will need to:

- Manage the Wild Creation budget
- Ensure all team members understand the material costs from the Information Pack
- Advise the Project Manager and team members on the budget and the overall costs of the project
- Present the financial costs and final budget as part of the main presentation

## Cost per square metre of flooring

Cost in £s

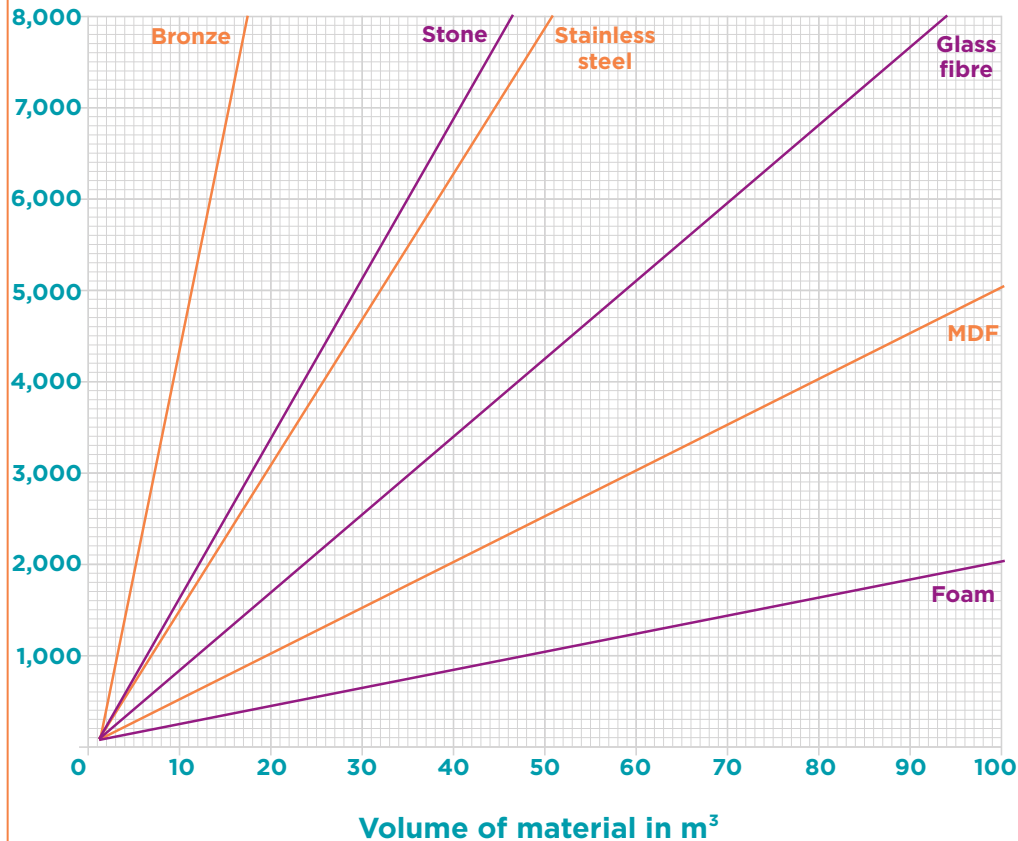


### How big?

An average classroom is  
2.8m high x 4m wide x 8m long.  
Measure your lab or classroom!

## Cost per cubic metre of materials

Cost in £s



### How big?

The Six Bells mining statue in Abertillery, known as the Guardian, is 12.6m high on a 7.4m stone plinth



### Design Engineer

Your role is to lead on the design of your Wild Creation with the help of all the other team members.

You will need to:

- Produce a design for your Wild Creation that is inspiring and fit for purpose
- Create accurate drawings that will clearly illustrate all aspects of the project, and label them clearly for the audience to see
- Make a careful selection of materials together with your STEM Research and Project Managers
- Liaise with the Finance Manager to ensure the materials are all within budget

### Graphic Designer

Your role is to work closely with the other team members to produce all the graphics and illustration necessary for the project.

You will need to:

- Create a spectacular and eye-catching Wild Creation
- Create images for the project to illustrate and explain your Wild Creation
- Ensure that there are strong cultural references
- Produce a range of graphics that will complement the project and can be used to market your Wild Creation

## Job descriptions

### Marketing Manager

Your role is to work closely with the Design Engineer and Graphic Designer to ensure people know all about your project. You will need to:

- Think about different ways of marketing your Wild Creation
- Decide how and why you will tell people about your Wild Creation
- Think about a name and slogan for your Wild Creation
- Produce a selection of marketing materials to use as examples in the presentation, e.g. radio ads, flyers, social media

### STEM/Materials Researcher

Your role is to research and provide key information to other team members about the STEM links and materials used. You will need to:

- Use the resources in the Information Pack to recommend the most suitable materials for your Wild Creation
- Make sure you consider how STEM is featured in your project
- Prepare a report on what aspect of STEM you have included in your project and why, e.g. material analysis, subject matter, structures, forces
- Work with the Finance Manager to negotiate the cost of individual materials and work out how savings could be made, if required

## Cost of materials

Notes	Material	Cost	Indoor	Outdoor
<b>Structural framework underneath the sculpture</b> (art straws)	Stainless steel tube	£55 per m	✓	✓
	Scaffolding poles	£47 per m	✓	✓
	Wood	£18 per m	✓	✓
<b>Gas pipe for use inside a sculpture</b>	Copper pipe	£50 per m	✓	✓
<b>Plinth or mounting block to hold the 'Wild Creation'</b> (paper)	Stone	£800 per m <sup>3</sup>	✓	✓
	Wood	£150 per m <sup>3</sup>	✓	✓
	Fibreglass	£350 per m <sup>3</sup>	✓	✓
<b>Take the outside dimensions of your 'Wild Creation' sculpture and measure the volume of material in m<sup>3</sup> needed to build this</b>	Bronze	See the graph on page 10	✓	✓
	Stone		✓	✓
	Stainless steel		✓	✓
	Fibreglass		✓	✓
	MDF (wood)		✓	
	High-density foam		✓	✓



### How big?

The Ball in the Wall is 7m high x 4m wide

## How to work out the cost of your Wild Creation

### Framework of Wild Creation

Every 1cm of material you use in your physical model = 1m at actual size. Refer to the chart for the cost per metre of different materials.

### Volume of Wild Creation

Working out the cost of the sculpture is extremely difficult when you don't know the exact amounts of materials you are using, so you are going to estimate cost by working with volumes.

Take the outside dimensions of your Wild Creation sculpture and work out the volume. For example 'the shape I created is 3cm x 4cm x 5cm'.

**Volume in  $\text{cm}^3$  = length x breadth x height =  $3 \times 4 \times 5 = 60\text{cm}^3$**

Then use the graph on page 10 to decide which material to use.

### Area of Wild Creation

Work out the total area covered by your Wild Creation using the same dimensions as you used to work out the volume.

**Area in  $\text{cm}^2$  = length x breadth =  $3 \times 4 = 12\text{cm}^2$**

### Area for invited guests

Number of guests x suggested area per person  
e.g.  $0.5 \text{ m}^2$  per person.

### Total area required for Wild Creation

Area of Wild Creation + area of guests + area of additional items.

Now use the charts to assign costs for individual materials based on the above information.

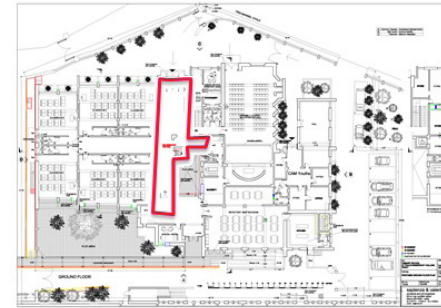
#### How big?

The Angel of the North is 20m high with a wingspan of 54m



## Example locations

### School entrance foyer



### Civic centre/public space



### Tourist attraction



## Target audience

When thinking about your Wild Creation, you need to consider who you are designing it for. These people are your target audience.

Let's think about an iconic Wild Creation from the 2015 Rugby World Cup as an example:

- Who was the target audience?
- Was it designed for multiple or single users?
- Do you have to play rugby to appreciate it?
- Why was it put on Cardiff Castle?
- Was it aimed at a male and/or female audience?
- Do you have to be a certain age to appreciate it?

### Rugby World Cup marketing

#### All ages and abilities

Grassroots rugby clubs

Youth rugby clubs

Non-playing supporters

Worldwide rugby fans

Professional and amateur players



#### Welsh culture

Explosion, excitement, entertainment

Passion and pride

Celebration of Welsh Rugby

## Industry design process

### Concept design

At this stage there are no limits on what you can do - think big and don't worry too much about limitations!

The concept stage is drawing sketches with paper and pencils, and making pictures and notes of what you want/need/like etc. Make as many notes as you can to capture your team's thoughts.

Some form of testing or evaluation would normally happen at this stage to check your product is what the client wants.

### Model making

Model making takes your concept ideas and turns them into a physical model that you can use.

Model making can be computer designed or it can be a physical model made from plastercast or silicone etc.

### Mould making for casting

A cast is made from the final model you made. This cast will then allow you to make replicas time and time again. The expense is in setting up the cast in the first place.

### Metalwork & woodwork

Many Wild Creations, interactive exhibits or sculptures have a supporting metal or wooden framework under the moulding. Skills such as welding are essential to build metal structures.

Wood can also form frameworks for creations. However, wood can also be used to create the cabinetry or body of the sculptures, e.g. exhibits you would find in Techniquist.

### Finishing

Interfaces and certain parts such as electronics, buttons, moving parts are added after the painting stage. They are then polished and prepared for shipping.

### Painting

Designs can either be spray-painted by hand onto a variety of materials, powder-coated onto metal surfaces, or hand-painted for fine details.