



Key Skills	Key enquiry questions and links to Values – Compassion, Courage and Fairness
<p><b>Stage 1 – Product Analysis</b>                      Have a look at existing exhibits from around the world.  <a href="http://setdesignshop.com/egyptian-exhibit/9jedshxcrijrn7ctxi69ig6gch2hjq">http://setdesignshop.com/egyptian-exhibit/9jedshxcrijrn7ctxi69ig6gch2hjq</a>                      Also see PP with more existing ideas</p> <p><a href="https://segd.org/20-most-influential-exhibit-designs-century">https://segd.org/20-most-influential-exhibit-designs-century</a> - different exhibit designs other than Egyptians.</p> <p><b>Stage 2 – Design</b></p> <p><b>Year 3</b></p>	<p><b>MANTLE OF THE EXPERT CONTEXT</b>                      A priceless Egyptian artefact has been stolen from a museum. The curator is distraught. He wishes to open a new Egyptian exhibit, but he is afraid that the burglars will return and steal the new artefact too. Your task is to design and make an attractive, alarmed cabinet that will protect the new Egyptian artefact from being stolen. (The children can make their sphynx or other item using plasticine). ( Children show <b>compassion for the curator – think about fairness – to the artifact, to the Egyptian culture, to the people who want to view it</b>)</p> <ul style="list-style-type: none"> <li>⊕ Ask the children to make prototypes of their ideas first, which they then develop into high-quality products. They should use labelled drawings to inform others about their ideas.</li> <li>⊕ Ask the children to explain how they will make their alarm, and the sequence in which they will make it. They will need to consider the circuit and how it will set the alarm off once their artefact is removed. Encourage the children to discuss the progress of their work and evaluate any changes they make with others.</li> </ul> <p>Emphasise the quality of their design and, at the end of the assignment, the alarms can be tested eg by the children trying to move each other’s items from the display without the alarm going off.</p> <p>What do they like about the exhibits?                      It may help to think about exhibits they have visited (World museum in Liverpool)                      What do they dislike about the exhibits?                      What do they think should be included in an exhibit?                      What makes a successful exhibit?                      Security – How would you protect the artefact?</p>

- Use knowledge of a range of products to inform plans and designs.
- Use simple prototypes, labelled sketches and detailed instructions in plans and designs.
- Talk in depth about ideas, plans and reasons for choices.

#### **Year 4**

- Use research to develop design criteria that are fit for purpose.
- Use annotated sketches, cross-sectional, exploded diagrams and increasingly complex prototypes.
- Support discussions about ideas, plans and designs with relevant information.

**THE DESIGN BRIEF – Share this design brief with the children so they can refer to it during the design phase.**

#### **To design a prototype/mock up of an Ancient Egyptian museum exhibit.**

- The artefact is the masterpiece of the exhibit and will take centre stage.
- The casing must have a security element to it, to keep the artefact safe.
- It must have an eye-catching backdrop and surroundings, based on the Ancient Egyptians.
- Create an information sheet that will explain your concept to the museum curator. (Interactivity, Artefact information, etc)

Create a diagram showing what your prototype will look like and how it will work. You may need to zoom in to certain areas to show how it will work – similar to an exploded diagram.

<https://assignmentancientegypt.weebly.com/egyptian-diorama.html> - model ideas  
<https://www.firstpalette.com/craft/rainforest-diorama.html> - Diorama similar to our prototype

<https://www.mlldesignlab.com/blog/top-10-tips-to-great-museum-exhibit-design> -top 10 tips to

<https://colorcraft3d.com/blog-post/10-tips-for-museum-exhibit-design-success/>

[https://www.youtube.com/watch?v=KYKVf6edvcA&feature=emb\\_logo](https://www.youtube.com/watch?v=KYKVf6edvcA&feature=emb_logo)

- **BBC Teach – Circuits (Reminder)**

<https://www.youtube.com/watch?v=XSukRnxGy5c> – Series and Parallel circuits

<https://www.si.edu/spotlight/ancient-egypt> - Artefacts

Why do we have to protect the artefact?

Things the children may want to consider:

- What technology will they install into their design? (To be included in their Information sheet.)
- Who is their audience?
- What materials am I going to use to build my model?
- How am I going to do the security element of my model?
- What skills do I need to build the model?

### **Stage 3 – Key skills**

#### **Electrical and Mechanical Components**

##### **Year 3**

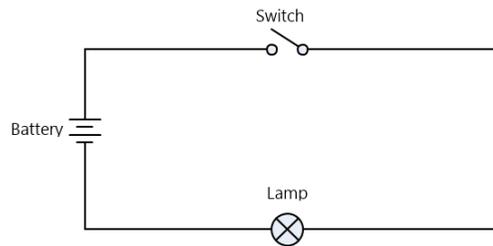
- Describe how a simple battery powered circuit can be controlled by different kinds of switches.
- Talk about simple electrical safety. Create simple circuits incorporating a battery, bulb, switch, buzzer and wires.

##### **Year 4**

- Explore and describe how an electric motor can be used in a circuit.
- Identify key features of electrical safety.

Children to practice skills safely or receive a demonstration from the teacher on how to:-

- **Cut**
- **Glue**
- **Make complete and incomplete circuits with buzzer alarms or light bulbs.**
- **To know how to represent circuits using scientific symbols**



How do complete and incomplete circuits work?

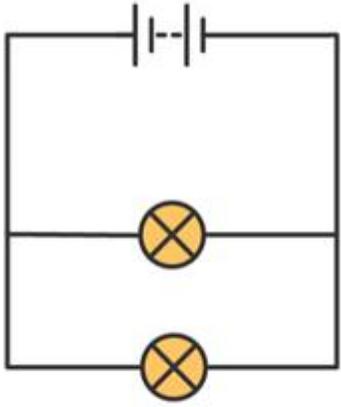
Explore and describe how complete and incomplete circuits work. Look at their use in real-life, eg. Lights in a lighthouse, a movement sensor in a burglar alarm.

Which materials conduct electricity?

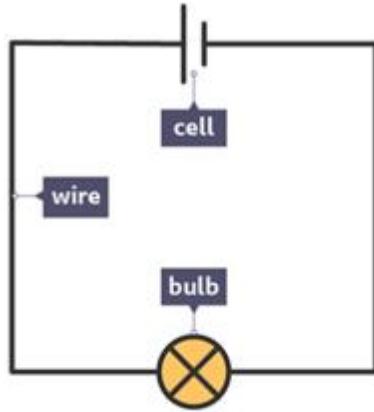
Ensure children know which materials conduct and which materials insulate electricity. Children to investigate this.

How can we stay safe around electricity?

Apply appropriate safety measures when constructing circuits.



A simple parallel circuit.

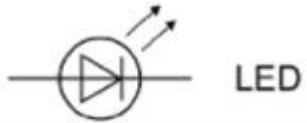


A simple series circuit.

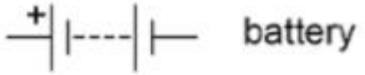
### Symbols



cell



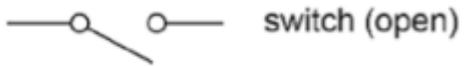
LED



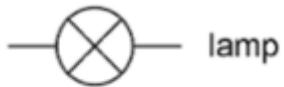
battery



Buzzer



switch (open)



lamp



switch (closed)



fuse

## **Stage 4 - Make**

### **Year 3**

- Select materials and components according to known characteristics and functions.
- Select and use an increasing range of tools to cut, shape and join materials and components.
- Use a ruler to measure and mark lines for cutting.
- Make and use gluing tabs.
- Select an appropriate way to improve the appearance of a product.
- Follow procedures for safety.

### **Year 4**

- Select from and use a wide range of materials and components according to both functional and aesthetic qualities.
- Select and use tools and equipment to measure, mark out and shape materials and components.
- Select the most effective finish to enhance the appearance of a product.
- Follow procedures for safety

Children to make their exhibit with their security element using various materials based on their design considerations. Children can deviate from their design if it is to make improvements. This will be explained in their evaluations later.

## **Stage 5 - Evaluate**

### **Year 3**

- Investigate and compare a range of similar existing products.
- Compare and contrast the similarities and differences of products with the same function.
- Evaluate ideas and products against design criteria; and suggest ways in which products can be improved.

### **Year 4**

- Investigate and begin to analyse a range of existing products.
- Use knowledge of similarities and differences between products with the same function to support identification of most effective product.
- Evaluate ideas and products against own design criteria, taking into account the views of others.

### What materials will you need?

Cardboard

Transparent plastic containers (to be the glass cabinet)

Paper clips (or other items that can act as a conductor)

Glue

Plasticine

Electrical equipment – wires, batteries, battery holders, buzzers, bulbs, bulb holders, switches

Have I followed the design brief set by the museum?

- The artefact is the masterpiece of the exhibit and will take centre stage.
- The casing must have a security element to it, to keep the artefact safe.
- It must have an eye-catching backdrop and surroundings, based on the Ancient Egyptians.
- Create an information sheet that will explain your concept to the museum curator. (Interactivity, Artefact information, etc)

Did I have to make any improvements during the design process? Why?

What could I have improved in my design?  
Does the alarm system work?

**Key Vocabulary :**

<ul style="list-style-type: none"><li>• <u>Analyse</u></li><li>• Annotation</li><li>• Artefact</li><li>• Brief</li><li>• Circuit</li><li>• Criteria</li><li>• Design</li><li>• Evaluation</li><li>• Function</li></ul>	<ul style="list-style-type: none"><li>• Graphics</li><li>• L.E.D. - light emitting diode</li><li>• Planning</li><li>• PVA – glue</li><li>• Quality</li><li>• safety</li><li>• scissors</li><li>• Produce</li><li>• Exhibit</li></ul>	<ul style="list-style-type: none"><li>• Aesthetic</li><li>•</li></ul>
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