

**Learning point 4: Circuit components**

I can create a simple circuit to light a bulb.

* Discuss a simple circuit which includes a battery, wires, bulb and how a circuit needs to be closed.
* Discuss what happens when a switch is included.
* Create a simple closed circuit which includes a bulb, switch and battery.
* Create a sketch to show how the circuit can be incorporated into the nightlight.

***Add a simple circuit to your nightlight design.***

**Learning point 2: Opaque and Translucent**

I can discuss the differences between opaque and translucent materials.

* Look at a variety of different materials, including tissue paper, cellophane, paper and card and discuss which will allow light to pass through. Why?
* Use a torch to test materials and decide which would be suitable for the parts of a nightlight.
* Sketch several designs for nightlights inspired by a jungle scene and label the materials.

***Sketch at least 2 designs for a rainforest nightlight, and label the designs.***

**Learning point 1: Design research**

I can identify the design features of a nightlight.

* Look at a range of nightlights available.
* Discuss how they work – drawing on scientific knowledge of circuits to light a bulb.
* Discuss the designs on nightlights, including opaque and translucent shapes and patterns.
* Discuss materials which will allow light to travel through, including tissue paper and cellophane.
* Present the design brief in sketchbooks:

***Make a nightlight which is inspired by the rainforests. It must include both opaque and translucent elements in its design.***

**Previous Knowledge**

* Designing a product for a specific purpose
* Understanding that some materials are better suited for certain tasks.
* Reflecting on the effectiveness of a design by evaluating it.

**Vocabulary**

**Opaque:** not able to see through it.

**Translucent:** allowing some light to pass through.

**Transparent:** clearly allowing light through it.

**Device:** an item made for a specific purpose.

**Evaluate:** assess or sum up a project based on its successes and improvements.

**Final Piece: A rainforest inspired nightlight.**

I can create a nightlight with a simple circuit.

* Complete the construction of the nightlight.
* Continue to decorate or improve the design as it is constructed, reflecting on the design brief and the effect it will achieve when illuminated.
* Ensure it has a working light inside the device.
* Critique the design against the design brief, evaluating its effectiveness and style.
* ***Critique your work. Does your design meet the brief? What do you like about it? What would you change? How?***

**Learning point 3: Constructing a design**

I can join paper, tissue and card using glue.

* Show a frame for a cube made out of wood and joined with glue.
* Discuss strengthening corners using triangles.
* Show how paper can be joined to the cube to create a nightlight.
* Children join their wooden frames together using wood glue and attach their paper and tissue design using PVA glue.

***Create a card, wood, and tissue design, using glue to join each element.***

**Textiles and Materials**

**Nightlights**

