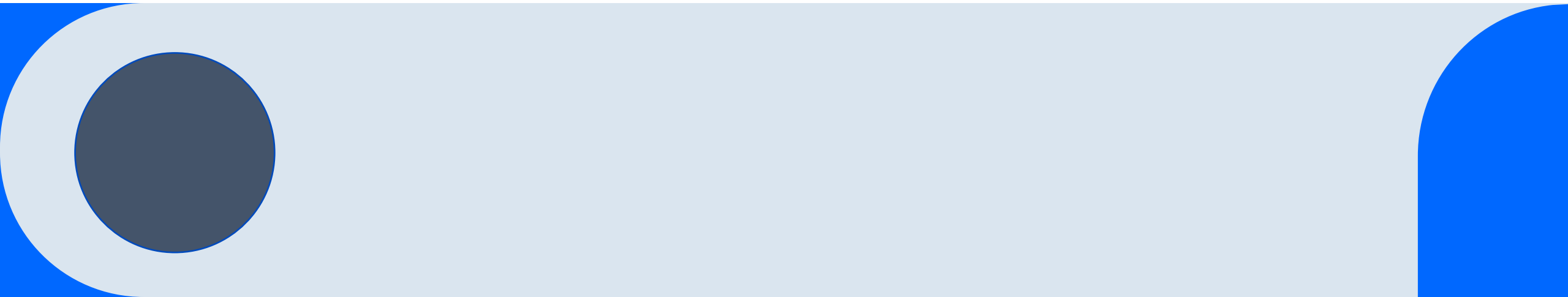
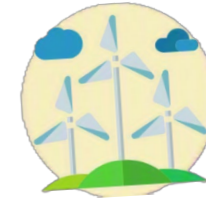


Creating activities for the Demonstrator Hub



Beginning of my internship- what I was tasked to do

At the beginning of the internship, I was tasked with creating new activities to add into the Demonstrator Hub within Saxon Air that focused on renewable energy sources.

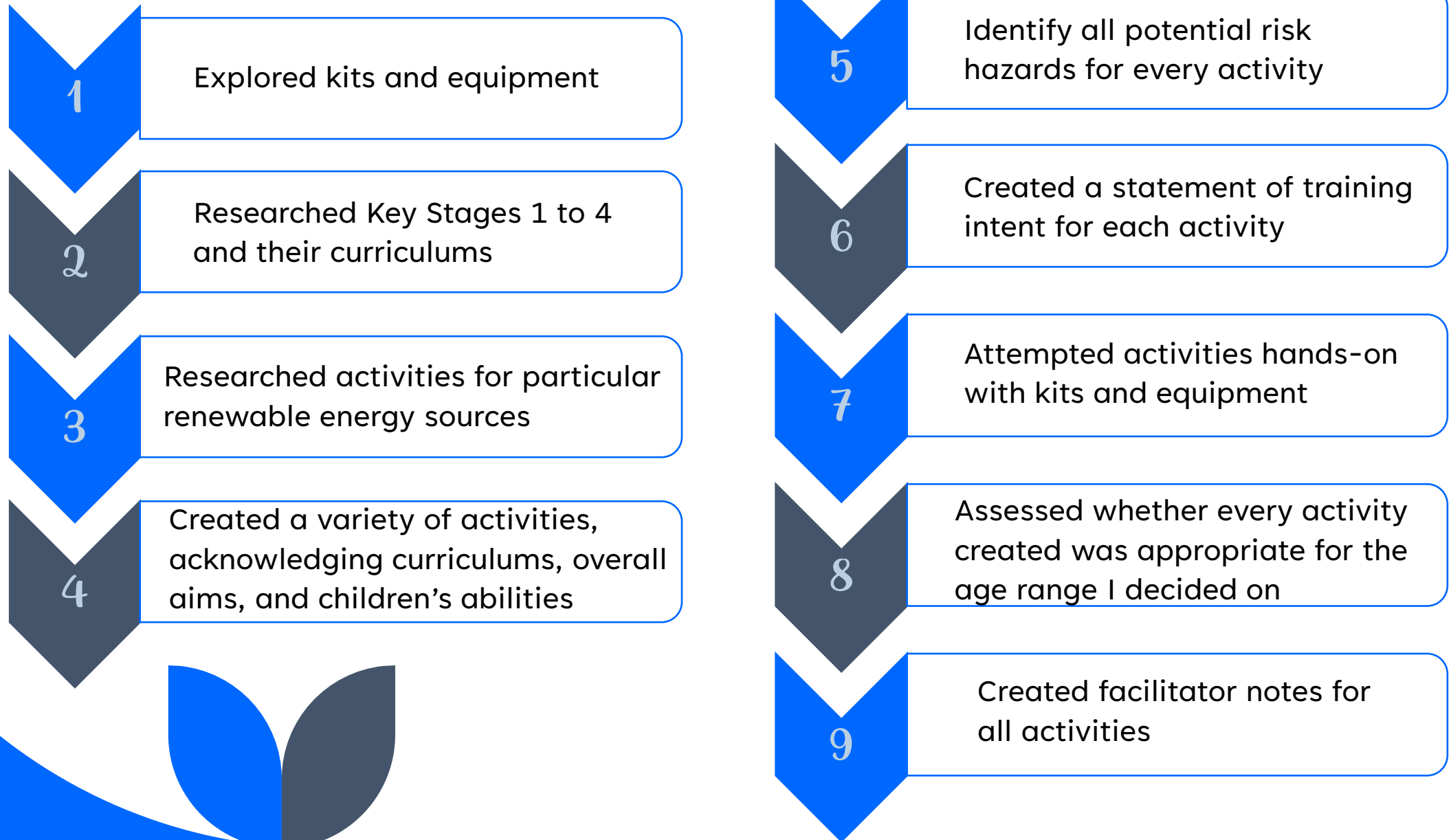


I would have to create structured lesson plans that linked to the curriculum of which the children receiving the lesson would be currently learning.

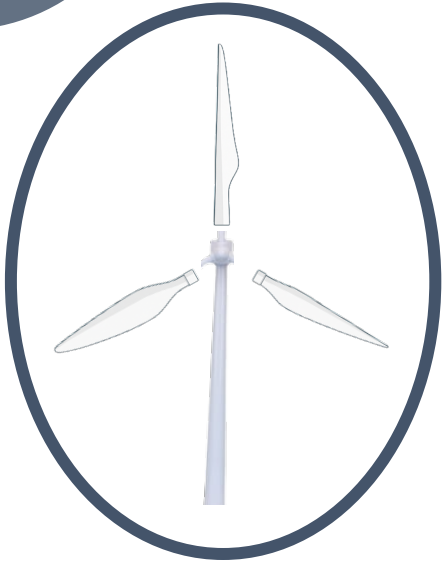
The overall aim was to develop children's understanding of renewable energy to interest them and encourage a future that focuses more upon sustainability.



Timeline of creating the activities

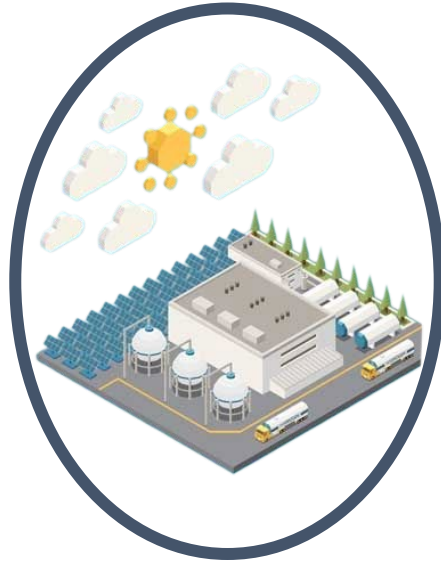


My lesson plans



Changing the blades on a wind turbine

Children explore how the design of the wind turbine blades affect the production of energy.



What is solar hydrogen

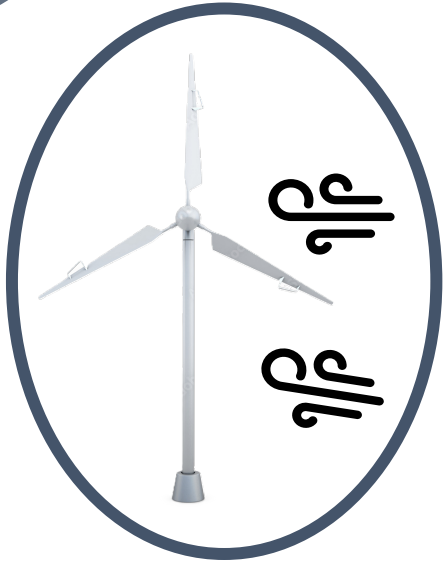
Children explore what solar hydrogen is as a renewable energy source as well as how it works.



Can you create enough electricity for the plane to fly

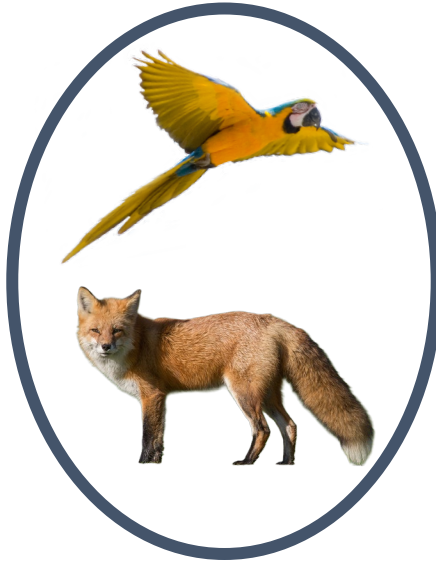
Children will explore solar energy in more depth as they learn about how to maintain a solar panel.

My lesson plans



Being the wind for the wind turbine

Children learn how wind turbines function and how their placement is impacted by the wind in the area.



Will the wind turbine impact the wildlife

Children learn about how the instalment of wind turbines can affect the environment.



Can this building have a solar panel

Children are challenged to identify whether certain buildings can have solar panels to explore the solar panel's characteristics.

How these activities will be implemented

The next step will be to attempt all the activities I have created through a **pilot test run**.



This test run should include children around the ages of 7 to 14 years and other adults.



Once these test runs are completed, I would have the children and adults provide feedback for every activity about:

- If it is age appropriate
- If it easy to understand what is expected from them
- If it was engaging and enjoyable
- If they were able to learn something from the activity

Activity 1- Can you create enough electricity for the plane to fly?



Equipment needed:

- Solar panel
- Lamp
- Hookup leads
- stopwatch
- Transparent sheets
- Multimeter/voltmeter

How could this activity be altered to accommodate everyone?

The aim of this activity is for children to learn more about solar energy and the effect of the climate and weather conditions on solar panels, as well as highlight the importance of sunlight to solar energy.

This activity focuses on the concepts of seasonal changes, sunlight and shadows, electricity, earth's daily rotation, and UK's seasonal and daily weather patterns. This all should be learnt in primary school (5–11-year-olds), allowing the children to receive extra support in understanding these certain ideas.

Age range = 7-16 years

Activity 2- changing the blades on a wind turbine

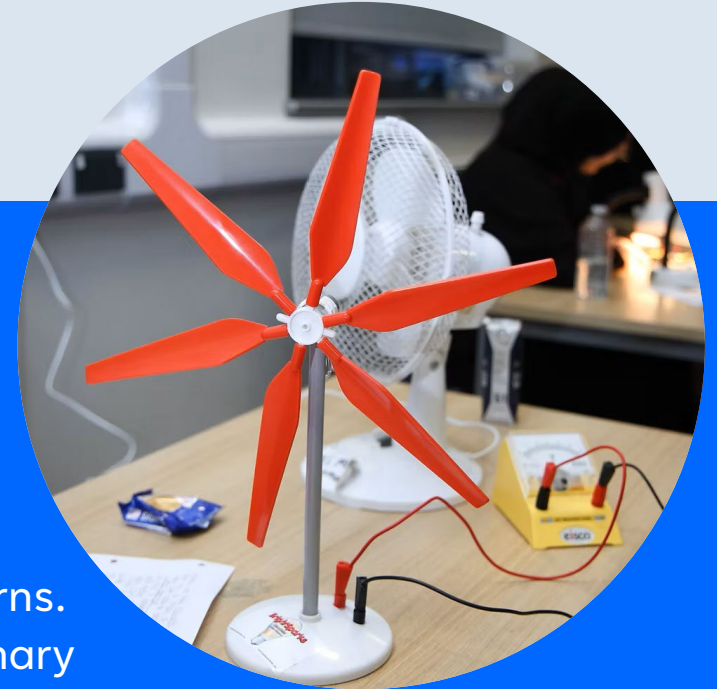
Equipment needed:

- BrightSparks wind turbine
- Table fan
- Hookup leads
- Stopwatch
- Cardboard
- Pens, pencils, coloured pens/pencils

The aim of this activity is to develop the children's understanding of what wind turbines are and how they function by using wind to create electricity, as well as highlight the importance of the blades and how it's shape can change the amount of electricity created.

Age range = 7-16 years

This activity focuses on the concepts of electricity, UK's seasonal and daily weather patterns, and shapes and patterns. This will all be learnt within primary school, allowing children to receive extra support upon these concepts, along with reminding the older children of these basic concepts to allow them to develop it further within secondary school.



How could this activity be altered to accommodate everyone?

Activity 3- what is solar hydrogen?

Age range = 12-16 years

Equipment needed:

- Horizon Educational solar hydrogen kit
- Two AA batteries
- Hookup leads
- Distilled water

The aim of this activity is to introduce a different source of renewable energy- solar hydrogen. Along with this, children should also explore how it functions by using water and sunlight to create a store of electricity and learn the benefits of this type of source.

This activity focuses on the concepts of electricity, chemical reactions, and renewable energy. This will all be learned within secondary school (11-16-year-olds), providing a simple introduction to these concepts to prepare the children, as well as providing more support for the older children by presenting different perspectives and a physical representation.

How could this activity be altered to accommodate everyone?



What I have learned

Required planning when creating a lesson, this includes:

- Risk assessment
- Scheme of learning
- Statement of training intent
- Lesson plan
- Facilitator notes

Importance of teaching children about lesser acknowledged topics.

Experiencing what is like to have a career.

All about Saxon Air!



**Thank you for
listening!**