

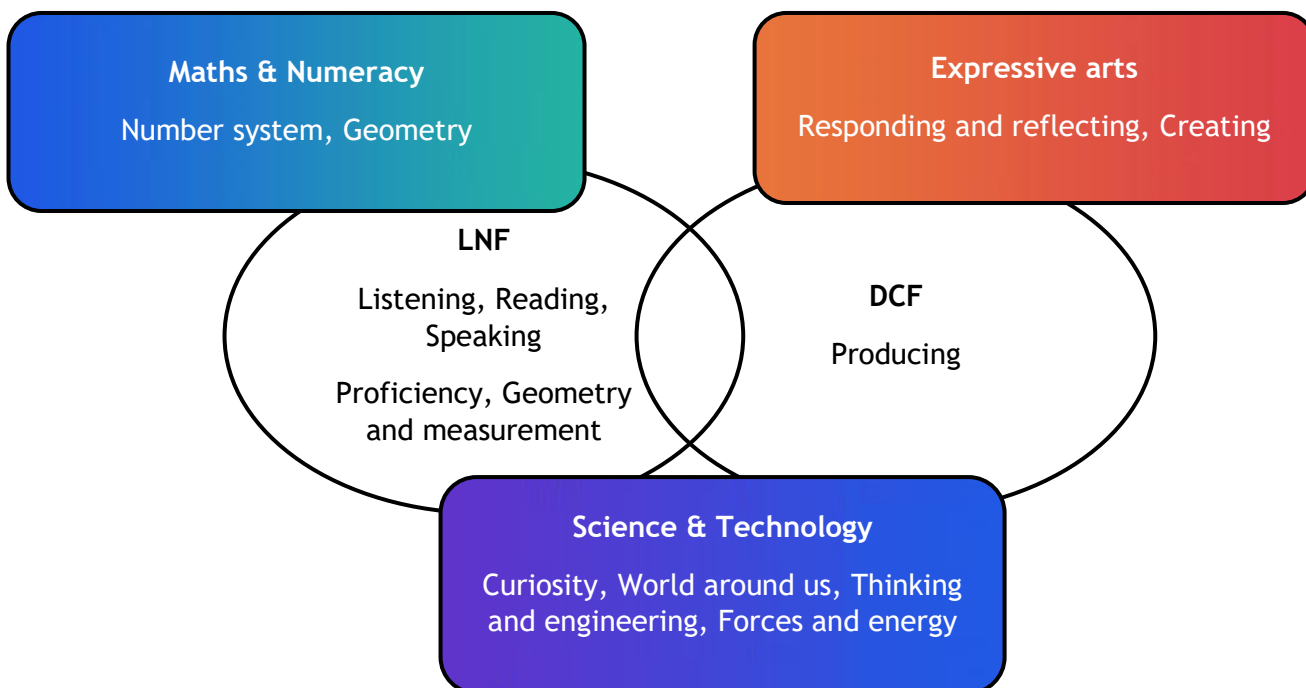
What is a kite?

Overview

Learners develop questioning skills through activating their prior knowledge about red kites. They develop a range of questions that they attempt to answer through research about the red kite. Learners note that red kites are found on the Common and investigate their introduction and success. Then, they use the design engineering process to develop prototypes of kites before designing and making a kite that looks and flies like a red kite. Learners fly their final kites on the Common before evaluating them using a qualitative self and peer-assessment technique and reflect on the evaluations.



Opportunities to develop...



Resources required for the activity

- Internet access
- Kite making materials, e.g. newspaper, tissue paper, old wrapping paper, thin, flexible wooden sticks such as willow, reeds, kebab sticks or bamboo, string etc.
- Kite making equipment, e.g. scissors, tape, hole punch etc.

Resources included with this activity

1. Photograph of a red kite
2. WWWWWH diagram – preferably printed on A3 paper – one per pair
3. Examples of YouTube videos for simple kite making:
https://www.youtube.com/watch?v=XI_NiH1g0VQ
<https://www.youtube.com/watch?v=vfKJRspVh2Y>
<https://www.youtube.com/watch?v=0uk4oSPw1Is>
4. Examples of YouTube videos for bird kites:
<https://www.youtube.com/watch?v=4sd5DxF6A2U>
https://www.youtube.com/watch?v=2-Wryk_5y1A
https://www.youtube.com/watch?v=xz5Ie_Pmh6M
5. Evaluation pro-forma
6. Suggested focus questions in sets, relating to each task, which can be given to each pair/group as they start each task. Conversely, these questions can be used by the teacher.

How to run the activity

Task 1: What good questions can we ask about this bird?

Ask pairs of learners to think about and discuss the photograph of the red kite (**Resource 1**). You could provide hard copy of the photograph or show it to the class digitally. Provide pairs with the WWWWWH grid (**Resource 2**) and invite them to record their 'good' questions on it.

Suggested questions

- What is happening in the photograph? How do you know?
- What type of bird is this? Why do you think that?
- What is the bird doing? Why do you think that?
- What good questions can you pose using the question starters on the WWWWWH diagram?
- How do you know these are good questions?

Task 1 : Continued ...

Once each pair has completed their WWWWWH diagram, ask them to swap with another pair. Then, ask learners to change any questions to improve them – in pencil.

Suggested questions

- Which of the questions do you think are good? Why are they good?
- How could you rewrite the other questions to improve them?

Once completed, the diagrams can be returned to the original pair to consider any amendments that have been made. They can change any of their original questions they wish to, ready to research.

Task 2: What can we find out about this bird?

Ask learners to use their discussions and the questions they developed in Task 1 as a starting point for carrying out research to find more information about the red kite and how it is now found on the Common.

Explain to small groups of learners that they will be required to make a 30-second presentation about the red kite. This could be done as a video clip, a podcast or using software such as Prezzi or PowerPoint or Sway etc.

Encourage learners to make their presentation as informative as possible. For example, they might include information about the number of breeding pairs, eating habits, food chains, nesting, dimensions, etc.

Suggested questions

- What do you already know about the red kite? How do you know these things?
- Where could you go to see a red kite? How do you know?
- How was the red kite reintroduced into Wales? Why do you think the red kite was reintroduced to Wales?
- Why do you think it is called a 'red kite'?
- What other information do you need to find? Why?
- Where and how are you going to search for this information? Why?
- What do you think you will find out? Why do you think that?
- What have you found out?
- How will you present your findings? Why will you do it like this?
- How will you make sure your presentation is no longer than 30 seconds?

Task 3: How can we design a good kite?

Explain to small groups of learners that eventually they are going to make a kite that looks like a red kite. The kite must be able to fly as they will test it out on Gelligaer and Merthyr Common.

The first step in this process is to design a kite that will fly – in other words a ‘good’ kite. They can then tweak their design to make it look and fly more like a red kite.

Ask small groups of learners to watch videos or read about kite making. You could use the videos on YouTube (**Resource 3**) or ask them to research independently.

Please note: only biodegradable materials should be used for making the kites in case some of them are lost in flight.

Then, ask them to design their kite on paper, making sure they use measurements and label the materials they will use. They can also annotate the diagram with the processes needed, e.g. using a hole punch to give an attachment point for the string.

Suggested questions

- What do you know about making kites? How do you know this?
- What materials and equipment will you need to make a kite?
- Why should you only use biodegradable materials for making your kite?
- How can you check whether your way of making a kite is the best way?
- What are your ideas for making a kite? Which are the best ideas? Why?
- How will you show your design on paper? Why do it like that?
- What information will you include in your drawing? Why is this information important?
- How well could someone else make your kite from your drawing? What other instructions do you need to add so that they could?

Once they have designed their kite they can make their first prototype to test in the school grounds.

Task 3: Continued ...

Suggested questions

- How well does your kite fly? How do you know?
- What improvements do you need to make to your kite so that it flies better?
- Why will these improvements make the kite fly better? How do you know?

Learners can then make their improvements to their prototype. Firstly, by marking them up (possibly in a different coloured pen/pencil) on their drawing. Then, remaking their kite to give their next prototype. They can then test this in the school grounds to check their improvements work and answer the last set of suggested questions again.

Task 4: How can we design a kite that looks and flies like a red kite?

All learners should now be ready to design and make their final kite. Therefore, the process from Task 3 is repeated in terms of drawing their designs and making their kite.

Learners will be asked to self and peer evaluate their final kites in terms of how well it flies, how much it looks like a red kite and how well it flies like a red kite. Therefore, they will also need to investigate how a red kite flies. This would be better, if time allows, for learners to visit the Common and surrounding area to try and watch a red kite in flight. However, if this is not possible, learners could research online for videos of red kites in flight.

Please note: only biodegradable materials should be used for making the kites in case some of them are lost in flight.

Suggested questions

- What are your ideas for making your final kite? Which are the best ideas? Why?
- How will you show your design on paper? Why do it like that?
- What information will you include in your drawing? Why is this information important?
- How well could someone else make your final kite from your drawing? What other instructions do you need to add so that they could?
- How big will your final kite be? Why?
- How long does your string need to be? Why?
- How can you make your kite look like a red kite?

Task 4: Continued ...

- What special features will it have so it looks like a red kite? Why?
- How big will your final kite be? Why?
- What special features will your kite have so that it flies like a red kite? Why?

Learners can then make their kites ready to trial on the Common.

Task 5: How good is our final kite?

Learners can test out their kites on the Common and evaluate their own kite and those of others. Explain to learners that they are going to evaluate the kites in three categories: how well it flies, how much it looks like a red kite and how well it flies like a red kite. This can be carried out back in school. Each small group of learners can start by self-evaluating their kite. Then, with the kites laid out on different tables, learners can move around the room in their group to each of the other kites in turn. A qualitative traffic light system that allows for learners' comments like that in **Resource 5** could be used. Just put the pro-forma next to the kite being evaluated.

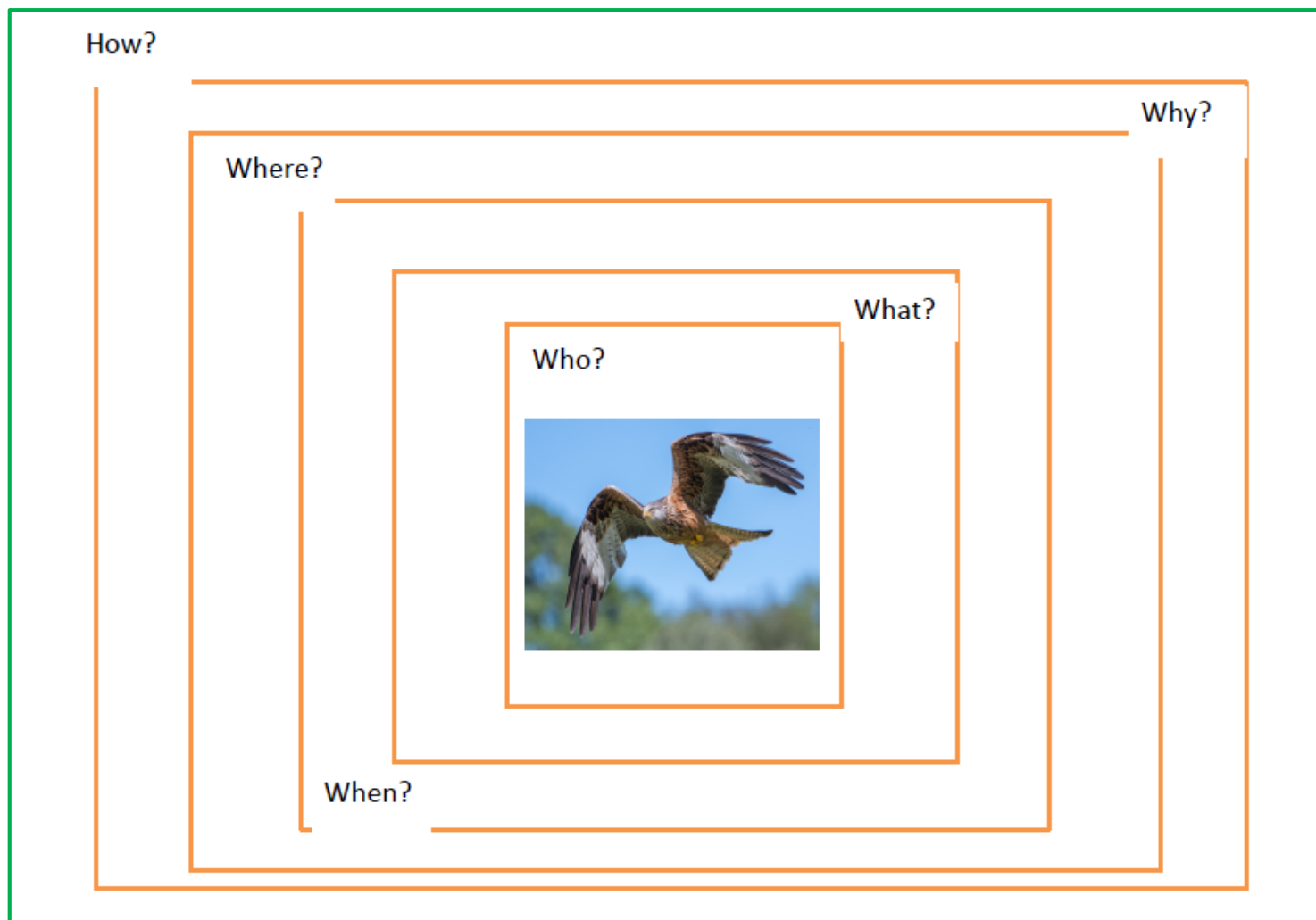
Suggested questions

- How well did the kite fly? How do you know?
- What could have been done to make it fly better? Why would this have made it fly better?
- How much does the kite look like a red kite?
- What could be changed to make the kite look more like a red kite?
- How well did the kite fly like a red kite? How do you know?
- What could have been changed to make the kite fly more like a red kite? How do you know?

Allow time for learners to reflect on others' evaluations of their kite once they are back at their own tables. They can discuss whether they agree or disagree and why.

Resource 1: Photograph





Resource 5: Evaluation pro-forma

Complete the table to show your evaluation of your own kite. Then, move around the room to evaluate others' kites. Use red, amber or green in one circle, then add any ideas for improvement.

Criteria	Evaluations
How well did the kite fly?	<div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div></div> <div></div> <div></div> <div></div> </div>
	Ideas for improvement
How much does the kite look like a red kite?	<div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div></div> <div></div> <div></div> <div></div> </div>
	Ideas for improvement

<p>How well did the kite fly like a red kite?</p>	<div> <div>○</div> <div>○</div> <div>○</div> <div>○</div> </div> <div> <div>○</div> <div>○</div> <div>○</div> <div>○</div> </div>
	<p>Ideas for improvement</p>

Resource 6: Suggested focus questions

Task 1: What good questions can we ask about this bird?

- What is happening in the photograph? How do you know?
- What type of bird is this? Why do you think that?
- What is the bird doing? Why do you think that?
- What good questions can you pose using the question starters on the WWWWWH diagram?
- How do you know these are good questions?
- Which of the questions do you think are good? Why are they good?
- How could you rewrite the other questions to improve them?

Task 2: What can we find out about this bird?

- What do you already know about the red kite? How do you know these things?
- Where could you go to see a red kite? How do you know?
- How was the red kite reintroduced into Wales? Why do you think the red kite was reintroduced to Wales?
- Why do you think it is called a 'red kite'?
- What other information do you need to find? Why?
- Where and how are you going to search for this information? Why?
- What do you think you will find out? Why do you think that?
- What have you found out?
- How will you present your findings? Why will you do it like this?
- How will you make sure your presentation is no longer than 30 seconds?

Task 3: How can we design a good kite?

- What do you know about making kites? How do you know this?
- What materials and equipment will you need to make a kite?
- Why should you only use biodegradable materials for making your kite?
- How can you check whether your way of making a kite is the best way?
- What are your ideas for making a kite? Which are the best ideas? Why?
- How will you show your design on paper? Why do it like that?
- What information will you include in your drawing? Why is this information important?
- How well could someone else make your kite from your drawing? What other instructions do you need to add so that they could?
- How well does your kite fly? How do you know?
- What improvements do you need to make to your kite so that it flies better?
- Why will these improvements make the kite fly better? How do you know?

Task 4: How can we design a kite that looks and flies like a red kite?

- What are your ideas for making your final kite? Which are the best ideas? Why?
- How will you show your design on paper? Why do it like that?
- What information will you include in your drawing? Why is this information important?
- How well could someone else make your final kite from your drawing? What other instructions do you need to add so that they could?
- How big will your final kite be? Why?
- How long does your string need to be? Why?
- How can you make your kite look like a red kite?
- What special features will it have so it looks like a red kite? Why?
- How big will your final kite be? Why?
- What special features will your kite have so that it flies like a red kite? Why?

Task 5: How good is our final kite?

- How well did the kite fly? How do you know?
- What could have been done to make it fly better? Why would this have made it fly better?
- How much does the kite look like a red kite?
- What could be changed to make the kite look more like a red kite?
- How well did the kite fly like a red kite? How do you know?
- What could have been changed to make the kite fly more like a red kite? How do you know?