TEACHING FOR CREATIVITY IN SCIENCE FOR YEAR 1

UNIT OF WORK EXEMPLAR

Bronte Bailey
Stoneham Park Primary Academy

How to read this document

This document contains three main components

- A description of the Creativity Collaborative programme context and our framework of teaching for creativity
- The key unit information provides an overview next
- Finally, the full unit description gives detailed information

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CREATIVITY COLLABORATIVES
ARTS COUNCIL ENGLAND LOTTERY FUNDED
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Freelands Foundation

Context: UWinAT Creativity Collaborative

Creativity Collaboratives is an action research programme, funded by Arts Council England and the Freelands Foundation, that aims to build networks of schools to test a range of innovative practices in teaching for creativity, with the explicit intention that learning is shared to facilitate system-wide change. The University of Winchester, the University of Winchester Academy Trust, and a network of Hampshire Infant, Junior and Primary schools became one of the eight national funded collaboratives, coming together with the key ambition of fostering pupils' creativity in subjects drawn from across the curriculum. Overall, our collaborative aims to enrich children's life chances by developing them into confident and creative problem-solvers, engaging them through authentic, meaningful problems, embedded in their schools and lives.

The focus on creativity as a key skill in education is increasing (James et al., 2019), reflecting its value within wider society. Indeed, according to the 2023 'Future of Jobs Report' (World Economic Forum, 2023) creative thinking is the skill showing the greatest increase in importance for employers (p. 38) and after analytical thinking, is the second most frequently cited skill that is 'core' for the workplace (p. 39). Our collaborative has focused on:

- Understanding and addressing the barriers and enablers of creative thinking
- Developing leadership for creativity in schools
- Developing new approaches to teaching for creativity across the curriculum
- Building children's and teachers' knowledge and understanding of creativity
- Developing children's and teachers' sense of themselves as creative and their ability to be creative in subjects across the school curriculum..

The Creativity Navigator: A Framework of Teaching for Creativity

To support our planning and implementation of teaching for creativity, we use a planning tool called the Creativity Navigator. This was co-developed in our Creativity Collaborative and draws on a wide range of models, theories and frameworks of creativity. The Navigator emphasises that creativity can be a planned for process, that follows a typical sequence of explore – ideate – evaluate, but that this sequence can be varied and cycled around many times whilst working through a creative process. The process starts with the question 'where next?' emphasising the importance of metacognitive planning and monitoring throughout a creative process.

In a classroom context, a creative process can be operationalised through a set of learning behaviours. These behaviours can be grouped under creative 'habits' each of which can be used to support the creative process. For instance, a think-pair-share learning behaviour could support children to collaborate on gathering relevant information as they explore at the beginning of a creative learning task. The same collaborative habit could later be used to support the evaluate stage of the creative process through getting constructive feedback from peers on each other's creative work and how it might be improved further.

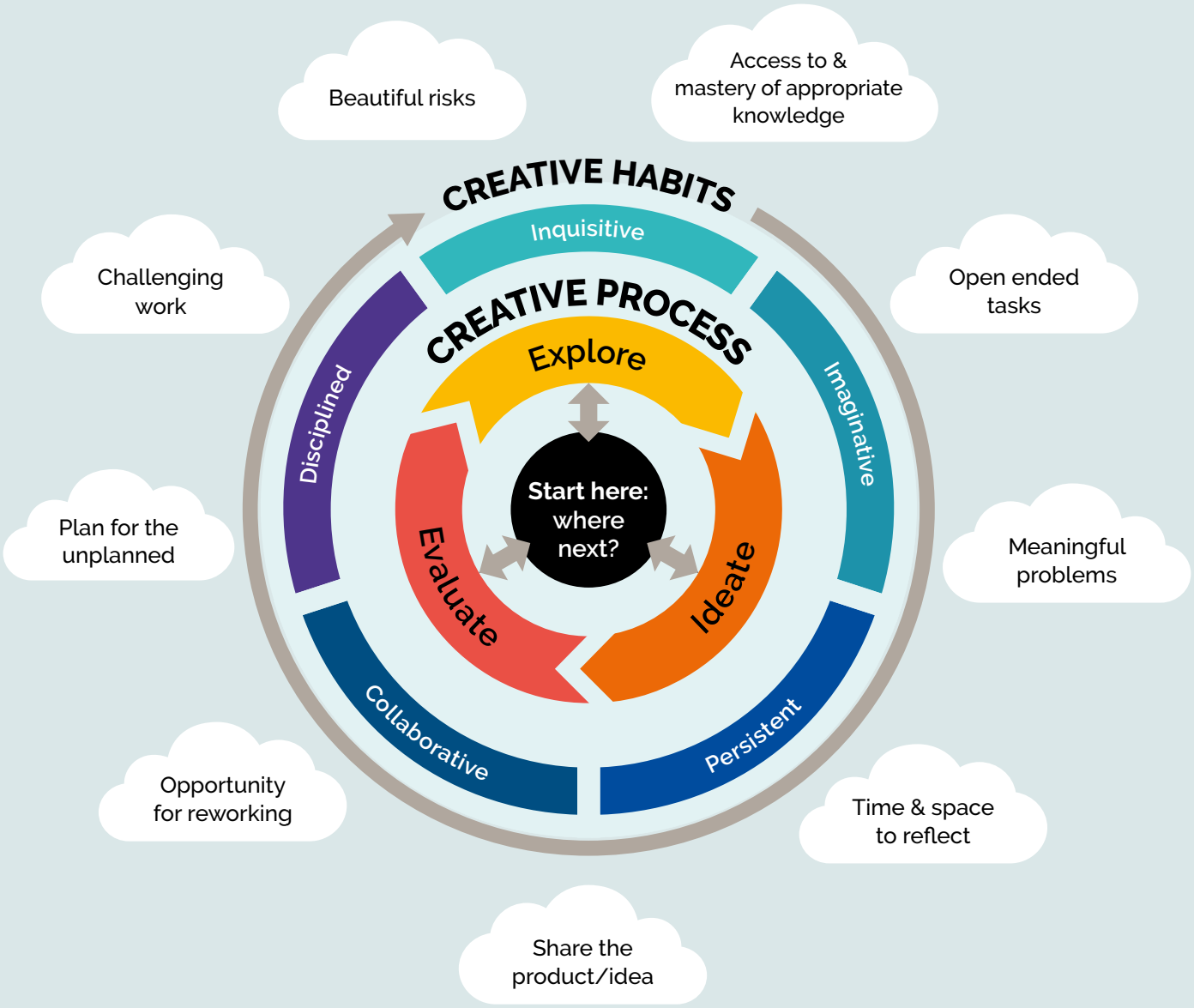
The final aspect of our Creativity Navigator focuses on the types of climate and task design that can support creativity to flourish in the classroom. For instance, tasks need to be personally meaningful, challenging, and open-ended, with children having some autonomy over aspect(s) of their learning. The classroom climate needs to provide psychological safety for children to take risks, make mistakes, learn from them and rework.

TO CITE THE CREATIVITY NAVIGATOR PLEASE USE:

Sowden, P.T., Warren, F., Seymour, M. Martin, C., Kauer, A. Spencer, E., Mansfield, S., Waite, J. (2025). A Creativity Navigator to Guide Teaching for Creativity: Implementation and Teacher Impacts in a Creativity Collaborative of Schools. *Journal of Creative Behavior*, *59*(2), e70005. https://doi.org/10.1002/jocb.70005

To refer to this resource please cite: Bailey, B. (2024). What does my Habitat Look Like? A Case Example of Teaching for Creativity in Year 1 Science. Stoneham Park Primary Academy. Winchester, UK: UWinAT Creativity Collaborative.

CREATIVITY NAVIGATOR



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KEY UNIT INFORMATION

What does my habitat look like?

INTENDED FOR:
Year 1 / KS1

SUBJECT FOCUS:
Science

UNIT DURATION & FORMAT:
One lesson

LEARNING OBJECTIVES/OUTCOMES:

1. **National curriculum objective** – To understand how certain animals are adapted to living and surviving in particular habitats including microhabitats.
2. **National curriculum objective** – To use the local environment to explore and answer questions about animals in their habitats.
3. **National curriculum objective** – To look closely at the natural world around them.
4. **Creative outcome** – Creating a habitat for a 'newly discovered' insect.

This unit was a scientific enquiry with a chance for children to inject their imagination and use their findings about the natural environment to solve a meaningful problem. This unit of work was led by the enquiry question – *"What does my habitat look like?"*. Children were introduced to an exciting opportunity to explore their local environment and gather research on living things and their habitats.

The unit is driven by an inspirational figure where children "walk in the shoes" of the famous biologist, David Attenborough. This meaningful experience gave the children purpose that was focused through the challenge of creating a habitat for a "newly discovered" insect.

During this unit, children were excited to help Attenborough and to have the opportunity to apply their knowledge of habitats to their creation. This lesson encouraged a deeper level of thinking and curiosity during their exploration stage. This further helped develop high-quality discussion when reporting findings during their evaluate stage.

STEPS FOR SUCCESS:

1. Plan to have a variety of resources available. (junk, natural tools, blocks, etc).
2. Allow time on the timetable for the exploration stage to research the local area.
3. Encourage talk within the groups to extend the vocabulary used during the process.

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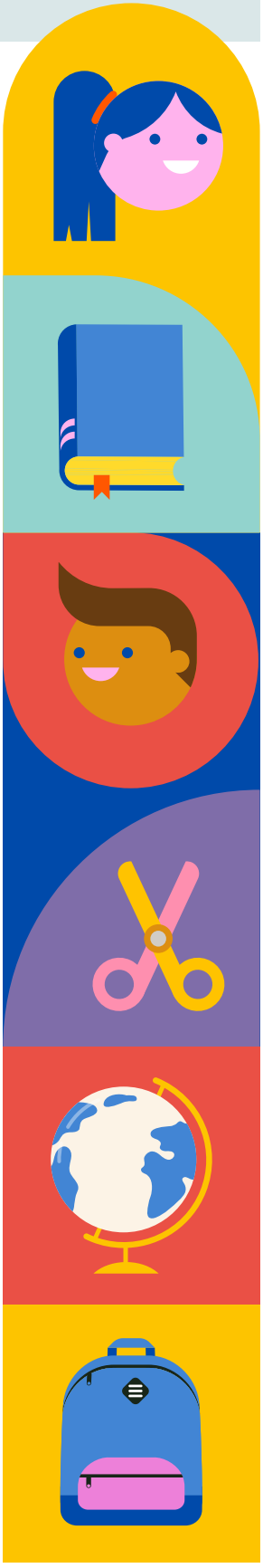
FULL UNIT DESCRIPTION

What does my habitat look like?



Introduction

This lesson would be a longer lesson taught within a series to explore living things. It should be used as a progression lesson within a learning journey of teaching both living / non-living things and animal survival needs. It provides an exciting hook for the application of this taught knowledge at this stage in this science journey.

Before I learned about the creative process, this lesson would have had no meaningful purpose, and this objective would have usually been met with a "quick tick box" activity sheet on matching the animal to its correct habitat. Although this activity can still be used as a form of assessment, it would not provide the same rich opportunity for use of scientific language and collaborative problem-solving skills to embed children's learning of animals and their habitats. All children's work sheets had looked the same, there was little imagination used and learning links were loosely made and limited. I adapted the previous "worksheet" lesson to answer the overarching enquiry question of "What does my habitat look like?". By opening up the task design, it can switch on a lot of mini scientists and include those who may not have been engaged through a closed task design of a worksheet. The authentic purpose offered by the creative outcome generated a lot of excitement, and it became meaningful to the children. Using Attenborough as an inspirational figure alongside this enquiry really brought this to life and the children wanted to research this enquiry for him.

It is important to note that this class had previously been taught the habits of creativity as shown in our Creativity Navigator and this lesson easily enables each of the associated learning behaviors.. Children were organically developing these habits of creativity as they worked as a team to solve the enquiry. The Creativity Navigator enabled teachers to explicitly identify where we were on our creative journey. Children were taken through the Navigator during the process and taught how to explore/ideate/evaluate effectively. They could then take ownership of their creations to craft and refine their ideas during this process.

Learning for a purpose – Enquiry Hook

Children were given an important title and told that today they were going to become real biologists. They were introduced to the inspirational figure – the British broadcaster and biologist, David Attenborough. Through a voice over character app, David told the children about his important job. They watched videos of his work and immersed themselves in their newfound responsibility as an Environmental Biologist like Attenborough.

Explore Stage

I then modelled the skills of exploration to the children. To become environmental biologists, we needed to look carefully at habitats in our local environment and learn about how the animals survive and live there and why they choose to live there.

Children were told that this was the exploring stage and we needed to use our inquisitive habit to ask and find answers to increase our knowledge on habitats. We packed our bags full of exploration tools such as magnifying glasses and bug books and wandered out into our beautiful meadow full of spider webs, dark wooded areas, and vibrant flowers. We developed our substantive knowledge of learning how certain animals are adapted to living and surviving in particular habitats. It was important to model this stage in an 'I do – you do' approach where I used a stem sentence to structure specific questions such as "Why would a _____ live here? What does it eat and how will it catch its food in this habitat?". The children would then practice this skill of inquisitive behavior throughout their exploration. The role of the adult was important during this stage of exploring to ensure that the children were verbally discussing their findings and that the correct direction of learning was being met. It is important to emphasise the importance of stem sentences such as "Why would a spider need a web? What does it eat and how can it catch its food?" or just a simple "I notice…" sentence to be accessible for all and encourage high quality discussions.
I promoted the development of the discipline habit by seeing that children were being disciplined by ensuring they found answers through a combination of research from both their research book and their meadow experience. It made a huge difference experiencing the habitats in real life and seeing how different habitats looked.

Children then came back into class to discuss findings as a class to embed that learning and bring it back to understanding why the animals lived there and how do they survive there. This then created a wonderful, evidenced piece in our floor book where we were able to document some of the lovely quotes that children had made when finding out about this enquiry as well as display the learning habits practiced.

> **"It made a huge difference experiencing the habitats in real life and seeing how different habitats looked."**

Ideate Stage

The children were introduced to the breaking news that Attenborough had discovered a brand new, unidentified insect in our local area. They were shown photos of this insect and given a set criteria that this insect needed to survive. They were then set their meaningful problem of:

"What does my habitat look like?"

I then explicitly taught them that we were moving into the ideation stage of our creation. This stage was modelled to them so that they could choose and make their creations to their highest quality. Therefore, it was important to model that I was using knowledge learnt from exploration to help me develop my design for a habitat. I looked carefully at the needs of the insect:

- Dark and warm environment.
- Feeds off fungi and moss.
- Protection from predators.

I then modelled doodling a range of ideas to ensure that I was meeting the insects' needs for survival. It was important to

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model that the creative process is a cyclical process and that the children can go back to the explore stage to gather new ideas and create stronger learning links. It was of course important to give it a funky new name. This added another dimension of fun and again giving our new environmental biologists purpose and voice.

The children were put into groups and encouraged to collaborate to develop their designs. The insects' habitat criteria were kept on the board to keep in mind during the ideation stage. The tummy time group doodling began, and some amazing ideas were generated.

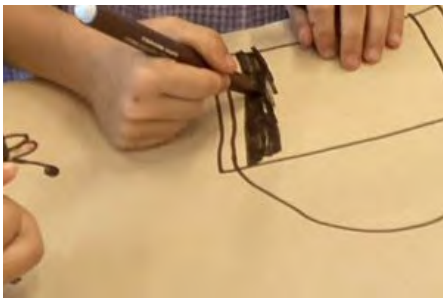
Evaluate Stage

Once initial ideas had been doodled. The children were able to begin to bring their doodle designs to life. They had access to a variety of resources such as – tins, logs, loose parts, blocks and access to the outside in the meadow. I paused the class to model this stage of the process. From my initial design, I began to evaluate whether I was meeting the criteria for the insects' needs. I verbally justified each part of my design and linked it back to the criteria to show my understanding that a habitat is meeting the needs of my insect. "The insect can use this log as its dark space. The sun will heat the log to keep it warm."

The children were then encouraged to persist whilst evaluating their design for the insect. It would be challenging to meet those needs, but the children continued to craft and improve their habitats to meet the criteria, in turn, portraying their knowledge and understanding of habitats. We encouraged collaboration through peer feedback and in `Dragons Den` style, children promoted why their habitat would be most suitable for the new insect. We then allowed time for children to adapt their designs based upon peer feedback.

Finally, the children recorded their habitats in online journals using David Attenborough style voices to articulate their answer to the overarching enquiry question of *"What does my habitat look like?"*

The challenges faced when planning for a creative lesson, such as the one I have described, can be timing. Ensuring that the timetable allows for a longer time spent in exploration, even if this time was taken before lunchtime and before the ideation and evaluation begins in the afternoon. It was such an important part of our process and helped develop the high-quality discussion when reporting their creations during the evaluation stage. The children really understood that habitats were specific to an animal's need for survival. They continue to practice this exploration skill when we are in the meadow and create strong connections in their learning. If the challenge might be lack of resources, don`t be afraid to use the nature around the school. It doesn`t have to rely on exciting resources and the more nature used to create a natural habitat, the better.



Impact on learning

Using first-hand practical experiences, pupils were able to explore and answer questions about animals in their habitat. They were given the opportunity to problem solve and practice the habits of persistence and collaboration. The children showed novel and effective ways to create a habitat for a new insect as opposed to a tick box work matching activity that I previously used to teach this objective. The photos included in this case study are some of the examples of how varied outcomes were and that children could identify the effectiveness of the different habitats they produced. I could confidently assess the children's knowledge on animals by observing and listening to conversations and it was evident that they had embedded this knowledge, compared to previous years where the opportunity to show this knowledge was limited. With the open-ended possibility for the outcomes, this task gave a low threshold, high ceiling opportunity that enabled all children to be included to show their knowledge. Through the opportunity of using language, children could show greater depth by elaborating on their reasoning behind their models, whereas children who needed support could still access this task by talking through their habitat's suitability for the insect. All children were hugely engaged and felt that they had a voice in the scientific field. The power of voice!

Supporting evidence of impact

Supporting staff noticed the wonderful impact of creativity in science – "It was amazing to see how engaged our lower attaining students were. The children that often switch off from science became scientists and were excited to show their knowledge on habitats."

Teachers could challenge and support our mini scientists where needed through observations and listening to conversations between children.

FINAL REFLECTIONS:

There are subjects that typically lend themselves to creative skills such as art, music and DT. Practitioners can often lose sight of the meaning behind skills for creativity and why these skills are important for life. By gradually weaving in opportunities to practice these skills we can see an increase in the children's knowledge and understanding in other subjects, such as science.

These metacognitive skills can be taught throughout all areas of the curriculum, and I hope that this example through science can show the benefits of teaching creatively and for creativity. It provides children with the building blocks to prepare them with skills for life. Once children begin to understand the creative process, it allows them to use this in their problem-solving processes to secure a deeper knowledge of the curriculum.

A purposeful outcome gives children a taste of what life is like as a scientist in the big wide world to use these skills in all areas of problem solving throughout life.

CONTACT US:

uwinatcreativitycollaborative@winchester.ac.uk

https://www.winchester.ac.uk/research/Our-impactful-research/Research-in-Humanities-and-Social-Sciences/Research-projects/creativity-collaborative/

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