



Curriculum Materials

Learning Journey

Investigating Snails



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Learning Journey Investigating snails

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Creativity in Early Years Science: Investigating Snails

Caron Teague



Setting the Scene

Focus:

My focus for this project was to develop children's **reflection and reasoning** to promote consolidation of acquired knowledge whilst providing them with different experiences **to make connections** and opportunities **to communicate their explanations**. The difference I wanted to make was to develop the children's awareness on how much they have learnt about certain topics – in this example snails.

Rationale:

The children were already naturally curious and displayed strong play and exploration skills. I wanted to build on this in fostering children's **ability to make connections** in terms of being a scientist using scientific skills, to help them become more confident in **communicating explanations** about scientific investigations and to foster **reflection and reasoning**.

I wanted to explore whether the use of floor books and wonder walls would encourage reflection on learning and reasoning and increase the children's skills in making connections and communicating in scientific activities.

Planning activities based around the children's interests allowed opportunity for children's **agency**. I decided to document our different snail experiences with photographs and questions both on a 'wonder wall' display in the classroom and also an A3 floor book – which we could add to as a working document and would be accessible at all times in the book corner.

Background

Setting

A charity run pre school in a classroom space within a local primary school. A typical day has 24 children aged 3-4 years, with 4 qualified early years practitioners. The children attend on average two to three sessions per week.

Pre-school aged children in the UK follow the the Early Years Foundation Stage framework (EYFS) – the creative science dispositions and synergies fit with the EYFS Characteristics of Effective Learning (CoEL). Playing and exploring, Active learning & creating and thinking critically.

Learning activities:

Finding out about snails, bug hunting, making slime.

Creative disposition:

Making connections

Contextual factors:

Small groups, free flow learning

Synergies: Reflection and reasoning

Overview of Learning journey

Starting point: The topic started from one child's interest who found a garden snail on his walk into pre-school one morning. He carried it around most of the day, chatting to the snail.

Children were curious about the snail and wanted to know more

Learning activity 1: Exploring previous knowledge

We explored what we knew, identified gaps in our knowledge and *raised questions*. It gave us a starting point for *planning investigations* to find out more.

Children asked many questions and noticed that there is some 'slimy thing' on their hands. I captured their questions and I knew I could follow their leads

**Learning activity 2:
Exploring snail anatomy**
We used the internet together to find out more about a snail's different body parts.

The thing that really captured the children's curiosity was the discovery that snails make slime in order to move. They got very excited.

Learning activity 3: Making snail slime

I set up an investigation table with some plastic snails and a range of sticky items including: wall paper paste, PVA glue, Pritt sticks, honey.

Children were challenged to make their own slime. They were very motivated to make their plastic snails stick to the door

Learning activity 4: Caring for our own giant land snails

One of our parents donated two giant land snails. The children were involved in setting up their tank, feeding and bathing them.

Children were happy and motivated to look after our own snails and they often refer to their body parts

Learning activity 5 and 6: A planned bug hunt + Child-initiated bug hunt

We connected the theme of snails with going on a bug hunt with treasure hunt sheets and magnify glasses.

Developing the learning journey: Starting points

The topic started from one child's interest. Kaleb found a garden snail on his walk into pre-school one morning. He carried it around most of the day, chatting to the snail. He gave him a name (Turbo) and even kept him with him at the table when doing a puzzle with his friends.



This is my snail Turbo, he's like the one on my telly!

Learning activity 1 – exploring previous knowledge

What did the children already know about snails?

This provided an opportunity for us to share what we knew, identify gaps in our knowledge and *raise questions*. It gave us a starting point for *planning investigations* to find out more.

First I asked the children if they could name any parts of the snail. A few children could identify the shell. One child said snails ate his grandad's plants!

Kaleb and his friends were very interested in the mucus the snail made, and also the fact that the snails 'horns' popped in when you poked them.

From their interest I decided to focus on supporting the children in learning more about snails and capturing the opportunity to develop children's reflection on their learning.

Here are some of the questions and statements the children posed – these began our snail adventure.

Yuck what's this sticky stuff? (on my hand)
Is it snail wee?

His horns suck in when I poke them – look....

How can Turbo climb up the wall without falling off?

Learning activity 2 – exploring snail anatomy

We used the internet together to find out more about a snail's different body parts. We learned that a snail has one foot, eyes, nose and a mouth like us – although their eyes are on the end of their tentacles. The children made the connection that they had been poking 'Turbo' in the eye to make his 'horns' go in and stopped this game straight away!

The thing that really captured the children's curiosity was the discovery that snails make slime in order to move and it's so sticky they can even climb vertically.



He doesn't like his eyes poked – cos he hides them!
Kaleb said

This was particularly exciting as it shows this child had reflected on his learning and was able to articulate his understanding 😊

The children's interest in snail slime informed our next activity

Learning activity 3: Making snail slime

We recapped and discussed how snails need slime (mucus) to move along on their foot and how snails can climb vertically up things.

I set up an investigation table with some plastic snails and a range of sticky items including: wall paper paste, PVA glue, Pritt sticks, honey.

I then challenged the children to make their own slime and see if they could get the plastic snails to stick to the door or window!

I stood back and let the children experiment....





Maddi used her own initiative and took some blue tack from a poster!

I've got some blue tack, that's sticky!

Great critical thinking and determination - Jake discovered one glue wouldn't work – so he tried them all!!



I'm going to use both this slime and glue cos it'll be extra sticky!

The children all had different ideas; some tried the PVA glue, others the Pritt stick. They were not familiar with wallpaper paste and although once mixed it was a great slimy consistency. With no adult direction they had added too much water and it wasn't as sticky as it could have been! The children weren't put off when they didn't succeed at first – they kept going trying different ideas.

Finally... Experiencing success, learning and having fun!

It stuck, we did it!



Learning activity 4 – Caring for our own giant land snails



One of our parents donated two giant land snails. The children were involved in setting up their tank, feeding and bathing them! 😊

And most importantly naming them – ‘Squishy’ and ‘Squashy’

Squishy and squashy – cos that’s what their slime feels like!

The children’s decision on the land snails’ names and their explanation demonstrate how they reflected on their learning about slime and also how they reasoned their choice of the snails’ names.

Parental support has helped us keep the snail theme alive & interesting 😊

Learning activity 5 – a planned bug hunt

Later that week we connected the theme of snails with going on a bug hunt. We provided the children with treasure hunt sheets and magnify glasses. Before we set off the teachers discussed the sheets with the children as a large group. We talked about each minibeast on the sheet to find out which ones the children could name. We asked questions such as where we might look for each minibeast. Once outside the children went off in small groups accompanied by a teacher. The children showed they had retained the information that some minibeast like dark places and they began turning over logs and stones in their search. We found worms, slugs, snails, wood lice, a ladybird, ants and a butterfly.



Look woodlice
1,2,3,4

I've seen a
worm, a snail
and some ants!



Learning activity 6 – child initiated bug hunt

The children were playing in the garden when they found another snail. Kaleb and Jake discussed whether or not the snail they had found was Turbo from the other day. Kaleb decided he was and that he had come back to see him. Having had the experience of meeting and making friends with Turbo, the whole class were prompted to make connections to their own snail while exploring other bugs. Thus they reflected on their previous learning about snails and communicated their explanation and agreement on recognising one of the snails as Turbo.

The children were very intrigued to find one of the snails completely immersed in water. Children's interests of finding snails under water prompted further explorations and connections; we researched that although garden snails can not swim, they do like to be bathed and drink water – (like Squishy and Squashy).

Maddi, although involved in the hunting, was not quite so sure about actually touching the snails. However, when one began to wander off she did pick it up – she was quite fascinated he had gone inside his shell! Her explanation/reasoning of the snail disappearing inside its shell or as she put it hiding, links back to our previous lesson on snails body parts. She has made connections and reflected on her learning about shells.



Look I've found Turbo he's come to see me again

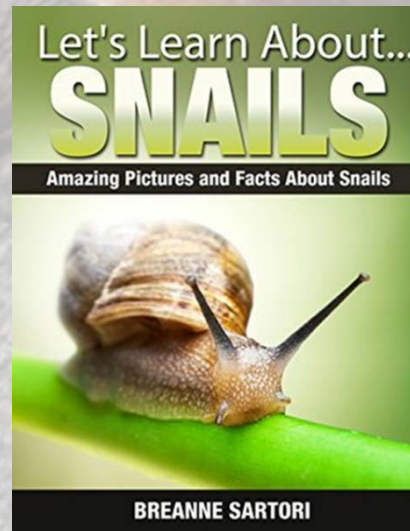
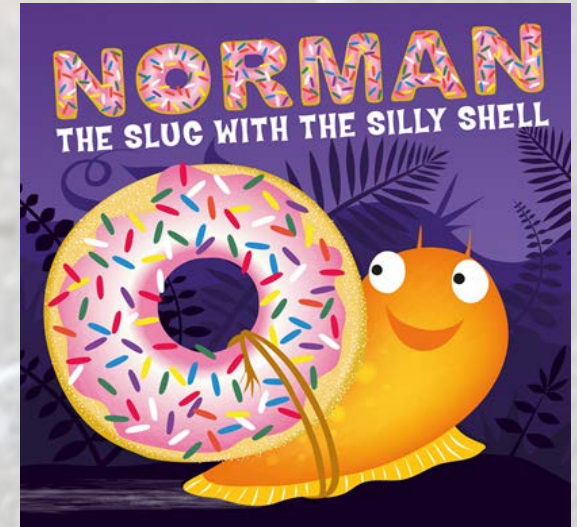
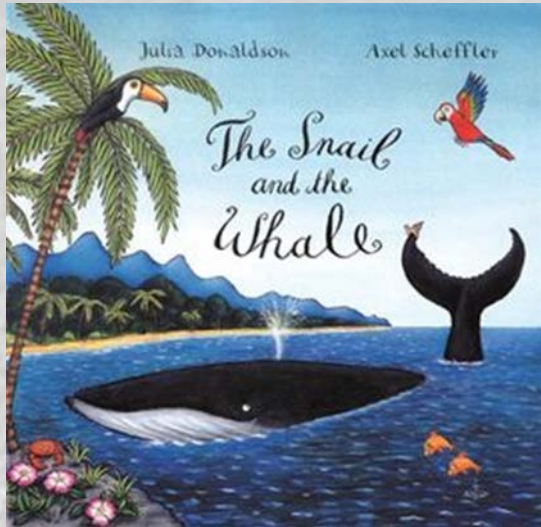
He's hiding in his shell – he's scared!



Mine is small – he must be a baby

The children were connecting skills from previous learning and communicating their own explanations and understanding.

To support learning we shared different non fiction and fiction books



The children were observed engaging in child initiated snail related activities



Drawing snails

This is Turbo's shell it goes round and round and round!



Making snails from play dough



Constructing snails with the hex shapes

Our Wonder wall



I had not used a wonder wall before with children of this age; initially they were excited to see their questions being valued and placed on the board. They also liked choosing different pictures to go on the display. The board itself changed as we covered different activities but after a few weeks they seemed to lose interest in it. I feel this was mainly due to the age of the children, on reflection there was a lot of writing on the board and not as many pictures as in the floor book. The height of the board itself may have played a part in this.

The floor book

The children were very involved in choosing photographs to go into our snail floor book. They helped stick the photographs in and had a real sense of ownership about 'their book'. The floor book is kept in the book corner, the children have constant access to it. Here is a picture of the children discussing the snails together as they look at the floor book.



Look Maddi that's me and Turbo – he's in his shell!

The floor book helped children to remember snail facts from two months ago and here they sharing them - the floor book in action 😊



That's the tentacles

Snails eyes are on the end of these (pointing to the tentacles)

The children really show a sense of ownership with 'their snail book' they chose which pictures to stick in and they can access it when they want to. Today it went on the role play bus with Kaleb, Jake and Carl!

Here you can see Kaleb connecting his learning about Turbo through showing the photos to Maddi. He also helped another school friend remember the correct name for the tentacles.

These pictures demonstrate how the floor book helps young children consolidate their knowledge by reflecting on their learning prompted by photos.



Children's progress



Kaleb was highly motivated throughout the whole learning sequence because the interest in snails started with him.

As we began to learn about a snail's anatomy Kaleb soon reflected "He doesn't like his eyes poked – cos he hides them!" On another occasion he also helped his friend remember the word 'tentacles'.



Maddi's confidence with hunting for bugs grew throughout this project.

She made the connection that the snail was 'hiding' in its shell.

She also displayed amazing initiative and really thought out of the box when she used blue tack to stick her plastic snail to the wall in our experiment.



Jake demonstrated great perseverance and reasoning skills by mixing three sticky glues together when his first attempt failed.

He also was instrumental in naming the land snails, connecting his previous learning about slime and general descriptive language to name them. 😊

Reflections:

- My aim was to develop children's **reflections on their learning** whilst providing them with different experiences to *make connections* (creative dispositions) and opportunities *to communicate their explanations* (feature of inquiry).
- The difference I wanted to make was to develop the children's awareness on how much they have learnt about certain topics in order to build on their knowledge in the future – in this example snails.

Reflection: Teacher's role

I worked in the following ways:

- Continuous assessment.
- Recording observations
- Questioning
- Observing focus children Developing the children's scientific thinking skills

I planned experiences linked to the children's interests, modelling thinking out loud skills to encourage the children to remember previous activities. We discussed as a class what we had learnt/discovered at the end of each session.

I developed a 'wonderwall' display of different questions the children asked about snails and pictures of our investigations and the answers we have found out. Although the children were involved in putting 'their questions' on the wonder wall – this display was not as successful in stimulating reflection as the floor book.

Reflection: Teacher's role continued...

By far the most powerful effective resource I developed to promote **reflection and reasoning** was the introduction of floor books. These large A3 books were made available at all times in the book corner alongside our fact and fiction books.

The snail floor book captures our snail journey and shows pictorially the children's learning journey.

When the children look at the floor books, either with their peers or with a teacher, they talk about the different activities we have done and are able to share their knowledge with others really connecting what they learned about snails and recalling what we learned from the first to the last lesson.

These are the results of the tally chart I kept on how often the children assessed their floor book

Terms	Number children	Total number of times the book has been accessed	Total number of times focus child Kaleb has accessed	Total number of times focus child Maddi has accessed	Total number of times focus child Jake has accessed
Term 2 (7 weeks)	28	99	11	13	7
Term 3 (6 weeks)	28	140	13	19	9
Term 4 (5 weeks)	28	43	5	5	3

I kept a tally chart of the different focus children and the number of times they and other children accessed it over a period of three terms. Above is a summary of the data collected.

I was amazed at the amount of times it was looked at. In term 3 we added lots of new pictures, each time it was added to, this renewed the children's interest.

I had to ensure all of the children had at least one photograph of themselves in it as one child was very disappointed that he had not seen himself in the snail book!

Classroom environment

Our classroom operates on a completely free-flow basis; this means the children have the opportunity to move freely throughout the indoor and outdoor environment and between these two environments. This allows children to choose what and where to play and how to combine materials and resources.

The slime experiment we limited to six children at a time, purely because we only had six plastic snails. The children investigated with their slime on a first come first served basis – and only if they expressed an interest in taking part.

They were not grouped to any ability or friendship groups.

Further follow on activities

- Look at other mini beasts in more detail – for example start an ant farm, wormery, raise our own butterflies, design and build a bug hotel. Such activities will encourage mini beasts in the nursery garden and will teach children to show care and concern for living things and our environment in general.
- Plan further opportunities to explore scientific activities linked to a story. Look into simple change of state experiments such as erupting volcanoes – as the children enjoyed our slime experiment – and love messy activities.

Reflection questions for the reader

- How would you use one child's interest to develop a learning sequence with a scientific focus?
- How could floor books or a wonder wall be incorporated into your setting to encourage reflection and reasoning?
- What other opportunities do you provide to encourage reflection and reasoning?

Practical information - Resources

- Snail research - Internet, websites on snails, information books
- Actual snails (garden snails and African land snails)
- Snail & other bug hunting – magnifying glasses, bug viewers, identification charts
- Books: snail and bug related – fact and fiction.
- Vivarium & snail food
- Sticky items to mix to make snail mucus e.g. PVA glue, wall paper paste.

Thank you for reading!





ACKNOWLEDGEMENTS

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