

# Maps and Mapping in the Early Years

A webinar for

## Digimap for Schools

[www.digimapforschools.edina.ac.uk](http://www.digimapforschools.edina.ac.uk)

Paula Owens

# Using and Making Maps in the Early Years

*How do you use maps in the early years? How can Digimap for Schools be used with very young children and what other kinds of map use and map-making might be done? Paula will introduce a new resource from the Ordnance Survey: 'Teaching Map Skills to Inspire a Sense of Place and Adventure in the Early Years' and show case some activities and practice with young children.*

## **Aims:**

- To feel more confident about using and making maps across the Areas of Learning in the Early Years
- To have a better understanding of how maps can support pupils in Understanding the World, and also link to other areas of learning
- To feel more confident as a subject leader, in identifying early threads of geography with progression in mind.



# What do babies dream about?

**Food, warmth, comfort ...**

Babies use spatial reasoning skills to recognise body parts, and the location of objects and people around them. Young children learn and understand spatial concepts through play. (DfE 2022)

We now know that young children can think logically using symbolic and abstract material and Goswami (2015) notes that even babies are capable of basic forms of learning and reasoning. This is dependent on the child's knowledge base which, along with working memory grows as does the child. Maps and mapping activities can support and augment that growing knowledge base across all areas of learning but particularly in the area in which geography sits: Understanding the World.



I found a crab!

Is it a crab?

Children are naturally adventurous explorers. Landscapes are full of curious things. Maps and models help us capture their ideas and further their curiosity.

I think it was pinching someone and someone stomped on it. I think this crab has lost his body!

I found a worm!

There's sharks in there! And snakes and worms!

There's water down there (*checks sand around gingerly*) Oh it's not too bad!

# Why do maps matter in the early years?

*“Guiding young children’s curiosity about the places where they live, play and learn is at the heart of all high-quality Early Years practice. They love to explore what a place looks like from the air and making their own maps – whether that be of their playground, the ant farm they have been watching, the landscape they have made out of blocks, or the mapped journey through their favourite story. These play-based experiences are grounding, messy and exploratory, and therefore vital to their geographical, spatial and cultural development. Most importantly, to our youngest learners, it is fun, memorable and collaborative; and engages them with the places that surround them.”*

Helen Martin (2021)

Head teacher Graffham Infants and Duncton Junior school.

Chair of the Early years and Primary Phase Committee of the Geographical Association





**WOW!**



**I wonder...**

**Sparking  
Children's  
natural  
curiosity is  
vital.**



Curriculum Weft and Weave	Communication and Language	Physical (gross and fine motor skills)	Personal, Social and Emotional
Literacy	Communicating through maps: vocabulary, narratives, and stories.	Maps and active exploration; identifying and naming features.	Using personal and story maps to write emotive responses to place.
Maths	Communicating and organising spatial information through number, shape, direction.	Opportunities through maps to think about scale, in contexts using gross and fine motor skills.	Confidently using maps to evaluate and estimate distance and direction.
Understanding the World	Using and making maps to describe and compare people and places.	Active exploration of the world around us and increasingly detailed representations of it.	Using maps to investigate and represent culture and diversity.
Art and Design	Making maps using a range of media.	Drawing maps and fine motor skills.	Using creative media to represent feelings about places in maps.

Maps and mapping are a vibrant part of the curriculum weft and weave of the EYFS framework. (Owens 2022) p.6

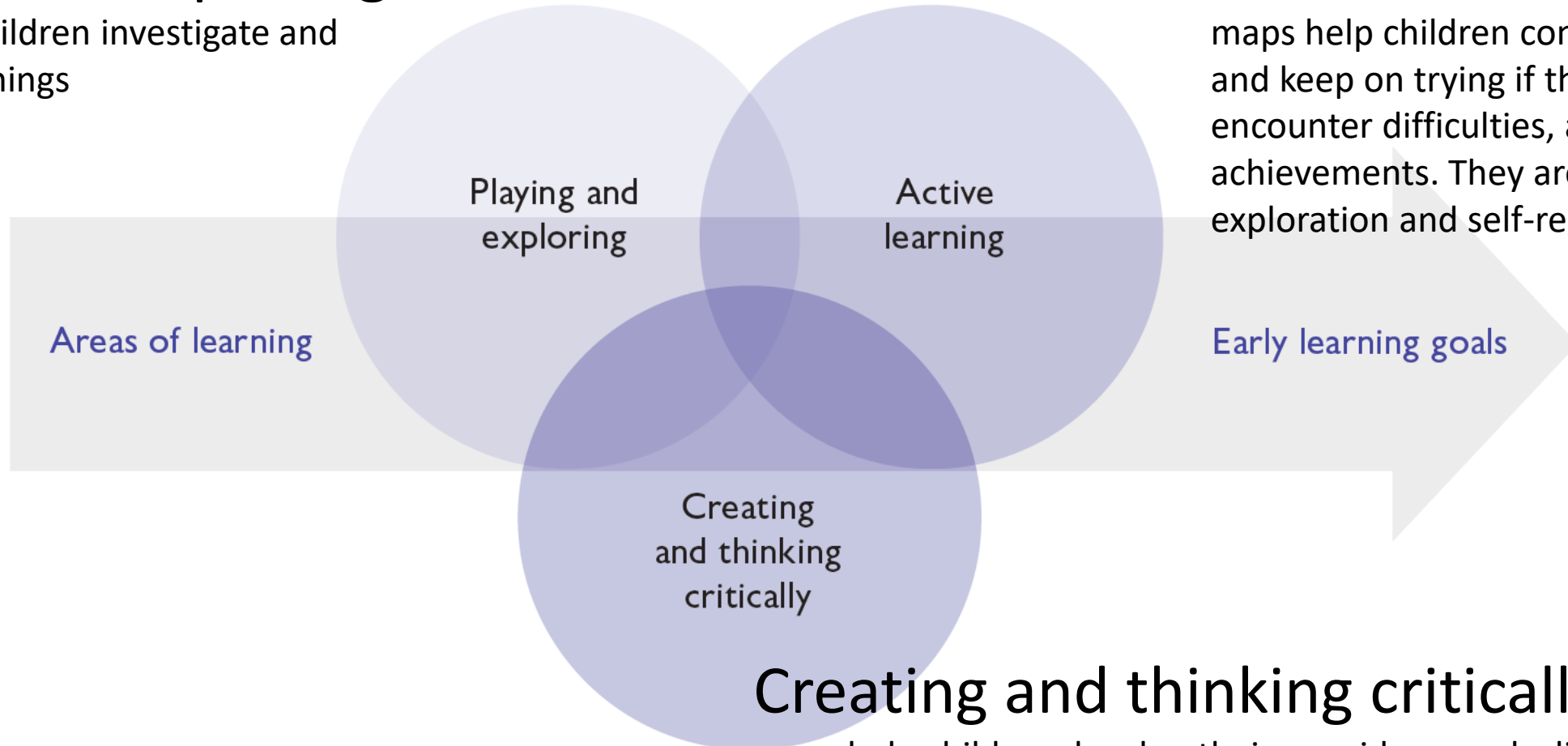
# Using Maps towards the Early Learning Goals

## Playing and exploring:

maps help children investigate and experience things

## Active learning:

maps help children concentrate and keep on trying if they encounter difficulties, and enjoy achievements. They are an aid to exploration and self-regulation.



Areas of learning

Playing and  
exploring

Active  
learning

Early learning goals

Creating  
and thinking  
critically

## Creating and thinking critically:

maps help children develop their own ideas, make links between ideas, and develop strategies for doing things they support pretend play and help solve problems



EYFS	Using and Interpreting Maps	Position and orientation	Drawing	Symbols	Perspective and Scale	Digital Maps
<b>Birth to Three</b>	Use all their senses in hands on exploration of natural materials and other objects. Beginning to use pictorial maps for play.	Point in the direction of features when asked. Follow simple instructions to look or move in a certain way.	Express ideas and feelings through making marks, and begin to use talk and gestures to explain meaning.	Begin to notice simple patterns. Begin to use objects symbolically eg a banana for a telephone	Use pretend play and start to compare sizes between models and reality.	Begins to recognise that maps like Satnavs, help you find your way. Begins to play with online video games where you manipulate shapes in space.

*These grids are an extract from (OS 2022) and link to the Mapping Progression documentation from [Digimap for Schools](https://digimapforschools.edina.ac.uk/learning-resources/resource/progression-mapping.html)*

<https://digimapforschools.edina.ac.uk/learning-resources/resource/progression-mapping.html>

*They are inspired and informed by the work of Professor Simon Catling*



Photo Jon Audain

Using senses to explore surroundings ...



Begin to notice simple patterns...

**Birth to 3**



Point to directions ...



EYFS	Using and Interpreting Maps	Position and orientation	Drawing	Symbols	Perspective and Scale	Digital Maps
<b>Nursery 3 - 4</b>	Begin to understand maps hold information in patterns and print. Make imaginary maps with marks that have meaning, use journey strings to recall and sequence journeys/	Describe a familiar route, begin to use appropriate vocabulary, and directions left and right with increasing confidence.	Create closed shapes with continuous lines ... draw maps using shapes and purposeful mark making.	Use symbols as cues such as footsteps on a playground. Use objects to represent other objects, eg a line of sticks as a road.	Talk about distance and know some places are further away than others. Begin to explore scale through small world play.	Begin to recognise some features on a large scale aerial view, e.g. the cars in the car park, the school and playground. Roads and houses.



You can't see me! I'm invincible and you cannot destroy me!



I put her here so she can hide from the monsters.

**3 – 4 years**

- What is it? (naming and descriptive vocabulary)

*Big Plant*

- Where is this good hiding place?

*Near a car park*

- What makes this a good place to hide?

*People won't see Bowie there.*

- How does she feel in there?

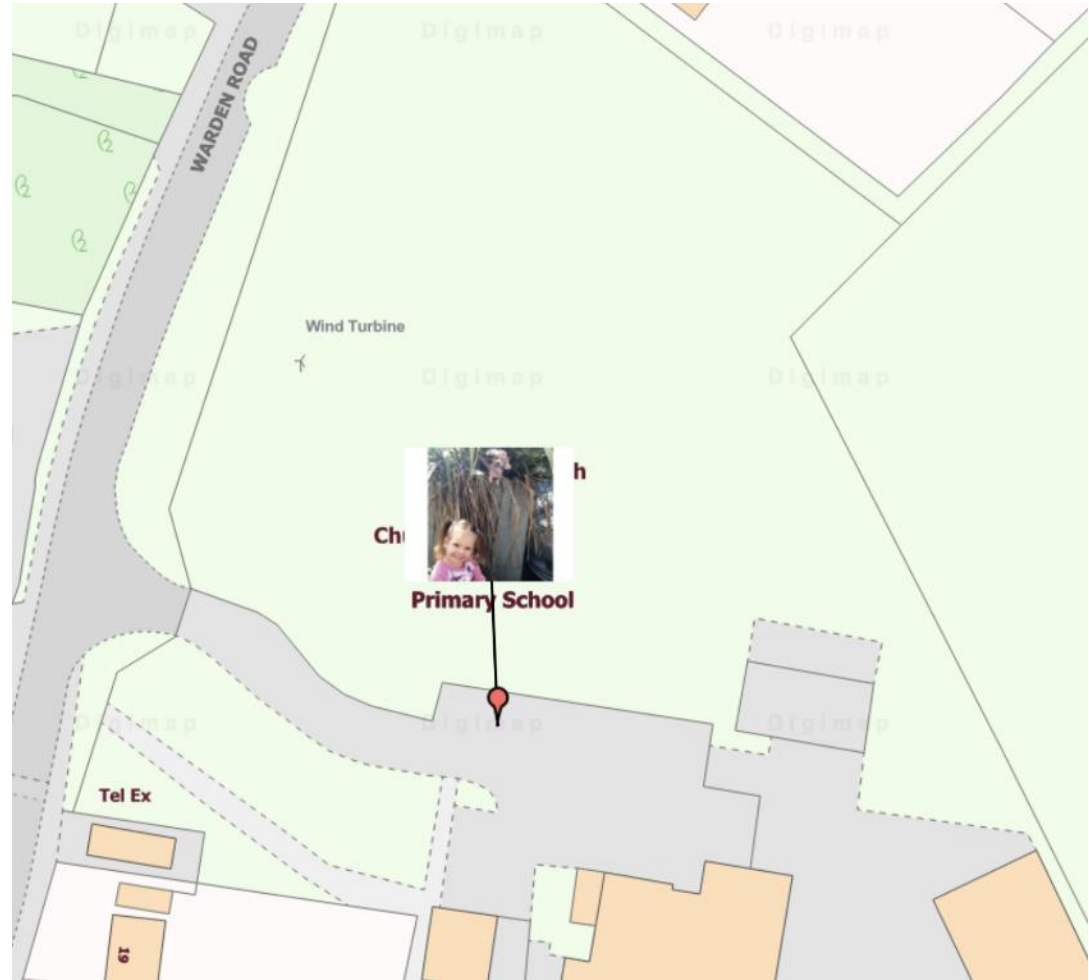
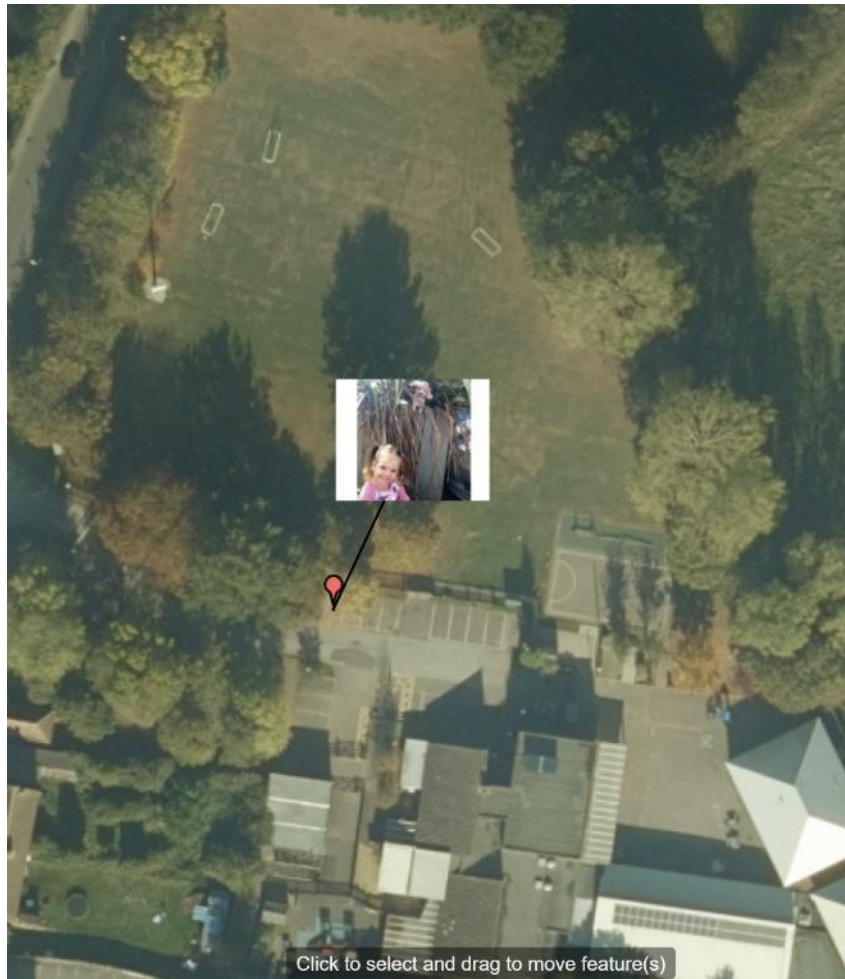
*She's happy to be hiding*

- What might she be saying?

*You can't see me! I'm invincible and you cannot destroy me!*

Begin to use appropriate vocabulary and directional language

[Owens \(2014\) Bodies in space! \(geography.org.uk\)](http://geography.org.uk)



Curiosity, exploration, play, spatial thinking, modelling, mapping.

Practitioners can model locating and marking places on maps and aerial imagery

# Where shall we put Ted?



- *On the rock*
- *Under the tree*
- *Beneath the arch*
- *Beside the bench*
- *Next to the doorway*
- *In the sandpit*
- *?*

Reinforce through embodied reference and vocabulary, take photographs, draw, add to a map.



# Enquiry in the early years

What kind of a place is this?



Where would you find one of these? Where does it lead? What might come out?



What and where is the best home for a gnome?



How does he feel and why?



# Using small play figures

- Sense of scale: *zooming in to notice the minutiae detail*
- Directional and locational language: *next too, behind, north, Grid ref etc*
- Naming vocabulary: *slate, stone, bark, grass, brick, plastic etc*
- Descriptive vocabulary: *earthy, rough, shiny, detached, damp etc*
- Emotive and affective: *sad, elated, confused, safe, risky etc*
- Comparative: *busier / bigger / quieter / nicer than .... Because ...*
- Issues: *Whose place is this? Who looks after it? How might it be changed for the better? For whom? By whom?*

*NOTICE .... NAME ... RECORD .... QUESTION ... DESCRIBE .... COMPARE ... EXPLAIN ...MAP ....  
... WONDER ... ACT ...*

AND - Sharon Witt and Helen Clarke have some excellent resources on 'gnome wisdom'

Primary Geography <https://www.geography.org.uk/Journal-Issue/57ccbffe-160c-4142-a491-bebcb9bdd4ea>

EYFS	Using and Interpreting Maps	Position and orientation	Drawing	Symbols	Perspective and Scale	Digital Maps
<b>Reception 4 – 5</b>	Derive information from a simple map. Use a plan view to find / mark features, Follow a simple map using landmarks.	Point to North and South Poles on a globe. Use a compass to identify the direction of North in the playground. Use more complex directional language.	Draw and create simple maps from memory about features in a familiar environment.	Begin to use simple symbols on maps to show features and journeys. Recognise some map symbols.	Start to gain some knowledge of their own country, their location and its features. Know that you need to zoom out to see a larger area.	Manipulate and annotate large scale maps, adding simple text, markers and photographs.



# Lola age five draws her walk from memory



Draws and creates a simple maps from memory.

Children are remarkably adept at making maps and appear to develop the spatial awareness required from an early age. The maps that they draw not only provide a fascinating insight into their practical engagement with the world but also provide an insight into the places that they value or that worry them.

Vujakovic et al (2018) p.12  
[www.meaningfulmaps.org](http://www.meaningfulmaps.org)



*A child's perception of place is tied to activity*

Tuan (1977)

*The affordance of Place*

Gibson (1979)

*Imaginary play and emotional engagement with their environment. Happens when children have some degree of autonomy.*

Ross (2007).



Hart (2015) found much changed in his original study and that children today had less time for free play.





Images by Clophill playgroup



Children playing out of doors, may use natural and found materials to create their imaginary landscape of dens, castles or islands. What may appear to us to be a random collection of branches, sticks and leaves is to them, a secret world of their own.

Using small figures out of doors can trigger real adventures in scale. A molehill can really become a mountain, a puddle a lake and a shrub a tangled jungle, inviting adventure.



# Using the school grounds

What can you find in 1 square metre of your school grounds?

Daisies?

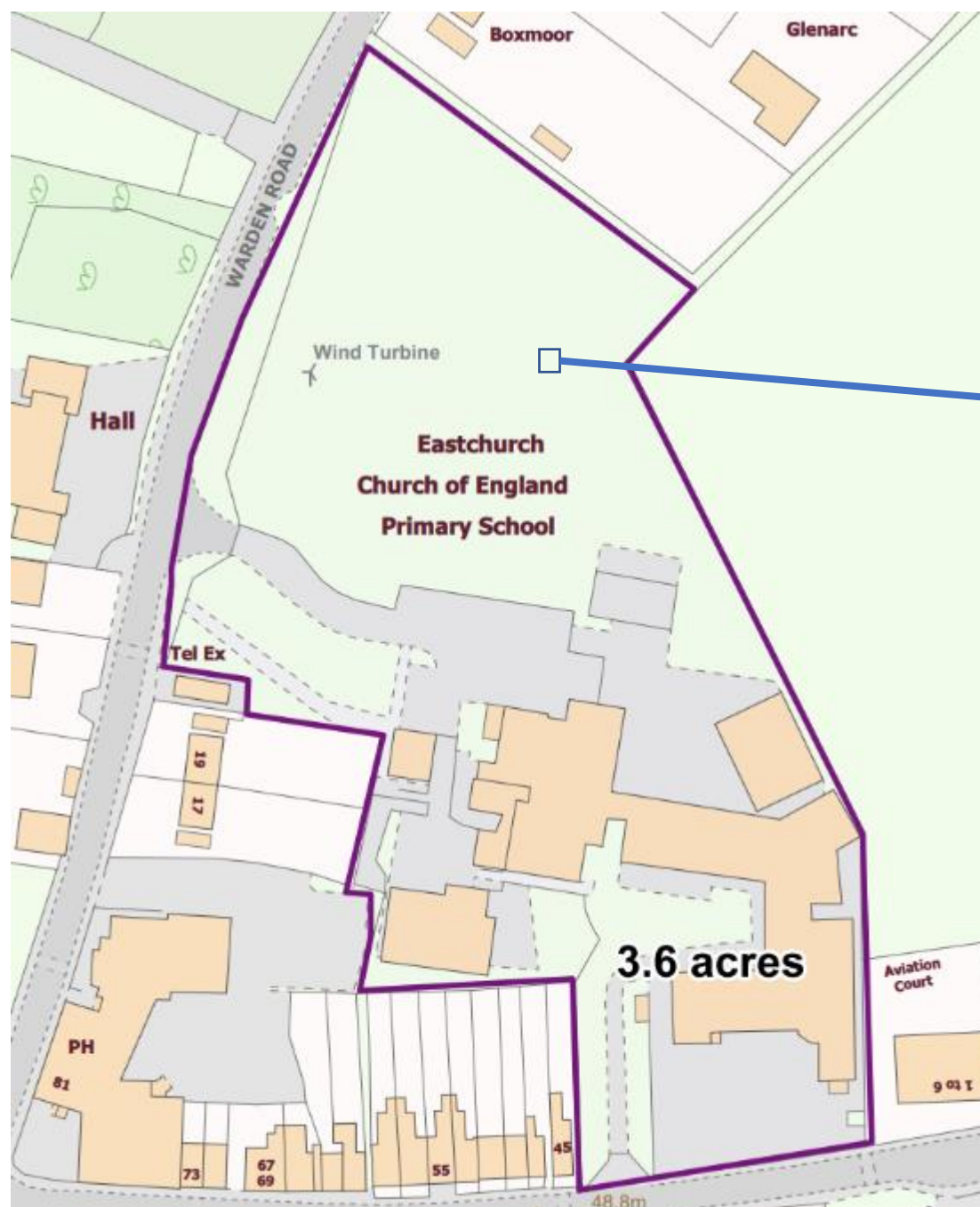
Insects?

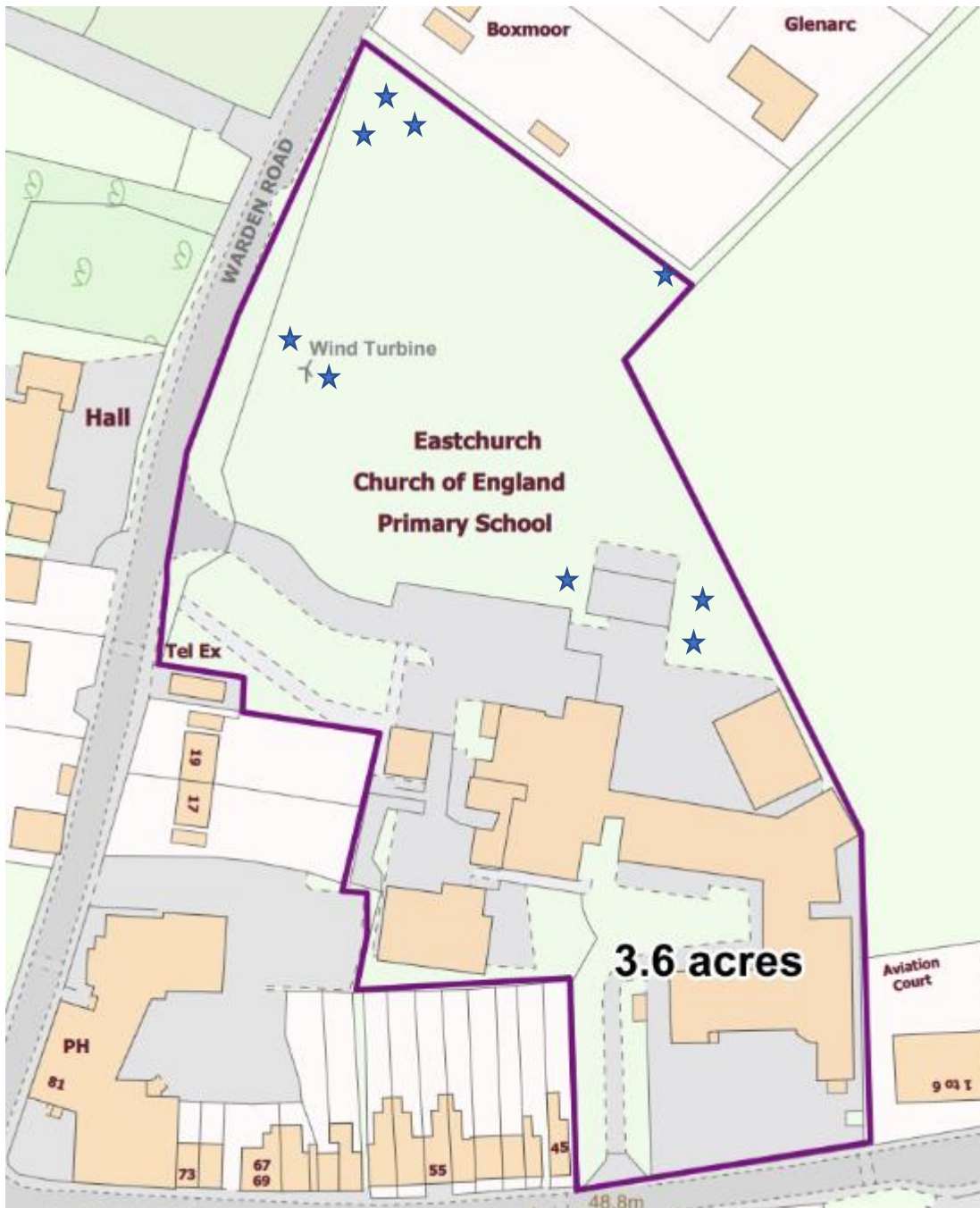
Tarmac?

Rubbish?

Use compasses and directional language

- How long is one side of the field? Use a trundle wheel
- How many steps is it to walk it?
- How long does it take you to walk it? Metres, minutes, steps
- Compare sample grids at different points
- Tree and wildlife surveys
- Best place for .... A picnic, a game of football, a story, a shady sit down, a game of chase, meeting friends ...





Dear Headteacher,

Please can your children help us? There are some animals that have been left in your school grounds that need help. Please can you find them and look after them? We have left a map to show where you can find them. Thank you. (Yr / Y1)

Dear Headteacher,

We would love it if your children can organise a Teddy Bear's picnic in the school grounds. Please could they provide a map and tell us where you might do this?

We need space for 30 teddies  
Somewhere comfortable to sit  
Shade from the sun if it is hot.

Thank you (YR / Y1)

# Globes, Maps and Atlases



- Blow up and free standing globes
- Write on globes
- Simple globes / political globes / physical globes
- Use out of date ones as teaching aids - use an indelible marker!
- Play games and use globes regularly
- Vary complexity for progression

Can you find Land? Water?

Can you find the North and South Poles?

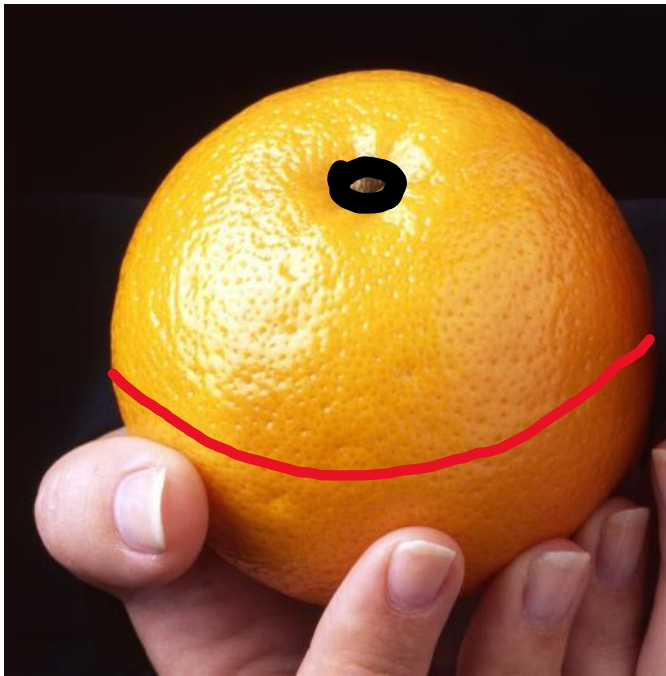
Can you find the Equator?

Can you find where we live?

A clearly mapped journey starting in the early years and developing through the curriculum is critical if pupils are to move towards becoming experts in the subject.

Ofsted (2021)

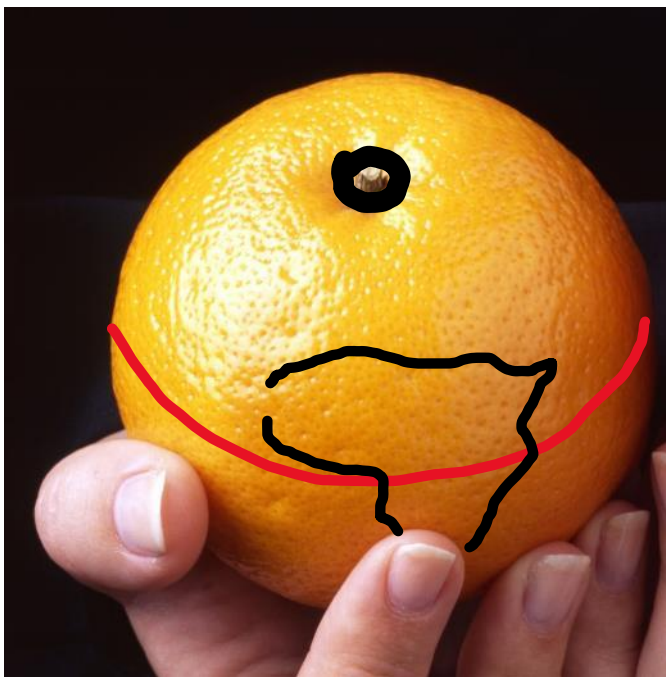




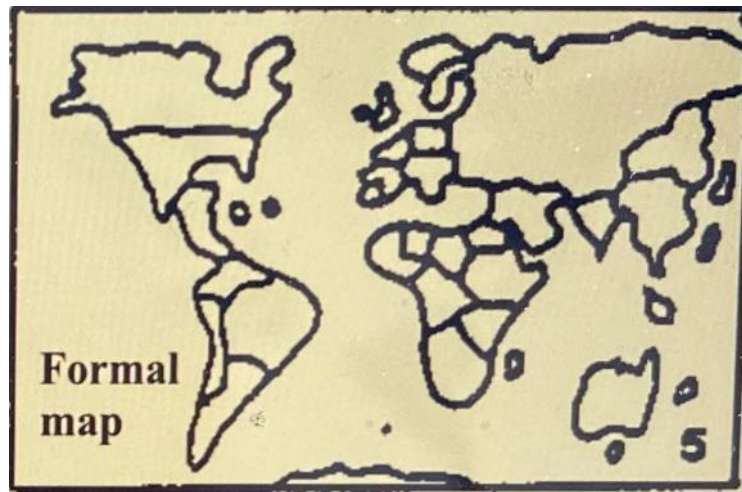
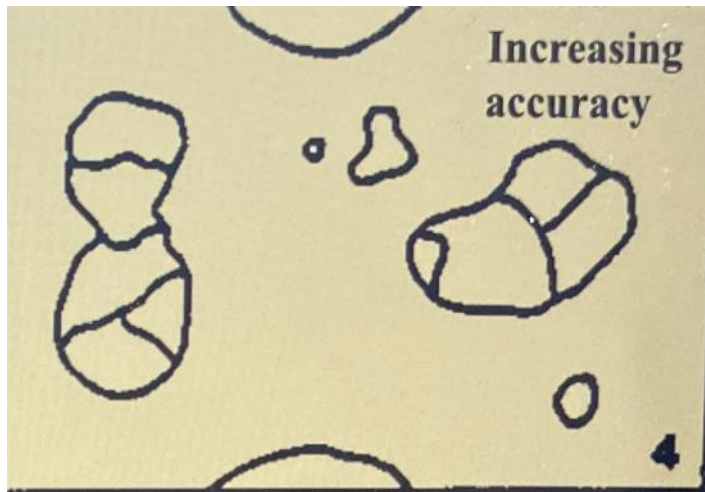
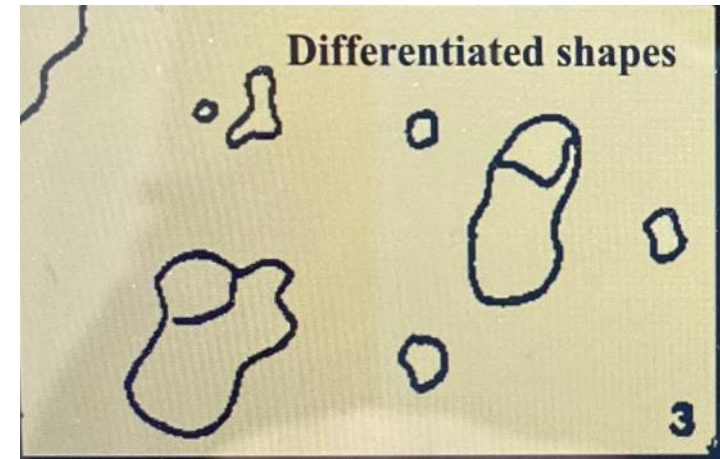
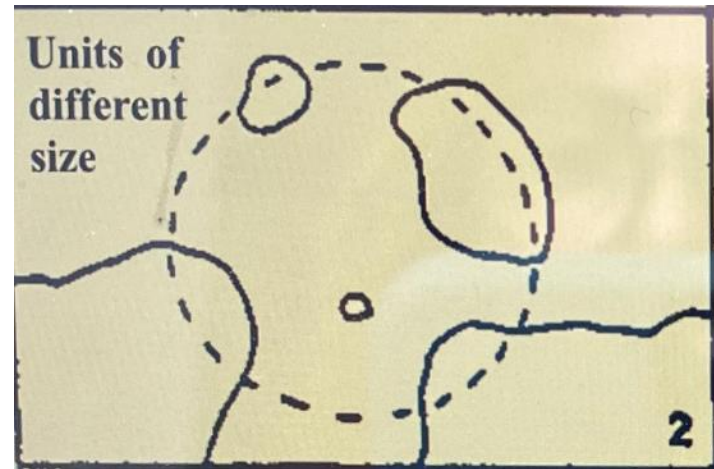
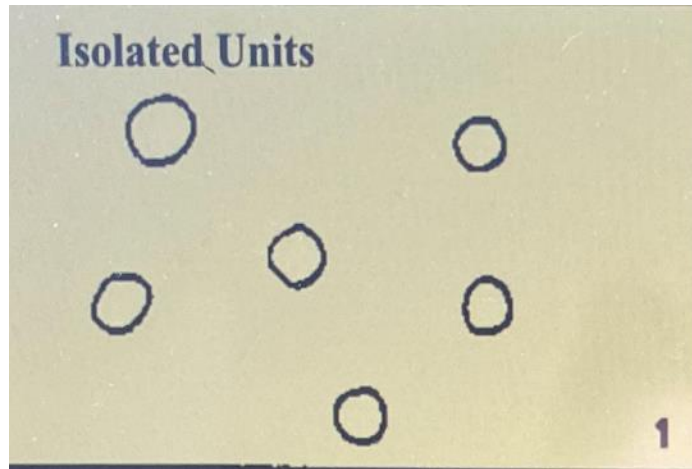
Children can use an orange to help explain 3D into 2D .

They can draw on an orange marking N and S Poles. They can add that 'imaginary' line around the middle, the 'Equator'.

By age 5 – 6 they may be able to progress to adding shapes of continents. Africa is 'shaped like an elephant's ear' and lies either side of the Equator.



Atlases and maps are inherent with stories about the world and there is so much in them for children to pick up on that teaches them about more than just spatial matters: identity, values, bias; and in a similar way, children's own mental maps offer us a window into their thinking, values and misconceptions when planning encourages them to use them dialogically. (Catling 2020)



Stages in drawing a world map  
After Wiegand (1995)

.. children tend to focus on topological, spatial information first, in which children can say that objects on a map are near another one, or that marks on the paper are inside another. It is only as their understanding develops that they begin to see the spatial relationships between objects on a map within a geometrical framework. Wiegand (2006)

## Using maps is about:

- Exploring the familiar and unfamiliar world through models and representation
- Navigating paths and routes Developing an understanding of pattern, symbol and spatially encoded information
- Unlocking information Developing visual literacy Being inspired by possibilities  
Developing skills of orientation, scale and
- positioning Interpreting different representations of reality.

## Making maps is about:

- Interpreting and modelling reality and spatial relationships
- Creating models and drawings to convey spatial information
- Translating perceptions of the world around us and emotive responses
- Developing the ability to translate first-hand and concrete experiences into abstract expression
- Expressing feelings and knowledge about places
- Committing spatial information to models and codes.



# The Value of Map-Making Walks



The importance of children's exploration of their environment goes beyond the obvious benefits of physical activity and exposure to nature. As children walk, they are constructing a mental coordinate system. Each time children make a turn or reference a landmark, they are building their mapping ability, and each time children explain how to get from one place to another, they are constructing their two-dimensional coordinate system. So, get out there and take children for mapmaking walks!

Geist (2016) p.54

In planning provision consider:

1. **Frequent familiarity** with a range of maps: children talk about them, find places, journeys, holidays and use them to orient themselves.
2. **Frequent walks**, growing familiarity with the local area. Children experience and learn about the local area through careful and repeated observation.
3. **On walks, talk about and notice** and / or record landmarks. Ask children to identify landmarks they like and think matter. Stop to take photographs, sketch, map and ask questions.
4. **Use all the senses** on frequent excursions and allow children some time to explore. Sensorimotor skills matter on maps to young children. Using the senses helps children remember what they have seen and experienced e.g. touching tree bark.
5. **Encourage the use of landmarks** in describing where something is located e.g., next to that large Oak tree. Where did children touch that tree bark? Notice a bee?
6. **Use relational language** to help children describe 'where' e.g., before, after, next too, inside etc.
7. Provide opportunities for **group maps** so that children have to discuss and agree on where to put things.
8. **Provide opportunities** for children to represent their spatial knowledge through maps. Each time they do this, their ability in map-making increases.

Adapted from Geist (2016)



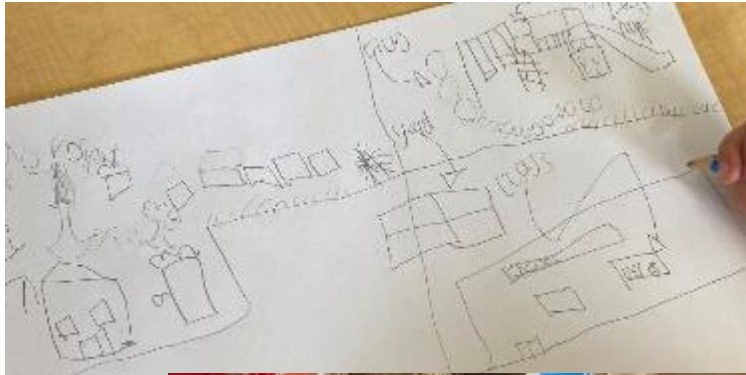
# What maps can children make? Year R and Messy Maps.



Thanks to Children and Teachers at Bryn Gwalia Primary School



# What maps can children make? Year 1.



Thanks to Children and Teachers at Bryn Gwalia Primary School



# What maps can children make? Year 1/2 and OS Maps.





# What maps can children make? Year 1/2 and OS Maps.





## Little Red Riding Hood - Traditional Tale

Where is Grandma's house?  
What does LRRH see on the way?

### Communication and Language

Develop vocabulary. Use your mask to talk about how it feels to be the Wolf, or Grandma or LRRH.

Act the story out with props, in the play corner.

### Physical Development

Gross motor: create a route in the playground from home to Granny's house and run along it.  
Play: What's the Time Mr Wolf.

Fine motor: creating maps and plans.

# Maps and Stories

## Maps and map-making support all the areas of learning.

Map and verbal knowledge are thought to have different representations in long term memory storage. This is referred to as Dual Coding Theory (Wiegand 2006) and is thought to enable a richer retrieval base from which to recall knowledge, when maps and language are used in tandem. This provides another argument for the use of maps alongside talk in all areas of learning to support knowledge retention and retrieval. However, Wiegand (2006) warns that it does not explain all the complexities of children's thinking with maps.

### Literacy

Read the story aloud and re-tell it with pictures and captions.

Create labels for features on the map.

Label the items you would take out in a bag for a walk.

### Expressive Art and Design

Draw a table map of the journey. Use junk modelling or other materials to add 3D features, such as Grandma's house and the woods.

Create face masks for role-play.

Act out the story.

### Personal, Social and Emotional Development

Talk about the different emotions during the story and create emoticons to add to the map.

Use the play corner as a listening space where others can come, in role as LRRH speak about their ordeal.

Discuss grandparents and why they are special.

### Mathematics

How far is it to Grandma's house? How long does it take to get there?

How big is the wolf?

Opportunities to reinforce language of time, measure and space. Sequence events.

### Understanding the World

Carry out fieldwork e.g. a walk around the school, and discuss places that you find scary or exciting. Explain some rules for staying safe when out playing by yourself. What dangers do you have to think about in your local area? Use a digital large-scale map of the school (using Digimap for Schools) and add emoticons to show how you feel. Draw a base map for use with Beebots. Or a chalk map on the playground and give each other directions.

### Useful vocabulary

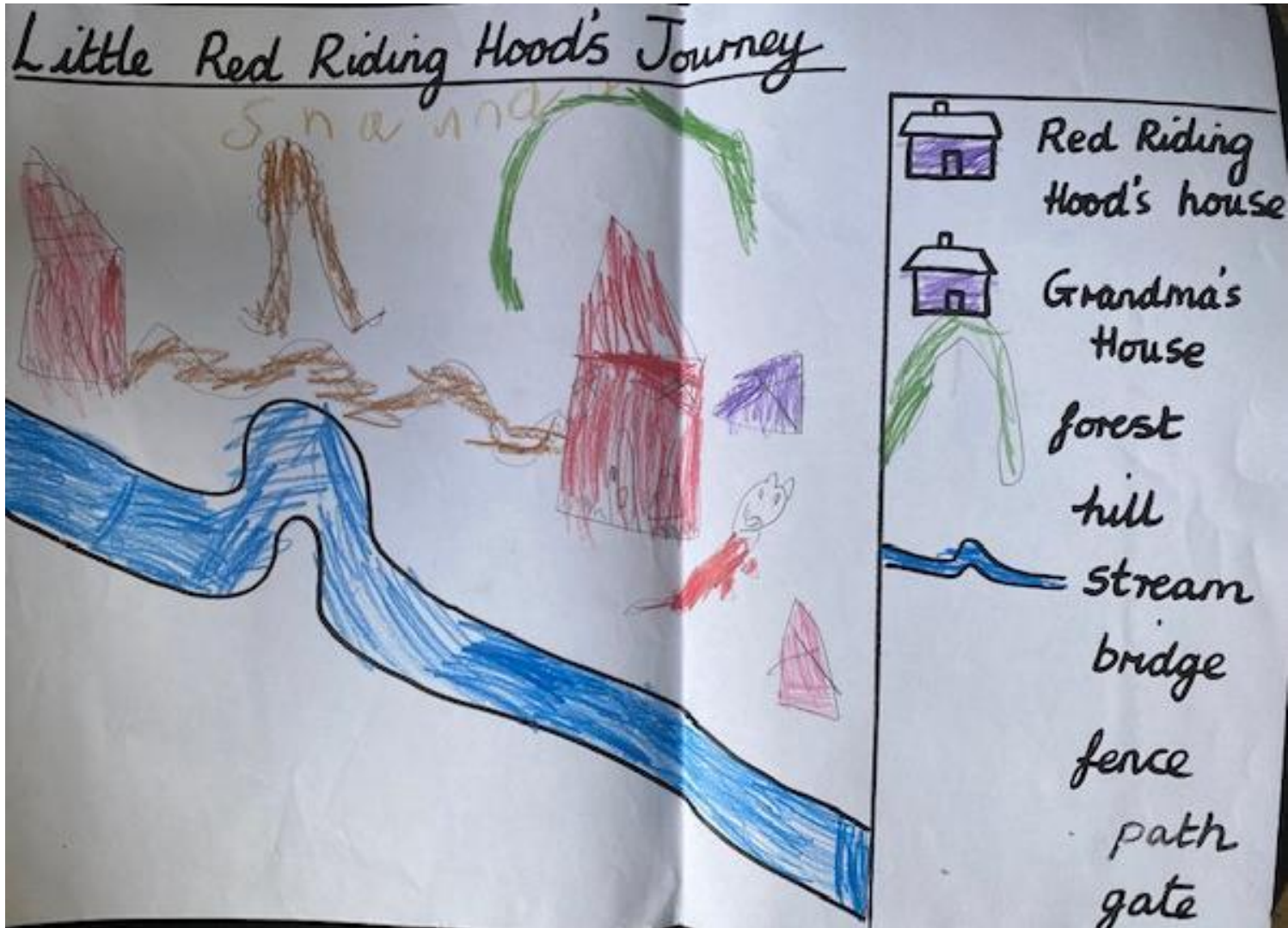
Grandma home house  
left map path plan right  
route trees wolf woods

Where do I live?

[Where do I live? \(edina.ac.uk\)](http://edina.ac.uk)

How to get to Grandma's safely?

[How to get to Grandma's safely? \(edina.ac.uk\)](http://edina.ac.uk)



“We talked about the story and how we could make a map to show LRRH’s journey. They told me the features they remembered and I wrote these down.

We discussed how we could use different colours to show Grandma’s house and LRRH’s house - this didn’t happen’

But we had an exciting retell using the map as a prompt.”

Teacher comments

# Maps, Geography and Identity



In 'doing geography' with the child, one is participating in a process which is even more fundamental and therefore more important still: namely, one is in a humble way facilitating the child's very personal development of self-identity which will shape much of their lives, their values, sense of belonging and self-worth.

Spencer (2005) p.305



## Useful items for mapping provision include the following:

- Inflatable globes in different sizes: political and physical, and ones you can write on.
- Stand-alone globes to have ready for story time. · A range of maps of different scales and genres.
- OS maps at a large scale of the local area i.e., 1:1250 or 1:2500
- Access to digital mapping with annotation facilities, such as Digimap for Schools.
- First Atlases.
- Story maps.
- Access to aerial imagery in digital and printed form, especially of the school and local area.
- A range of media and prompts for creating 3D and 2D maps: including sand, water, and other natural and found objects.
- Small-world play.
- Large scale printed maps cut up into rectangles and laminated to make simple jigsaws and talking points.

## Reading and useful Sources

- Blaut, J. M. & Stea, D. (1974) Mapping at the Age of Three, *Journal of Geography*, 73:7, 5-9, DOI: 10.1080/00221347408980311
- Catling, S. (2020) Reflecting on the purpose of mapwork in primary schooling, *International Journal of Cartography*, 6:3, 270-283,
- Catling, S. and Willy, T. (2018) *Understanding and Teaching Primary Geography*. London: Sage
- DfE (2022) Spatial Reasoning Spatial reasoning - Help for early years providers - GOV.UK (education.gov.uk)
- DfE (2021) Early years foundation stage profile: 2021 handbook, Department for Education, June 2021 <https://www.gov.uk/government/publications/early-years-foundation-stage-profile-handbook>
- DfE (2013) *The National Curriculum for England*.
- DfE (2021a) Statutory framework for the early years foundation stage. Setting the standards for learning, development and care for children from birth to five. file:///C:/Users/powen/OneDrive/Documents/EarlyYears/EYFS\_framework\_-\_March\_2021.pdf
- DfE (2021b) Development Matters Non-statutory curriculum guidance for the early years' foundation stage.
- Freeland, 'Empowering geography – a view from Ofsted', in *Primary Geography*, Issue 104, 2021, page 18.
- Geist, E. (2016) Let's Make a Map: The Developmental Stages of Children's Mapmaking YC Young Children Vol. 71, No. 2 (May 2016), pp. 50-55 Published by: National Association for the Education of Young Children (NAEYC)
- Gibson, J. (1979) *The Ecological Approach to Visual Perception*. Houghton Mifflin, Boston, MA
- Grenier, J. (2021) Curriculum in the Early Years <https://earlycareer.chartered.college/curriculum-in-the-early-years-2/> / Curriculum in the Early Years – The Early Career Hub (chartered.college) accessed 12.-7.2021 · Goswami, U. (2015) *Children's Cognitive Development and Learning*. York: Cambridge Primary Review Trust. Available at: [cprtrust.org.uk/wp-content/uploads/2015/02/COMPLETE-REPORT-Goswami-Childrens-Cognitive-Development-and-Learning.pdf](http://cprtrust.org.uk/wp-content/uploads/2015/02/COMPLETE-REPORT-Goswami-Childrens-Cognitive-Development-and-Learning.pdf)
- Grenier, J. (2021) Working with the revised Early Years Foundation Stage. Principles into Practice. Sheringham Nursery School and Children's Centre
- Owens, P. (2008) 'Mywalks: walk on the child side', *Primary Geography*, 67, pp. 25-8.
- Owens, P. (2014) Bodies in Space *Primary Geography* Autumn 2014 pp.20-21
- Owens, P. (2022) teaching Map Skills to Inspire a Sense of Place and Adventure in the Early Years. Southampton: Ordnance Survey
- Parkinson, A. (2021) *Why Study Geography?* London: London Publishing Partnership
- Phair, R. (2021) OECD Education and Skills Today June 14, 2021 <https://oecdeditoday.com/curiosity-key-better-early-learning/> accessed June 2021
- Spencer, C. (2005) Place Attachment, Place Identity and the Development of the Child's Self- Identity: searching the literature to Develop an Hypothesis. *IRGEE* Vol14, 4
- Taggart, B, Sylva, K., Melhuish, E., Sammons, E., & Siraj, I. (2015) Effective pre-school, primary and secondary education project (EPPSE 3-16+) How pre-school influences children and young people's attainment and developmental outcomes over time. Research Brief.
- Tanner, J. (2017) Taking the Learning Outdoors at KS1: extending early year's practice for 5 to 7 year olds. In Pickering, S. (2017) *Teaching Outdoors Creatively*. London: Routledge.
- Tanner, J. (2021) Progression in geographical fieldwork experiences. *Primary Geography* 104 Spring 2021 pp. 13-17
- Vujakovic, P., Owens, P. and Scoffham, S. (2018), Meaningful Maps: What Can We Learn About 'Sense Of Place' From Maps Produced By Children? *Bulletin of the Society of Cartographers*, 51, 9-20
- Wiegand, P. (2006) *Learning and Teaching with Maps*