Wild About Learning

An outdoor learning numeracy and literacy resource pack for Years 1 to 6

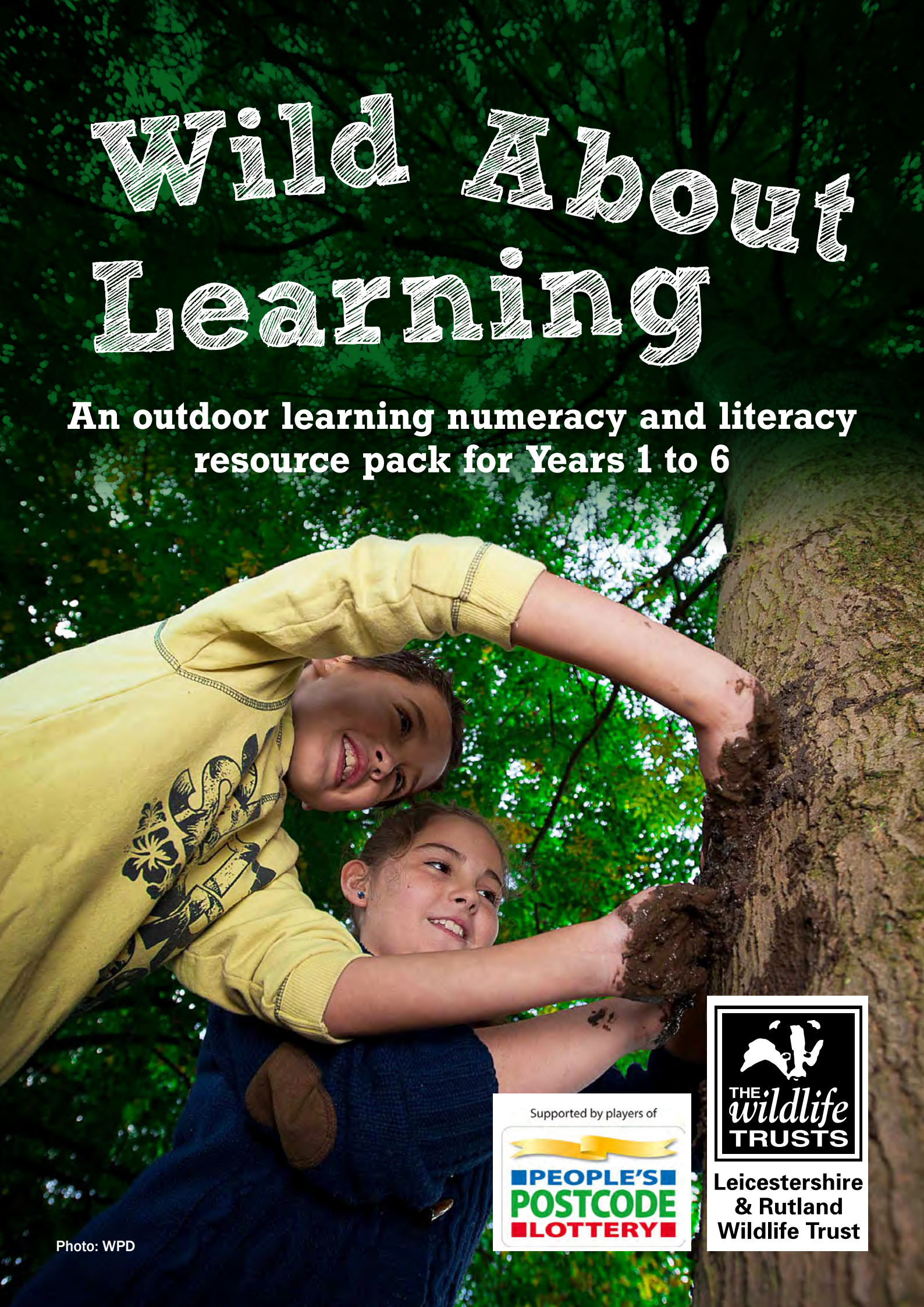

Photo: WPD

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Leicestershire & Rutland Wildlife Trust

Introduction

Wild About Learning

- is supported by players of Peoples Postcode Lottery, as part of Leicestershire and Rutland Wildlife Trust's Wild Forest School project.

Wild Forest School provides fun, engaging opportunities for children in Leicester – some of whom have never had the chance to explore the outdoors – to experience the natural world and discover nature through a range of wild activities.

In 2017, Wild Forest School activities included:

- Forest School sessions with children from 8 Leicester primary schools
- Running three Wild Tots pre-school groups and setting up a new Wild Tots group
- Working with 3 groups of home educated children
- Creating a new Forest School / wildlife area in a Leicester city school's grounds
- Running 6 Wild Play sessions

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See: www.wildforestschool.org.uk

Leicestershire and Rutland Wildlife Trust

Leicestershire and Rutland Wildlife Trust is a locally based registered charity. Our mission is to protect and enhance the wildlife and wild places of Leicestershire and Rutland and to engage people with nature.

Learning and discovery is fundamental to our work and at the heart of our vision for a Living Landscape in Leicestershire and Rutland. We believe that it is vital to provide opportunities for people to learn about the natural world and the need to safeguard it's future.

In conjunction with the Wild Forest School project, we offer a range of Outreach Education Programmes for schools, including Environmental Education and Woodland workshops, Forest School sessions and Grow Wild school grounds service.

For more information: **www.lrwt.org.uk/learn-discover/schools**

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Wild About Learning

A Teachers Guide

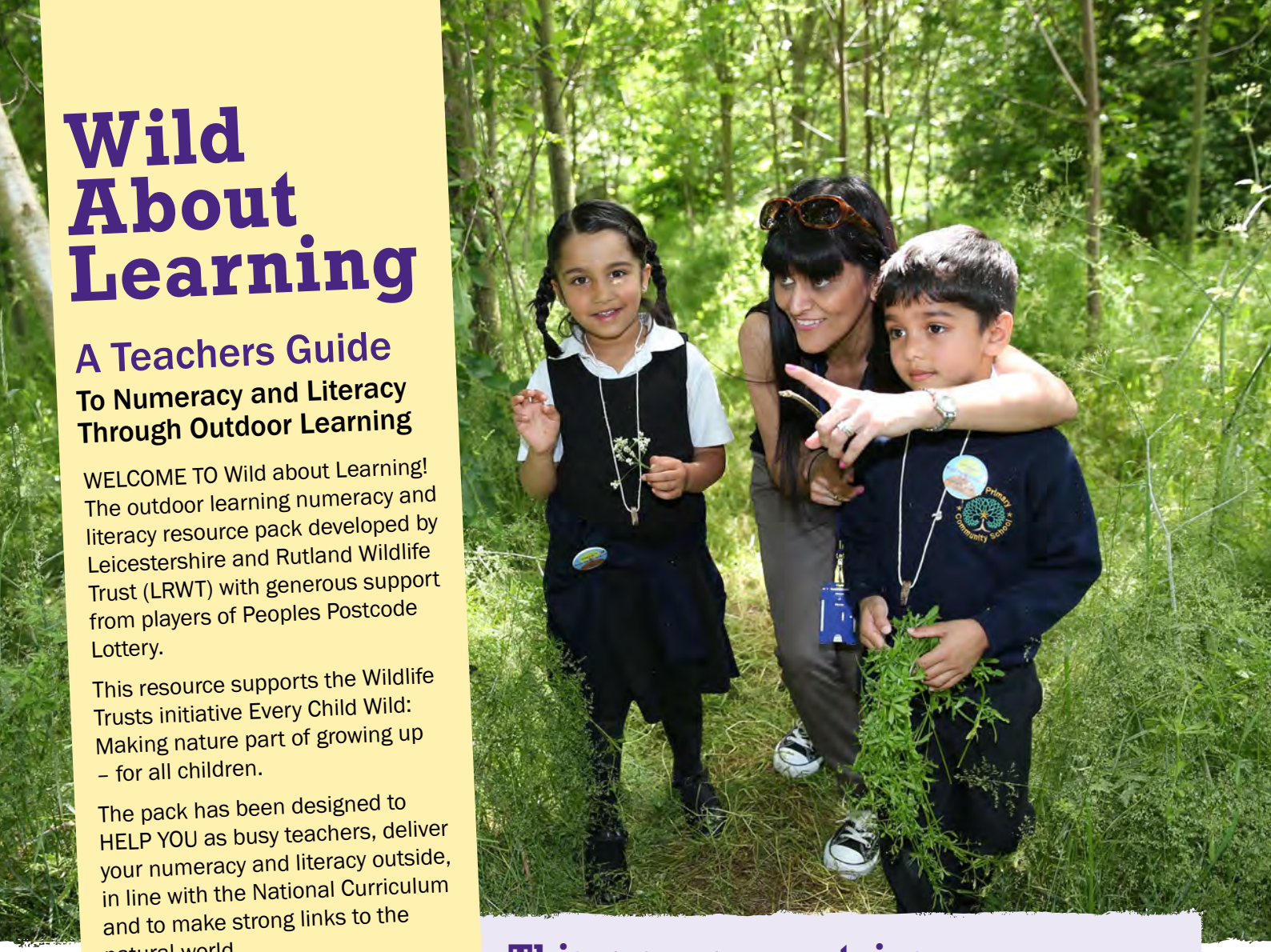
To Numeracy and Literacy Through Outdoor Learning

WELCOME TO Wild about Learning! The outdoor learning numeracy and literacy resource pack developed by Leicestershire and Rutland Wildlife Trust (LRWT) with generous support from players of Peoples Postcode Lottery.

This resource supports the Wildlife Trusts initiative Every Child Wild: Making nature part of growing up – for all children.

The pack has been designed to HELP YOU as busy teachers, deliver your numeracy and literacy outside, in line with the National Curriculum and to make strong links to the natural world.

It has been designed to be used in school grounds and/or any green space or park near to your school, throughout the year.



As Walt Whitman said:

"Now I see the secret of making the best person. It is to grow in the open air and to eat and sleep with the earth."

This resource contains:

- Clear reasons and evidence why outdoor learning is such a useful tool for you as teachers.
- Some practical tips for getting started on learning outdoors. Including examples of pro forma risk/ benefit assessments.
- Specific reasons why numeracy and literacy works so well outside.
- A set of exciting numeracy and literacy lesson plans and resources for both Key Stage 1 and 2 with links to the National Curriculum.
- A comprehensive catalogue of useful websites/blogs that contain lesson plans, activities and resources to deliver numeracy and literacy outside. Plus some useful book suggestions.
- An easy to view site map of green spaces in Leicester that could be used for your outdoor learning, in conjunction with your school grounds.

We hope that this resource pack will be a useful tool kit to help you begin, develop or expand your existing outdoor learning.

Contents

*See pages 10 and 46 for a full list of lesson plans

Why Learn Wild?

Photo: WPD

"The best classroom and the widest cupboard is roofed only by the sky."

Margaret McMillan

Outdoor Learning, Working Wild or whatever name you give to learning outside of the traditional walls of a classroom can be the most memorable moments of a child's learning. If we ask ourselves what we as teachers remember about our own school days, it is those days spent OUTSIDE- perhaps pond dipping or conker collecting!

But outdoor learning is so much more than just creating memorable moments, it offers real and measureable benefits to both teachers and children. It is a vehicle by which children can develop their capacity to learn and where teachers can build better relationships with their pupils.

There is now substantial research and concrete current evidence that outdoor learning really works to:-

- RAISE ACADEMIC ATTAINMENT and
- IS VITAL TO THE DEVELOPMENT OF THE WHOLE CHILD

It works to raise academic attainment because this practical approach:

- Increases children's engagement in their learning, as the learning is real and purposeful.
- Enables children to learn through direct experience. This adds value to the teaching that is done in the classroom as it enables the development of a deeper understanding of concepts through practical application.
- Allows for a greater variety in learning pathways – VISUAL, AURAL, LINGUISTIC and KINESTHETIC can be successfully explored outside.
- Facilitates children's better recall and retention of their learning.
- Links to improved school attendance.
- Leads to improvements in children's behaviour and motivation to learn.

But outdoor learning opportunities can provide much more than just raising academic standards of your pupils, it is also vital to the physical, social and emotional development of the whole child.

- There is scientific evidence that direct exposure to the outdoors is essential to a child's physical and emotional well-being as outdoor learning has been found to improve children's cognitive abilities and resistance to negative stresses and depression. Louv, R. (2010) Last Child in the Wood, 2ND EDN. London: Atlantic Books.

- It also allows children to take risks; and through their risk –taking develop and build their character and personality. Gill, T. (2010) Nothing Ventured: Risks and Benefits in the Outdoors.

Research carried out by Kings College, London, showed that children who spent more time outside are healthier, more alert and have better social skills. But significantly, the research also showed the outdoors benefited teachers, gaining in confidence, enthusiasm and innovation in their teaching strategies.

The reasons, research and evidence are there for using outdoor learning as a tool in your teaching. This has been recognised by OFSTED:

"When planned and implemented well, learning outside the classroom contributed significantly to raising standards and improving pupils' personal, social and emotional development."

So why not, with the help of Wild About Learning, give it a try?

And see if it makes a difference to your teaching and the outcomes for your pupils.

Practical Steps To Working Wild

Taking your numeracy and literacy lessons outside may seem a daunting task but we have set out below some simple practical steps and guidance to help you to achieve this.

Photo: Tom Marshall

HELP

Enlist the help of parents/carers/the wider community. Additional help can be useful in providing resources and assistance with practical activities. Ask around and you will be surprised who and what you will find to help you with your outdoor learning.

School Grounds

This is often the best place to start. Ask yourself are you making the most of your school grounds? Could you use your school grounds better? How about re-cycling, re-use and re-purpose? Ask the children to get involved with reviewing their school grounds and coming up with ideas. Ask parents, PTA and the local community to get involved. If your school lacks natural resources, could you ask children to bring natural resources in, to create a natural area?

Kit

No child will enjoy being outside if they are cold and wet but with the right clothes this should not be a problem. Remember outdoor learning has its basis in Scandinavia where the winters are harsher. To ensure the right clothing, there are a number of options to consider:

- Parents provide or fund
- School budget – PE budget?
- Donations – secondhand wellies, gloves, waterproof trousers etc
- PTA funds
- Grants such as Awards for All: www.biglotteryfund.org.uk/funding/Awards-For-All and Tesco Bags of Help: www.tesco.com/carrier-bags
  Lee Jowett, Environmental Education Coordinator for Leicester City Council, may be able to help: Lee.Jowett@leicester.gov.uk 0116 454 2271
- Funded by local business

BEYOND YOUR SCHOOL GROUNDS

We have included in this pack a useful map marking suitable green spaces beyond your school grounds that could be used by you to deliver your outdoor learning.

RISK/BENEFIT ASSESSMENT

This is often one of the major reasons why we as teachers don't take our pupils outside. Taking time to do, which we often do not have! Below are links to risk/benefit assessments that could be used for all your outdoor numeracy and literacy activities.

Play England:
www.playengland.org.uk/resource/risk-benefit-assessment-form

Outdoor Classroom Day:
https://outdoorclassroomday.org.uk/resource/risk-benefit-assessment-form

This risk/benefit approach, once done, will offer real benefits to your children and your teaching.

The risk/benefit assessment works on the basis that each activity needs to be looked at not only from the risk, but also from the benefit that undertaking the activity will achieve. This allows for the objective analysis of the benefits and opportunities of a particular activity, weighted against the potential to go wrong. A well planned challenge, pitched at the right level to stretch comfort zones, but not to the extent that a child is out of their depth, will have more benefits than an entirely safe activity with all possible risks removed.

This risk/benefit approach, where there is acceptance that some level of risk is not only inevitable but desirable, is vital in allowing activities to take place that give children the opportunities to learn to manage risk, an essential part of preparing to cope with adult life and the making of good judgements.

Also as part of the risk/benefit assessment process it will be necessary to carry out a dynamic risk assessment on the actual day of the activity to consider factors such as the weather (use BBC WEATHER APP to check wind speed) and conditions of the site. Don't let this part put you off, as it just requires using your common sense to check the site on the day itself.

So as teachers, prepare to take the risks and see the benefits!

SMALL STEPS

Taking small steps to establishing regular outdoor learning as part of your teaching will make the prospect less daunting and more achievable. Why not start today? Make a wellie collection? Ask parents for help? Bring some sticks to school?

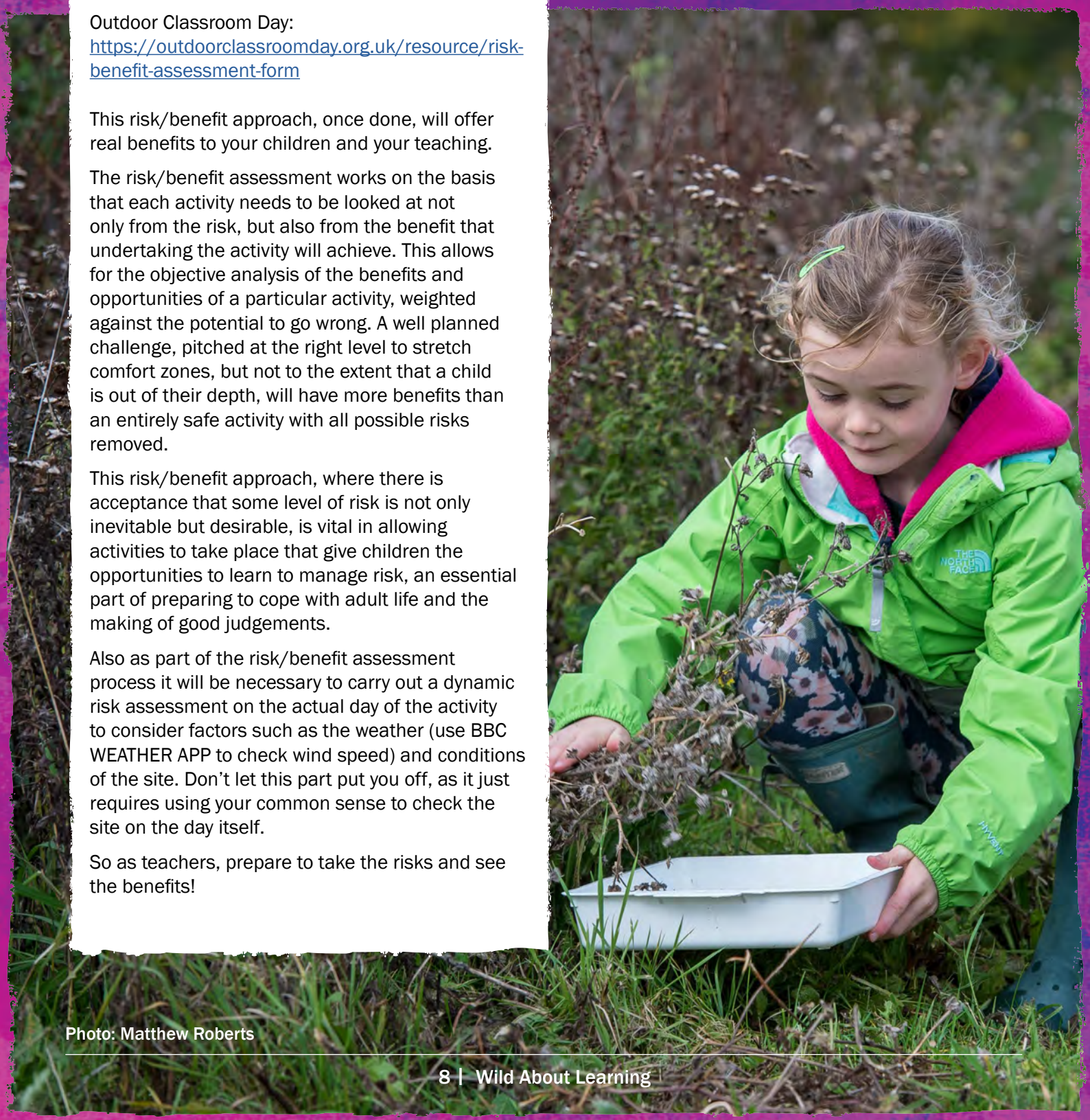


Photo: Matthew Roberts

Introduction to the lesson plans

Our numeracy and literacy lesson plan ideas have been designed as follows:

Duration

- Each lesson plan provides 3 or 4 activities per year group. The numeracy plans have an extended statistics activity for each Key Stage 2 year group.
- The activities can be undertaken separately or as a whole morning and/or afternoon, depending on what suits your timetable.
- The approximate timings of activities are included to help you with your planning.

Place

- The activities are designed to take place in your school grounds.
- A local park could also be used and would greatly enhance the children's outdoor numeracy and literacy "experience". For this, the lesson plans would need to be modified a little. For example, children might not be able to write in chalk but could still do the activities on paper or white boards.

Activities

- The numeracy activities aim to help children develop their understanding of maths concepts, by practically applying them.
- The literacy activities aim to use the natural environment and resources to inspire children's imagination, storytelling, performance and writing.
- The activities are suggestions only, which can be followed or adapted to suit a particular cohort of children. This will allow for differentiation as required.
- All of the activities are for mixed-ability groups to encourage and foster collaboration and peer group work. However, you know your children best, so may find a different arrangement would work best.

Resources

- The school resources you will need for each activity are clearly listed.
- We have provided pictures of British mammals where required.
- Natural resources are listed, with the idea that the children themselves are involved in choosing and collecting the resources. Children enjoy finding and choosing their own resources, as part of their learning.
- If natural resources are very limited, then children could be asked to bring resources in (from their local park, garden or street), to make a natural resource collection.
- Double-sided tape and sticky or masking tape are wonderful resources on a windy day to keep children's work in the right place!

Above all, we hope that these lesson plan ideas will INSPIRE you to take your numeracy and literacy outside!

Numeracy lesson plan ideas

Wild Workings Out

Contents

Photo: Helen Walsh

Does Numeracy Work Wild?

Does numeracy, a core subject under the National Curriculum, work outside?

The simple answer is – YES! And here is why...

The National Curriculum for numeracy aims to ensure that all pupils:

- Gain fluency in the fundamentals of maths
- Learn to reason mathematically
- To solve problems by applying mathematics

Outdoor learning is a fantastic vehicle for delivering these aims as it provides numerous opportunities for experiential, real and purposeful learning in numeracy.

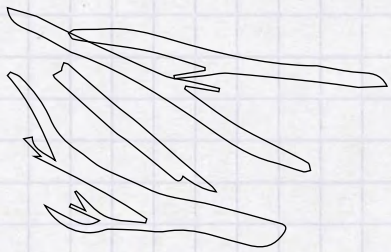


Photo: WPD

The benefits of numeracy outside are well documented and include:

- Higher levels of motivation as children are offered practical opportunities to explore mathematical concepts.
- Almost limitless resources as nature provides so many free resources that can be used to explore mathematical ideas.
- An opportunity to see maths as cross-curricular with links to other subjects in the National Curriculum. This joined-up learning gives children a sense of how, why and where their learning fits into the real world.
- Greater curiosity as outdoor numeracy offers many opportunities to investigate mathematical concepts.
- A meaningful application of problem solving strategies and thinking skills. This is one of the key numeracy aims under the National Curriculum.
- A heightened sense of purpose and relevance. Children need and enjoy numeracy more when there is a real purpose to it.
- The all-important bridge between theory and reality. Children enjoy applying mathematical concepts learnt in the classroom outside.
- Greater independence and an improved attitude to learning.
- Greater enjoyment and achievement in the subject.
- A realisation that our environment offers opportunities for learning and enjoyment.

The benefits in using outdoor learning as one of the tools to your numeracy teaching are numerous! These benefits will help your pupils to enjoy and develop mathematical fluency and reasoning; and for you as their teacher, to show good progress.

The importance of outdoor numeracy has been clearly stated by the National Centre for Excellence in Teaching of mathematics (NCETM):

"It is not enrichment, it is at the core of empowering an individual's understanding of the subject."

So empower your teaching and your children by having a "go" at outdoor numeracy!

Year 1

Outdoor numeracy lesson ideas

Number - number and place value

Duration

This lesson plan contains a warm up game and three activities which can either be done separately (30 - 40 minutes) or as a whole session of approximately 2 hours.

Learning objectives

- To read and write numbers from 1 to 20 in numerals and words.
- Identify and represent numbers using objects and pictorial representations.

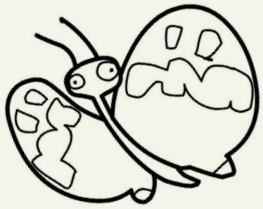
Resources

School resources

- Camera
- Chalk
- Six sets of number word cards (one to twenty)
- Pictures of British wildlife – birds, trees, minibeasts, flowers..
  www.wildlifewatch.org.uk/downloads
- Double-sided tape
- Bucket (for mud making)
- Optional: collecting baskets/bags

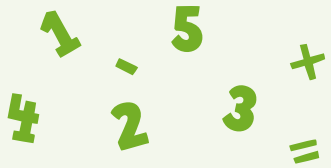
Natural resources

- Sticks/twigs
- Leaves
- Water (for mud making)
- Pebbles
- Mud
- Natural resources that are seasonally available



Vocabulary

- Numeral
- Most
- Least
- Equal
- One more
- One less



Activities – All about 1 - 20

Organisation	Divide the children into five mixed ability groups.
Warm up game - *Nature's numbers*	Ask the children in their groups to count the number of trees, birds, flowers etc they can see, from where they are standing. What can they see the most of, least of and equal number of? What would the total be if there was one more or one less tree etc?

Mud and sticks

Resources	Show the children your chosen stick and explain why you have chosen it. Create a story about the "powers" of your special stick. Ask them to find their "special" stick.
Teach	Explain to the children that they are going to use their "special" stick to write numbers in the mud/sand on the playground in numerals. Ask the children to start at 1 and count slowly to 20, as you demonstrate the correct formation of the numerals. Allow the children time to look at the numerals and ask any questions.
Practise	In their mixed ability groups allow the children time to go and practise writing the numerals 1 - 20 in the mud/sand. Which numbers are easy? Which numbers are difficult? For extra practise the children could write numerals in chalk next to their mud writing.

Matching game

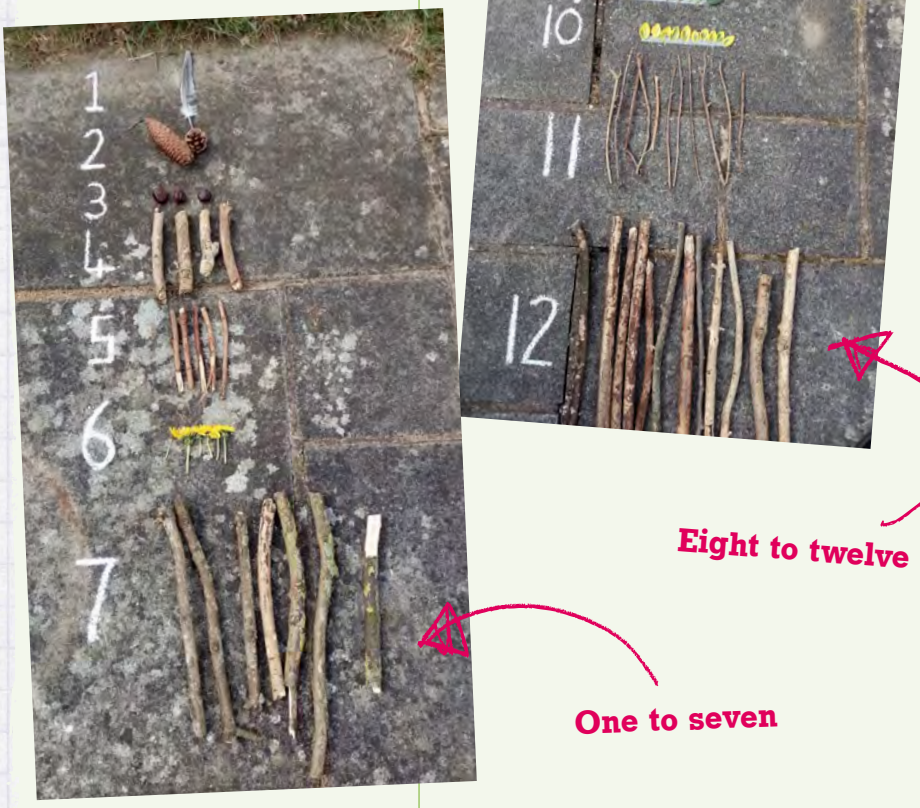
Resources	Show the children the number word cards from 1 - 20.
Teach	Explain to the children that they are going to use the number word cards to match to the numerals they have written. Demonstrate this and discuss with the children, using their phonics knowledge, to read and spell these words. Allow the children time to look at your matching numerals and words and ask questions.
Practise	In their mixed ability groups allow the children time to have a go with a set of number word cards and match the cards to their numerals. Discuss how they found this? Suggest and ask for ideas of how they could remember to read and spell the "tricky" numbers?

Pictures by numbers

Teach	Explain to the children that they are going to create a picture of something that they would find in nature in Britain – bird, mammal, tree, minibeast, flower etc but they are going to use their knowledge of numbers – 1 - 20 to create their picture.
Resources	Demonstrate what they will need to do by first asking each of the groups to help you collect your resources e.g. 1 pebble, 2 daisies, 3 twigs, 4 sticks etc up to 20. Can they find 20 different natural resources? Once the different resources are collected ask the

children to lay out the resources from 1 - 20 and help you write the correct number next to the object. (See sample photos).

Numbers and natural objects



Eight to twelve

Thirteen to twenty

One to seven

Teach

Demonstrate using these resources how to make a picture. Ask the children to discuss what you have made and identify and count each resource. (See sample photo of butterfly).

Practise

In their mixed ability groups give the children time to collect their 1 - 20 resources and lay them out in order and write the correct number next to each of the group of objects. Then allow them time to agree and create something they would find in nature in Britain. Discuss with children what they have created and how they have used their 1 - 20 resources.

Butterfly by number

Evidence	Take photos of the children's numeral writing, matching number words and 1 - 20 natural resource creation for use in books and/or as part of a working wall display, for the children to refer to.
Follow on activity suggestions	Writing number words and making a number line in the mud. Mud bingo (numerals and words): the children choose six numbers from 1 to 20 and write these in numerals and/or words in the mud. The teacher then calls out a number. The first group of children to mark off all theirchosen numbers, shout bingo and win the game.

Year 1

Outdoor numeracy lesson ideas

Number - fractions

Duration

This lesson plan contains a warm up game and three activities which can either be done separately (30 - 40 minutes) or as a whole session of approximately 2 hours.

Learning objectives

- To recognise, find and name half as one of two equal parts of an object, shape or quantity.
- To recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

Resources

School resources

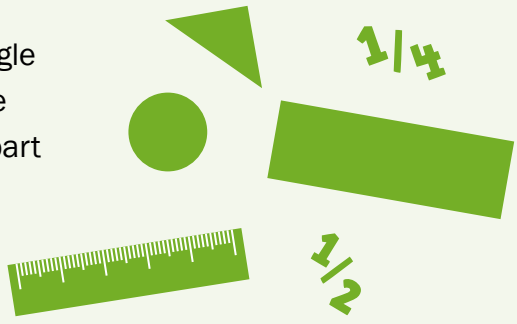
- Secateurs (for adult use only)
- Chalk
- Scissors
- Rulers
- String (8 pre-cut lengths of 30 cm)
- Camera

Natural resources

- Sticks/twigs
- Leaves
- Pebbles
- Other natural resources that are seasonally available

Vocabulary

- Fraction
- Half
- Quarter
- Length
- Estimate
- Centimetre
- Circle
- Rectangle
- Triangle
- Equal part



Activities – All about halves and quarters

Organisation	Divide the children into mixed ability groups with eight children in each group. If there are children remaining, these children can help a group of eight work out the fractions and then join the group for the other activities.
Warm up game - *Class fractions*	In their mixed ability groups ask the children to find half of their group and organise themselves. How many are in each half? If the children are secure with the concept of half as a quantity, ask the children to try to find a quarter of their group. What do they notice about how many children make up a quarter? What do they notice about the relationship between a half and a quarter? (A quarter is half of a half or two quarters equals a half).

Stick fractions

Resources	Ask the children in their group to find 10 medium sized sticks. Cut one stick to 20 cm, using a ruler and secateurs and the other sticks to the following lengths - 3x16 cm, 3x12 cm and 3x8 cm.
Teach	Using the 20 cm stick, explain to the children that it is possible to recognize and find a half of an object, such as stick. This can be estimated, measured using non-specific units of measurement (how many thumbs?) and specific units of measurement (cm ruler).
Teach - Estimate	Show the children how you estimate half of the whole stick reminding them what we need to think about when we use estimation. Mark on the stick your estimation with chalk. Do the children agree? Repeat for finding a quarter of the stick.
Teach - Non-specific unit of measurement	Tell the children that you are going to use your thumb to measure the stick and find half. How many thumbs is the whole stick? How many thumbs is half the stick? Will this be the same for everyone? Why not? (Difference in thumb size). Repeat for finding a quarter of the stick.
Teach- Specific unit of measurement	Show the children a 30 cm ruler. Hand out a ruler to each group of of children. Discuss and question what they notice about the ruler – length, numbers, intervals and use. Using the ruler, measure the stick – it should be 20 cm. On the basis of the stick being 20 cm, show how you calculate half of the stick. Repeat this for a quarter of the stick. Using chalk mark ½ and a ¼ of the stick.
Practise	Give each of the groups a 16 cm, 12 cm and 8 cm stick, rulers and chalk. Ask the children to estimate, measure using their thumbs and then a ruler to calculate the whole length of the stick, half and then a quarter. Discuss their findings.

Fractions of shapes

Resources

Ask the children in their group to each collect 2 medium sized sticks.

Teach

Explain to the children that they are now going to look at finding half of a shape. What shapes do they know? Circle, rectangle, triangle. Using your collected sticks, create these shapes and one by one discuss with the children the properties of these shapes. Will sticks work for a circle? What else could we use to make a circle?

Then using a piece of string, find a half of each of the shapes. Discuss with the children what they notice? Why is a triangle more difficult?

Practise

Allow the children time in their groups to make a circle, rectangle and triangle using natural resources. Then give each group three pieces of string. Ask the children to use their string to find half of the shape.

Teach

Explain to the children that they are now going to find a quarter of a shape. Using the shapes you have previously made with their marked out halves. Remind the children that as we have already found half the shape, we can find a quarter of the shape because we know that a quarter is half of a half. On this basis, mark out with the other pieces of string a quarter of the circle and rectangle. Is it possible to find a quarter of a triangle?

Practise

Allow the children time in their groups to use string to mark out a quarter on their shapes.

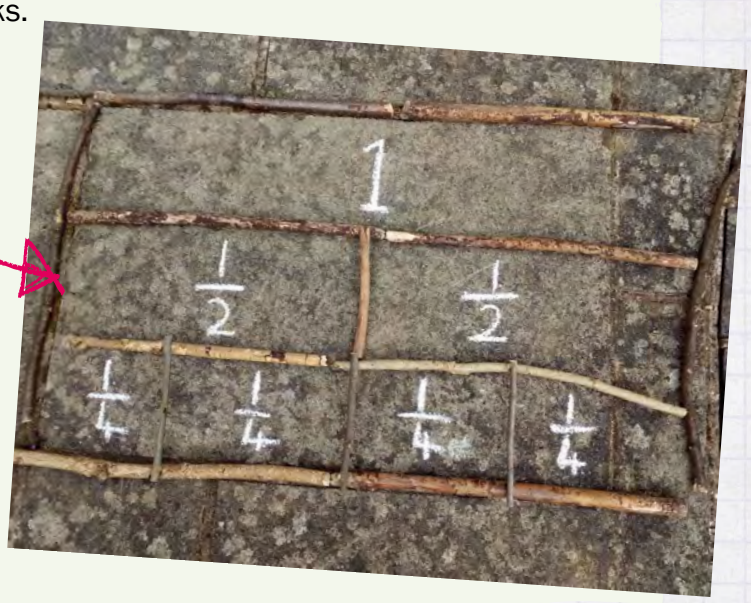
Fractions wall

Teach

Explain to the children that we are now, as a whole class, going to create a fraction wall showing a whole, halves and quarters. (See sample photo). This wall can then be used to both demonstrate their learning and use as a teaching aid for other children.

Resources

Ask the children to collect 3 different types of natural resources (e.g. brown leaves, green leaves, twigs) of roughly equal amount and some larger sticks.



Stick fraction wall

Practise	Then using one type of resource ask the children to make a layer and explain that this is the whole. Then ask the children to use a different natural resource to make another equal layer below and this time ask the children to find half and mark this with sticks. Repeat this process for finding quarters and mark these with sticks. Discuss with the children their observations. Two halves are equal in amount to a whole. Four quarters are of equal amount to a whole.
Evidence	Take photographs of stick measurements, shapes and of the fraction wall for use in books or as part of a numeracy working wall for the children to refer to.
Follow on activity suggestions	Half and quarter of quantities of leaves, acorns, conkers, sticks, minibeasts, vegetables, pebbles, seeds, berries, flowers etc.

Year 2

Outdoor numeracy lesson ideas

Number - addition and subtraction

Duration

This lesson plan contains a warm up game and three activities which can either be done separately (30 - 40 minutes) or as a whole session of approximately 2 hours.

Learning objectives

- To recall and use addition and subtraction facts to 20 fluently.
- To add and subtract numbers using concrete objects.
- To show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.

Resources

School resources

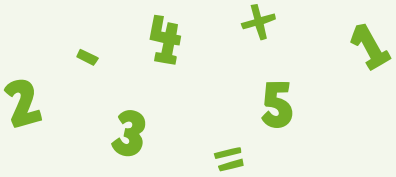
- Camera
- Chalk
- Number line
- Bucket (for mud making)
- Double sided tape
- Optional: collecting baskets/bags

Natural resources

- Mud
- Sticks/twigs
- Pebbles
- Water (for mud making)
- Leaves
- Other natural resources that are available seasonally

Vocabulary

- Addition
- Subtraction
- Add
- Take away
- Altogether
- Total
- Sum
- Difference between
- More than
- Less than



Activities – all about number bonds

Organisation	Divide the children into four groups of mixed ability.
Warm up game - *Know your maths words*	Ask the children some simple mental maths questions using a variety of maths words associated with addition and subtraction. For example: What is 17 add 3? What is 17 plus 3? What is 3 more than 17? What do they notice about the answer? What is 18 take away 2? What is 18 subtract 2? What is the difference between 18 and 2? What is 18 less 2? What is 18 minus 2? What do they notice about the answer?
Teach	Explain to the children that it is important to know which words mean you must use addition and which words mean you must use subtraction. Can they think of any other maths words? (Altogether, total, sum – what do they mean? Can the children make up a question using some of these maths words?

Mud number line

Resources	Ask each of the children to collect a "special" stick that they are going to use to work their maths "magic".
Teach	Explain to the children that in their groups they are going to create a number line from 0 - 20. Show the children an example and use this as a basis for demonstrating how to make a number line in the mud/sand on the playground. Ask the children to count slowly from 0 - 20 as you write the numerals. (Make sure the number line is of sufficient size and spacing).
Practise	Allow the children time in their groups to create a number line. Ask the children why a number line is useful in addition and subtraction?

Mud number bonds

Teach	Explain to the children they are now going to use their number line to work out number bonds from 0 - 20. The challenge is to see how many number bonds they can come up with in their mixed ability group. Show the children how they can use the number line systematically to help them work these out. Do the first few, e.g: 0+20=20, 1+19=20, 2+18=20, 3+17=20 etc showing how to use the number line to work out each number bond.
Practise	Allow the children time in their groups to work out the number bonds from 0 - 20. Discuss how they found the activity.
Teach	Ask the children to give you an example of a number bond - e.g: 5+15=20. Would it make a difference if the numbers where in a different order? Explain that the addition of two numbers can be done in any order (commutative).
Practise	Allow the children time in their groups to test this concept, that the addition of two numbers can be done in any order.

One to twenty in objects

Resources

Ask the children to help you collect a variety of natural resources. Explain that you need twenty different types of natural resources with a maximum of 20 of one type to just one of another. Choice of resource will depend on the seasons but consider – sticks (size, colour), leaves (shape, colour) pebbles (size, colour), seeds (type), flowers (daisies, dandelions).

Teach

Ask the children to help you organise your chosen resources, for example: 20 large sticks, 19 green leaves, 18 large pebbles, 17 brown leaves etc – all the way to 1. Using either your "special" stick or chalk, ask the children to help you count each resource and write down the correct number. Can they also write the number in words?

Resources

Ask the children in their groups to collect their natural resources.

Practise

Allow the children time to organise their resources and to write in numbers and words, the correct number. Review formation of numerals and spelling. Which numerals are difficult? Which spellings are difficult? Allow children time to practise any numbers they find particularly difficult.

Nature's number bonds

Teach

Explain to the children they are going to use their natural resources to show number bonds from 0 - 20, using objects. For example: 19 sticks plus 1 daisy equals 20 – use the objects and underneath write the sum in numerals 19+1=20. Discuss with the children the use of the symbols + and =. What do they mean? What words could they use instead?

Practise

Allow the children in their groups time to depict number bonds using their natural resources. How many can they make? Can they write the sum in numerals?

Evidence

Take photographs of the number line and number bond activities for book evidence and/or as part of a numeracy working wall, for the children to refer to.

Follow on activity suggestions

Use number bonds 0 - 20 to create a bird, tree, mammal, flower or minibeast found in nature in Britain. For example: Can you make a minibeast from 19 sticks and 1 daisy or a tree with 10 twigs and 10 leaves? Or use the mud number line to practise subtraction and discuss with the children that subtraction of one number from another cannot be done in any order.

Year 2

Outdoor numeracy lesson ideas

Measurement - money

Duration

This lesson plan contains a warm up game and three activities which can either be done separately (30 - 40 minutes) or as a whole session of approximately 2 hours.

Learning objectives

- Recognise and use symbols for pounds (£) and pence (p).
- Find different combinations of coins that equal the same amount of money.
- Solve simple problems in a practical context involving addition and subtraction of the same unit, including giving change.

Resources

School resources

- Plastic money 1ps, 2ps, 5ps, 10ps, 20ps, 50ps and £1 coins
- Chalk
- Camera
- Double sided tape

Natural resources

- Sticks/twigs
- Pebbles
- Leaves
- Soil
- Other natural resources that are seasonally available

Vocabulary

- Pound
- Pence
- Coins
- Value
- Combination
- Plus
- Add
- Take away
- Minus
- Equal
- Total
- Change
- Equivalent

Activities – All about money

Organisation	Divide the class into four groups of mixed ability.
Warm up game *- Treasure hunt*	You will need plastic money for this activity. Ask the children to close their eyes and count slowly from 0 - 100 as you hide an assortment of coins. Then ask the children to open their eyes and ask the children to name all the coins they know. As they name a coin, write the coin's value on the playground with chalk and include p (pence) and £ (pound) where appropriate. Discuss the meaning of these symbols. Then explain to the children that they are now going to find the treasure, starting with collecting all the 1ps, then 2ps and so on and place them on the correct value. Discuss with the children the value of each of these coins.

My special natural object

Resources	Natural resource – "special" leaf, twig, flower, seed etc., plastic money and chalk.
Teach	Explain to the children that, in their groups, they will need to find a "special" object from the natural world. Show the children your special object and explain that the object has a value of £1. Ask the children how many pence in a £1? How many 1ps would they need to buy the special object? How many 2ps, 5ps, 10ps, 20ps, 50ps, £1 coins? What method could they use to help them work this out? (Counting in 2s, 5s and 10s).
Practise	Allow time for the children in their groups to collect and decide on their "special" object from the natural world. Then using chalk, allow them time to work out how many 1ps would they need to buy this object if their object was worth £1. Allow them time to work out how many 2ps and so on, so that they have calculated for each coin – 1p, 2p, 5p, 10p, 20p, 50p and £1.

The nature shop

Resources	A variety of natural resources such as sticks, twigs, leaves, pebbles depending on the season and plastic money.
Teach	Explain to the children that, in their groups, they are going to each create a "nature" shop, where they will have the opportunity to sell their natural resources and to buy other natural resources from the other shops using money. Ask the children to help you collect at least 8 different natural resources. For example: sticks as magic wands, leaves as elf and fairy wings, seeds etc as magic beans. Once collected, sort and give a variety of monetary values for each one of each type of natural resource. For example: 5p, 15p, 25p, 35p, 45p, 55p, 75p, and 95p (see sample photo overleaf). Write these in chalk next to the resource and give your shop a name e.g: "Tree Treats."

Practise

Allow the children time in their groups to choose, collect, sort and give a monetary value up to £1 to at least 8 different types of natural resources. What name will they chose for their shop? Children to write this in chalk.

Teach

Explain to the children that two of the groups will be the shop keepers and two of the groups will be the customers to start with and then they will swap around their roles.

The nature shop

The role of the customer will be to work out as many different combinations of coins that are needed for their choice of natural resource. Act out being the customer and ask for the children's help with working out combinations of coins to pay for, for example, your chosen "magic" wand. What are the fewest coins? What are the most coins? What other combinations could be used?

The role of the shopkeepers will be to count the coins to check they have been given the right money. Do they agree that fewest/most have been used? Can they think of other combinations?

Practise

Allow the children in their groups time to practise being the customer and shopkeeper, paying for items using different combinations of coins. They can write these combinations in chalk as a sum.

Giving change

Teach

Explain to the children that this time, the customer is going to buy one of the natural resources with a £1 coin, as this is the only money they have and ask for change as the item costs less than a £1. Ask the children if they understand what the word "change" means in relation to money. Ask the children to be the customer, choose an item and pay for it with a £1 coin. Ask the children to help you work out the change. Ask the children to work out the fewest and most coins that could be given as change. What about other combinations?

Practise

Allow the children in their groups time to practise being the shopkeeper giving change.

Evidence

Take photographs of the treasure hunt, special objects and "nature" shop as book evidence of the children's understanding of money and/or as part of a numeracy working wall for the children to refer to.

Follow on activity suggestions

Buying and selling produce from a mud kitchen, growing vegetables to sell at school events.

Year 3

Outdoor numeracy lesson ideas

Geometry - properties of shape
Measurement, Statistics

Duration

This lesson plan contains a warm up game and four further activities which can either be done separately (45 minutes) or as a whole session of approximately 3 hours.

There is also a statistics activity designed to take place over an extended period of time.

Learning objectives

- To draw 2D shapes and make 3D shapes using modelling materials.
- To measure the perimeter of simple 2D shapes.
- To recognise angles as a property of a shape.
- To identify whether angles are greater than or less than a right angle.
- To interpret and present data using bar charts, pictograms and tables.

Resources

School resources

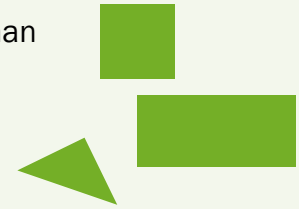
- Stop watch
- Rulers
- Chalk
- Masking tape
- Bird feeders
- Bird seed
- Scissors
- Secateurs (for adult use only)
- Photos of common British birds, e.g: Robin, Blue Tit, Dunnock, Blackbird, Wood Pigeon, Magpie, Crow)
  See: http://www.wildlifewatch.org.uk/spotting-sheets
  and
  www.rspb.org.uk/birds-and-wildlife/bird-and-wildlife-guides/bird-a-z
- Camera

Natural resources

- Sticks/twigs
- Leaves
- Other natural resources that are seasonally available

Vocabulary

- Estimate
- Seconds
- Minutes
- Hour
- Total
- 2D
- 3D
- Polygon
- Perimeter
- Property
- Right angle
- Obtuse
- Acute
- Greater than
- Less than
- Data



Activities

Organisation	Divide the class into four groups of mixed ability.
Warm up game ***- Time in nature***	You will need chalk and a stop watch.
Teach	Explain to the children that they are going to play a game where they have to estimate and then record accurately in minutes and seconds how long it takes to reach or find a particular natural resource. Ask the children - how many seconds there are in a minute? And how many minutes in an hour? Then ask the children in their groups to estimate, for example, the time taken to reach a tree, a hedge, a flower or to find a minibeast or see a bird etc. Children to record with chalk their estimations on the playground. Then using the stop watch ask each group to take a time challenge – will they be faster than their estimate? Which challenge took the longest? Which was the shortest? How long did all the challenges take in total? (Minutes and seconds).

Regular and irregular polygons

Resources	Ask the children in their groups to help you collect plenty of sticks and twigs. Ask the children to count how many they have collected in their group and then to calculate how many the whole class has collected? What strategies could they use to calculate this? (Mental and written methods).
Teach	Explain that the children are going to use the sticks to create polygons. What is a polygon? (A 2D shape with straight sides that is fully enclosed). Ask the children to name some polygons that they already know. Then demonstrate using sticks how to make a regular polygon (e.g: a square) and an irregular polygon (e.g: a right-angled triangle). What do they notice about the sides and angles of the regular polygon? Repeat this for the irregular polygon. What is different in the irregular polygon? (Length of side and/or size of angles).
Practise	Allow the children time in their groups to first create some regular polygons. Can they make a decagon? Next, allow the children time to create irregular polygons.

The properties of polygons

Teach

Explain to the children that they are now going to describe the properties of the polygons they have made. What properties does each shape have? They will need to consider the length of the straight sides and the size of the angles. What angles do they know? (Right angle, acute and obtuse). Which angle is greater? Which is less? Demonstrate this by describing the properties of your right angled triangle (length of sides are not equal, a right angle and 2 acute angles) and square (4 sides of equal length and 4 angles of equal size – right angles). Write these in chalk next to the shape.

Practise

Allow the children time in their groups to describe the properties of the polygons they have made and write them in chalk next to the shape.

Perimeter

Resources

Ruler and chalk.

Teach

Explain to the children that they are now going to work out the perimeters of the polygons they have made. What is a perimeter? (The distance around the edge of a shape). How would we calculate the perimeter? (By adding up the length of each of its sides). Demonstrate this by measuring with a ruler the lengths of each of it's sides and adding these together to give the perimeter.

Practise

Allow the children time in their groups to measure with a ruler the perimeter of the polygons they have made.

3D shapes for nature

Resources

Sticks, masking tape, leaves, twigs and other seasonally available resources.

Teach

Explain to the children they are now going to have a go at making a 3D shape. Can they name any? (Cube, cuboid, square based pyramid, triangular prism). What is the difference between a 2D and 3D shape? Using sticks and a masking tape demonstrate how to make one of the above shapes (see sample photos of a cube below).

Practise

Allow the children in their groups to choose a 3D shape they want to make and then give them time to have a go at building it.

Teach

Explain to the children that they are now going to turn their 3D shapes into houses for minibeasts by filling the shape with small sticks, twigs and leaves. Demonstrate this (see sample photos).

How to make a 3D polygon minibeast home

Step 1

Step 2

Step 3

Step 4

Step 5

Practise	Allow the children time to create their minibeast houses and to place them in the school grounds.
Evidence	Take photographs of the children's polygons (showing their understanding of regular and irregular polygons, different properties of shape, perimeter) and their 3D shapes to use as evidence in their books and/or as part of a working wall for the children to refer to later.
Follow on activity suggestions	Identify vertical and horizontal lines, parallel and perpendicular lines and lines of symmetry in 2D shapes made from sticks.

Statistics - Bird watch

	This activity has been designed to allow for the collection of data over a period of time that suits your timetable. It is advisable that, two weeks before this activity, to hang out bird feeders in the school grounds to encourage the birds to visit.
Duration	Approximately 20 minutes each week for 4 - 6 weeks.
Resources	Photographs of common British birds, chalk and camera.
Teach	Explain to the children that each week they will have an opportunity to come outside to spot birds. Discuss with the children any birds they already know? Show the children pictures of the most common birds they are likely to see (Robin, Blue Tit, Dunnock, Blackbird, Wood Pigeon, Magpie, Crow etc) and then explain they are going to try to spot these birds and record their sightings on a tally chart. Ask the children to help you draw a large tally chart with chalk on the playground and explain how it can be used to collect data.
Data collection and use	Allow the children time to spot the birds and record as a tally. Take a photo of the tally chart as a record. This process can be repeated each week. Once all the data has been collected, the data can then be represented in a number of different ways, for example: • A tally chart • A bar chart depicting the number of each type of bird spotted. Which is the most common? Which is the least common? • A pictogram depicting the children's favourite type of bird they spotted.

Year 4

Outdoor numeracy lesson ideas

Number - multiplication and division, Statistics

Duration

This lesson plan contains a warm up game and three further activities which can either be done separately (45 minutes) or as a whole session of approximately 2 ½ hours.

There is also a statistics activity designed to take place over an extended period of time.

Learning objectives

- To recall multiplication and division facts for multiplication tables up to 12 x 12.
- To multiply two-digit and three-digit numbers by a one-digit number using formal written layout.
- To solve problems involving multiplication.
- To interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.

Resources

School resources

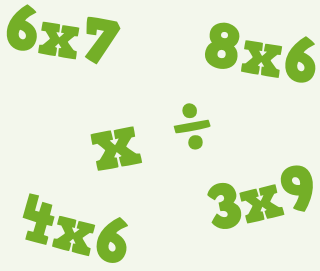
- Chalk
- Elastic bands or pipe cleaners
- String
- Thermometer
- Camera

Natural resources

- Sticks/twigs
- Leaves
- Other resources that are seasonally available

Vocabulary

- Multiply
- Times
- Divide
- Multiple
- Equals
- Remainder
- Digit
- Interpret
- Discrete and continuous data



Activities – Multiplication and division

Organisation

Divide the class into four groups of mixed ability.

Warm up game - *Nature multiplication*

Give the children in their groups five minutes to collect as many natural resources as they can. Ask the children to sort the materials into groups – leaves, twigs, sticks etc. Ask the children to then sort the different resources into multiples of 3. How many multiples of 3 can they make with each resource? Are there any remaining? How many multiples of 4 and 5? Are there any remaining this time?

Multiplication sticks

Resources

Elastic bands or pipe cleaners, chalk, sticks. Ask the children to help you collect plenty of sticks.

Teach

Explain to the children that they are going to make stick multiplication bundles to help them calculate their 6, 7, 8 and 9 times tables. Demonstrate this for the 6 times table by beginning to place sticks into groups of 6 and then tying a group of 6 into a bundle with elastic bands or pipe cleaners.

Practise

Allocate each group one of the above times tables. How many multiples can they make? Can they make 12 multiples? If not, ask them to collect more sticks.

Teach

Explain to the children that they are going to use their stick bundles to calculate their times tables. Demonstrate using the 6 x bundles and then writing with chalk the answer for the first few (see sample photo).

Multiplication sticks

Practise

Allow the children time in their groups to calculate their allocated times table up to 6 x 12, 7 x 12, 8 x 12 and 9 x 12. Then allow the children time to practise the other times tables and check if they agree with the answers of the previous groups.

Teach

Explain to the children that they are now going to play a game. You call out a number that appears in one or more of the above times tables and the children will need to work out if the number is a multiple of their times table and hold up the correct number of bundles. For example the number 24 – multiples of 4 x 6 (4 bundles) and 3 x 8 (3 bundles).

Grid method multiplication

Resources

Chalk and natural resources. Ask the children in their groups to collect 3 different natural resources such as sticks, twigs and leaves etc.

Teach

Explain to the children that they will need to sort their resources with the following values: sticks are each worth 100, twigs are each worth 10 and leaves are each worth 1. Demonstrate this by choosing 1 stick (100) and 2 twigs (20) and 3 leaves (3) and adding these values to equal 123 (3 digit number).

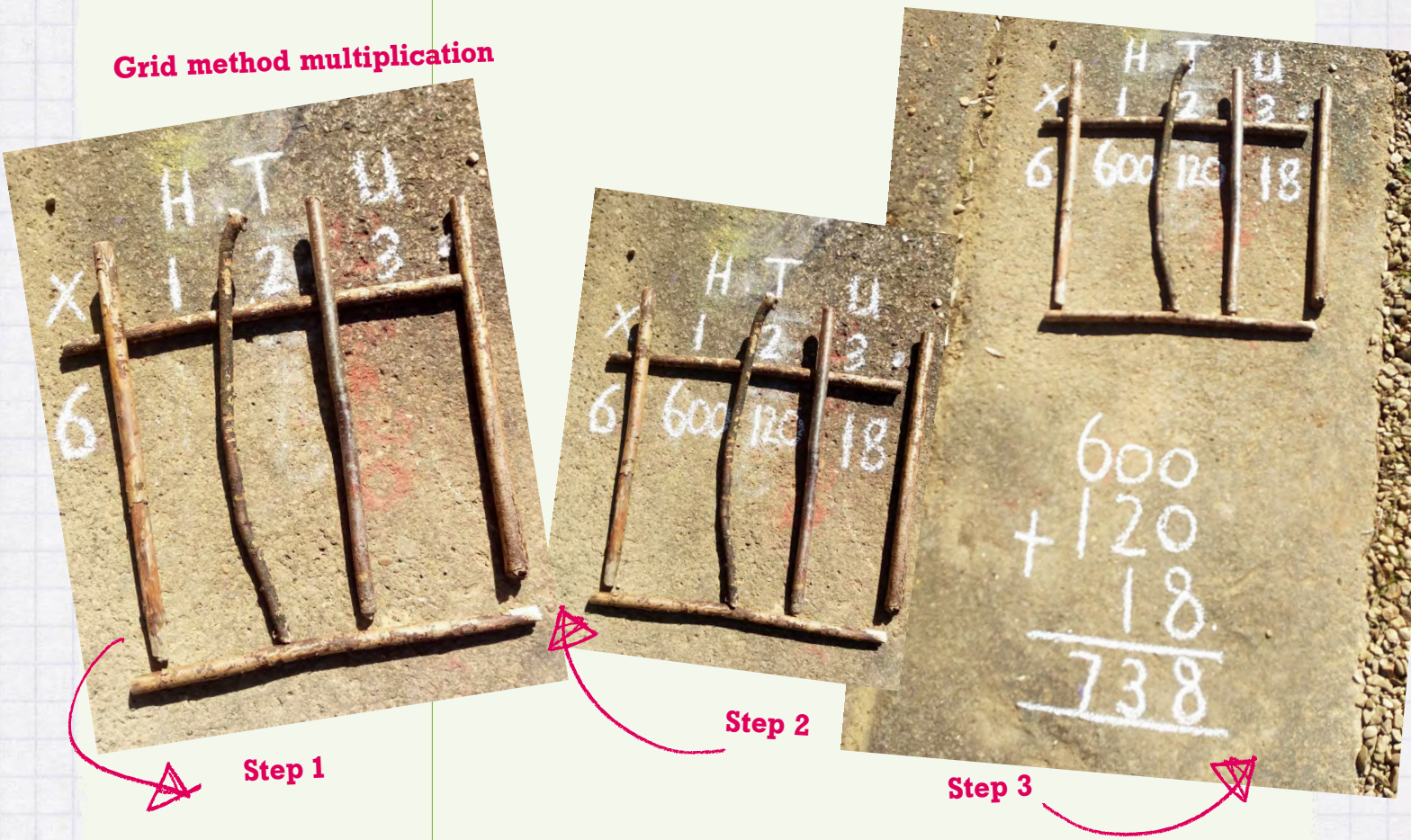
Practise

Allow the children time in their groups to choose a different combination of natural resources to make a 3 digit number. How many can they make?

Teach

Explain to the children that they are now going to have a go at multiplication using the grid method of calculation. Demonstrate this by first of all creating a grid using sticks and chalk. Check the children's understanding of place value of hundreds, tens and units. Then using your example of 123 above, ask the children to help you write the value of each digit in the grid. Explain that they are going to help you multiply this number by a 1 digit number, for example 6 (see sample photo). Demonstrate the method to the children ensuring they understand the use of zero as a place holder and the careful use of column addition.

Grid method multiplication



Practise

Allow the children time to create a 3 digit number from their natural resources and multiply this by a 1 digit number, using the grid method.

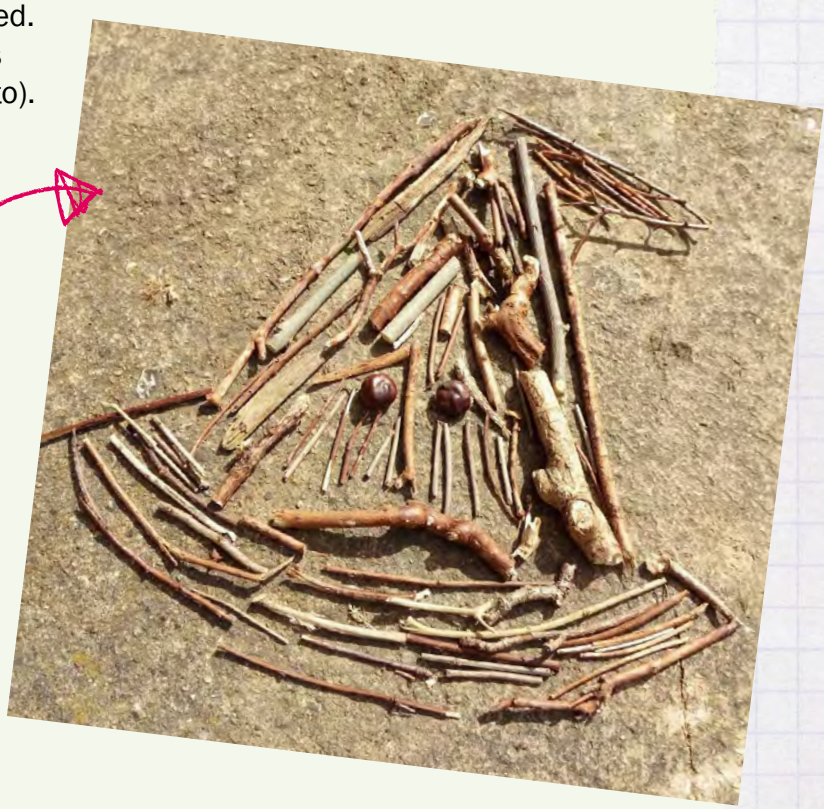
Harry Potter multiplication problems

Resources

Sticks, twigs, leaves and any other resources that are seasonally available.

Teach

Explain to the children that in their groups, each child needs to make a 2D Harry Potter "sorting" hat from the natural resources they have collected. Demonstrate this (see sample photo).



Practise

Allow the children time to collect their natural resources and design their "sorting" hats.

Teach

Explain to the children they are now going to work out some "sorting" hat problems using their multiplication knowledge. Questions that could be asked:

- How many hats are there in total?
- How many hats would be needed if there were twice as many children?
- How many hats would there be if you multiplied by 10, by 100?
- What if there were 22 hats and 3 children – how many hats could each child have so they each have an equal number? Would there be any left over?

There are numerous other questions that could be asked, which would allow the children to practise both their mental and written multiplication and related division facts.

Practise

Allow the children time in their groups to respond to questions that you call out and work out the multiplication problems. Children could also come up with their own problems to challenge other groups.

Evidence	Take photographs to show children's understanding and learning of multiplication tables, grid method multiplication and problem solving for their books and/or part of a working wall for the children to refer to.
Follow on activity suggestions	Multiplication bundles for 10, 11 and 12 times tables and multiplication bundles used to create repeated pattern flowers.

Statistics - Temperature over time

	This activity has been designed to allow for the collection of data over a period of time that suits your timetable.
Duration	Approximately 15 minutes each week over 6 - 10 weeks.
Resources	Thermometer
Data Collection	Explain to the children that they are going to use a thermometer to collect data about the temperature over a period of time. Discuss how temperature is recorded in Celsius and what the intervals on the thermometer mean. Discuss also where to place the thermometer and why it needs to remain in the same place and that the reading of the temperature needs to be done at the same time each week. Why is this?
Teach	Agree with the children where to place the thermometer and then demonstrate and record the temperature. For example – Date – Time: 12 noon – Temperature: 12 Celsius.
Data Collection	Each week the children can record the temperature and add the temperature to their data. Also the children could record any other changes they have noticed e.g. buds, birds, flowers, seeds, leaves to highlight any seasonal changes.
Teach	Explain to the children that they are going to use the data they have collected about temperature to draw a line graph. Discuss with the children why a line graph is appropriate? (Shows change over time). Explain the two axes, appropriate intervals and how to plot the data. Once the children have drawn and plotted their data ask the children what they can discover from the graph by interpreting the data. Explain how to read off the data. Which day was the hottest? Which was the coldest? What is the difference between the hottest and coldest day? Why is this?

Year 5

Outdoor numeracy lesson ideas

Number and place value, Multiplication and division, Fractions, Statistics

Duration

This lesson plan contains a warm up game and three activities which can either be done separately (45 minutes) or as a whole session of approximately 2 hours.

There is also a statistics activity designed to take place over an extended period of time.

Learning objectives

- To read Roman numerals to 1000.
- To establish whether a number up to 100 is prime and recall prime numbers to 19.
- To recognise the percent symbol (%) and understand that percent relates to 'number parts per hundred' and to write percentages as fractions.
- To solve comparison, sum and difference problems using information presented in a line graph.

Resources

School resources

- Chalk
- Roman numeral chart 1 - 1000
- Multiplication tables
- Old container for rain water collection
- Camera

Natural resources

- Sticks/twigs
- Leaves
- Pebbles

Vocabulary

- Roman numeral
- Prime number
- Composite (non-prime) number
- Percentage (%)
- Fraction
- Denominator numerator
- Data
- Volume
- Litre (l)
- Millilitre (ml)

Activities

Organisation	Divide the class into three groups of mixed ability.
Warm up game ***- Nature turns***	Explain to the children that they are going to play a game whereby they turn around on the spot in a clockwise direction to a certain degree specified by you (90%, 180%, 270% and 360%). Once they have made the turn, they should describe what natural resource/ feature they can see. Before you start the game, check the children's understanding of turns, both in terms of degree and corresponding – ¼, ½, ¾ and whole turn. Then challenge the children to come up with a maths fact about their natural resource. For example: the tree is approximately 6 m or 600 cm high or the branches have both acute and obtuse angles.

Roman numerals and the natural world

Resources	Ask the children to help you collect some sticks.
Teach	Explain to the children that they are now going to have a go at writing Roman numerals using sticks. Discuss with the children how this number system works (Roman numerals are written as a combination of 7 letters – I=1, V=5, X=10, L=50, C=100, D=500 and M=1000). Write these letters and their corresponding value in chalk on the playground for the children to refer to. Next, demonstrate to the children how to combine the letters to make the numbers 1 - 10, with sticks. What do they notice about how we make the number 4 and 9 in Roman numerals? Why do they think it is written this way?
Practise	Allow the children time in groups to collect sticks and create numbers 1 - 20. What do they notice about the numbers 24 (XXIV) and 29 (XXIX). Can they make the numbers 40 (XL) and 90 (XC)?
Teach	Explain to the children they are now going to have a go and making some bigger numbers using Roman numerals, based on the number of different species found in nature in Britain. Explain that in the U.K. there are 250 (CCL) different species of bees, 58 (LVIII) different species of butterflies, 598 (DIXVIII) species of British birds and 650 (DCL) different species of spiders! Discuss with the children how to make these larger numbers using the Roman numerals.
Practise	Allow the children time in their groups to work out the above numbers in Roman numerals using sticks. Can they make the number 999? (CMXCIX).

Nature's prime

Resources

Sticks/twigs or pebbles and chalk. Ask the children in their groups to collect 100 sticks/twigs/pebbles, per group.

Teach

Explain to the children that they are now going to find prime numbers up to 100. What is a prime number? (A number that is only divisible by 1 and itself – so they are numbers that don't divide by anything equally). Using this rule and the sticks, begin to demonstrate to the children how to work out the prime numbers. Is 1 a prime number? Why not? What about 2 and so on? What can the children use to help? (Their multiplication tables – if the number being calculated is a multiple in one or more of the tables, other than 1, it cannot be a prime number).

Practise

Allow the children time in their groups to calculate, with the help of their sticks, their prime numbers from 1 - 100 and write these in chalk on the playground.

Teach

Explain to the children that prime numbers are very important in writing secret codes and they are going to use their prime numbers just from 1 - 19 to work out a secret code. Ask the children to tell you the prime numbers from 1 - 19 (2, 3, 5, 7, 11, 13, 17, 19) and write these on the ground. Explain to the children that each prime number represents a letter in the alphabet which will give them an 8 letter secret word (WILDLIFE). Don't tell the children the word. Give the children the necessary clues: 2=D, 3=E, 5=F, 7=I (There are 2 of these), 11=L (there are 2 of these) and 13=W. The children should come up with the letters DEFIILLW. Can they unscramble these letters to make the word WILDLIFE?

Practise

Allow the children time in their groups to crack the code. Allow the children time to create their own secret codes for other groups to try and crack, using prime numbers.

Nature's percentages to fractions

Resources

Chalk, sticks, leaves and other natural resources that are seasonally available. Ask the children to help you collect 100 sticks, 60 leaves, 20 pebbles and 10 twigs and to sort them into piles.

Teach

Explain to the children that they are going to calculate percentages of natural resources they have collected. First of all check the children's understanding of percent (means out of 100) and ask if they know what the symbol for per cent is? (%) Draw this on the playground. Then explain that a percentage is a number expressed as a fraction of 100 (a whole). Using the 100 sticks explain to the children how to work out percentages. For example 1 stick would be 1 out of 100 = 1%, 2 sticks would be 2 out of 100 = 2% and so on. What would 50 sticks, 75 sticks and 99 sticks be as a percentage?

Practise	Allow the children time in their groups to practise calculating the percentages of sticks as you call out a certain number of sticks.
Teach	Explain to the children they are now going to calculate percentages of the 60 leaves. Discuss with the children why this will be more difficult (not 100 objects but percentages are out of 100) and what strategies could they use? (Find 10% to start with). For example – The total number of the leaves is 60. Find 10% of 60. How do we do this? (60 divided by 10 = 6) Therefore 6 leaves equals 10% of the total amount of the leaves. 12 leaves equals 20% (2 x 6) of the total amount of the leaves. What about 25% of the leaves? How could they calculate 5%? (half of 10% equals 5% = 3 leaves).
Practise	Allow the children time in their groups to calculate a variety of percentages using the leaves. For example 50%, 75%, 80% and 95% etc. Can the children then work out the following percentages for the 20 pebbles and for the 10 twigs? Children to write these on the playground in chalk.
Teach	Explain to the children they are now going to convert the percentages into fractions. What do they need to do? The denominator is always 100 because percentages are always out of 100 and the numerator is the actual percentage calculated. For example 10% of the sticks as a fraction is expressed as 10/100 (simplified 1/10) and 20% of the sticks as a fraction is expressed as 20/100 (simplified 2/10 or 1/5).
Practise	Allow the children time in their groups to convert the percentages of the natural resources into fractions.
Evidence	Take photographs of the Roman numerals, prime numbers, percentages and fractions work for the children's books and/or as part of a working wall for the children to refer to.
Follow on activity suggestions	Dates in Roman numerals, simplifying fractions.

Statistics - Rain fall data

	This activity has been designed to allow for the collection of data over a period of time that suits your timetable.
Duration	This activity is designed to take approximately 15 minutes a week over a period of 6 - 10 weeks.
Resources	Container for rain water collection.
Data Collection	Explain to the children that they are going to collect data on weekly rainfall (volume). Ask the children what unit of measurement would be suitable? (Litre and millilitre) and place the container in a suitable place for collecting rain water. Each week the rain water will need to be collected, measured and the data recorded.

Teach	Explain to the children that they are going to use the data they have collected about rainfall to draw a line graph. Discuss with the children why a line graph is appropriate? (Shows change over time). Explain the two axes, appropriate intervals and how to plot the data. Once the children have drawn and plotted their data ask the children what they can discover from the graph by interpreting the data. Explain how to read off the data. Which week was the wettest? Which was the driest? What is the difference between the wettest and driest week? What is the average weekly rainfall? What was the total rainfall?

Year 6

Outdoor numeracy lesson ideas

Number: Addition and subtraction, Multiplication and division, Algebra, Measurement, Ratio and Proportion

Duration

This lesson plan contains a warm up game and three activities which can either be done separately (1 hour) or as a whole session of approximately 3 hours.

There is also a statistics activity designed to take place over an extended period of time.

Learning objectives

- To divide numbers up to four digits by a two digit whole number using formal written methods of long division and interpret remainders as a whole number, fraction or by rounding, as appropriate for the context.
- To generate and recognise number patterns and sequences.
- To recognise proportionality in contexts when the relations between quantities are in the same ratio.
- To interpret and construct pie charts and line graphs and use these to solve problems.

Resources

School resources

- Chalk
- Camera
- Scissors
- String
- Ingredients for bird feeder: lard or vegetable fat, bird seed, raisins, apples
- Pine cones or old yogurt pots
- Weighing scales
- Cutlery

Natural resources

- Sticks/twigs
- Leaves
- Pebbles
- Other natural resources that are seasonally available

Vocabulary

- Multiply
- Place holder
- Digit
- Division
- Remainder
- Rounded
- Number pattern and sequence
- Algebra
- Term
- Ratio
- Proportion
- Kilogram (kg)
- Gram (g)
- Pie chart

1:2 g A+B kg x

Activities

Organisation

Divide the children into 3 groups of mixed ability.

Warm up game
- Mental maths agility

Ask the children in their groups to count the different types of natural resources/features they can see. (For example: trees, grass, flowers, hedges, veg patch, birds, insects etc). Ask the children then to mentally multiply this number by 10, 100, 1,000, 10,000, 100,000 and 1,000,000. Ask the children to write their answers in chalk. What do they notice about the use of '0' (as a place holder)? How could they check their answers? (Place value grid). What would the answers be if 1 was subtracted from each number?

Nature's calculations

Resources

Ask the children in their groups to collect and sort 4 different natural resources. For example: sticks, twigs, leaves and pebbles.

Teach

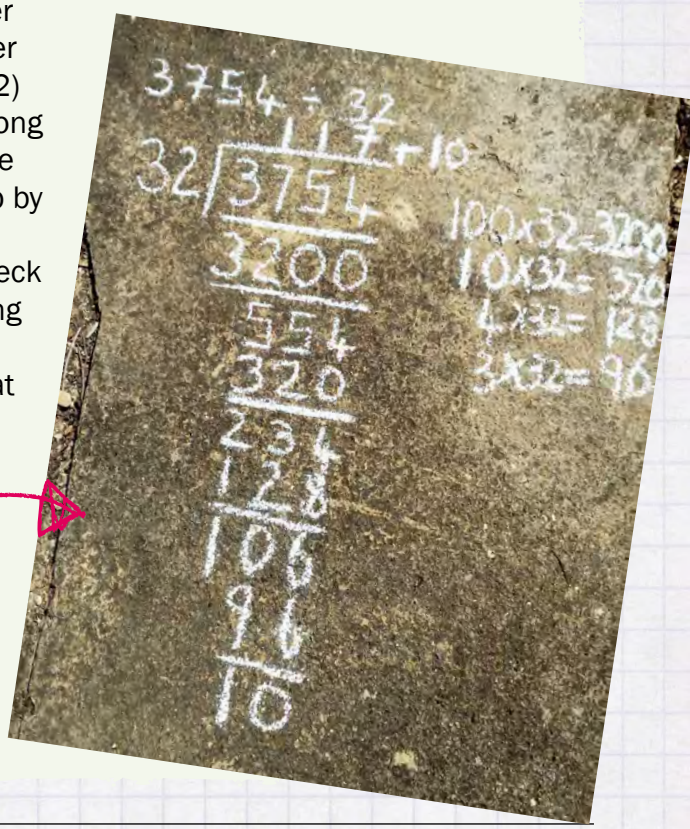
Explain to the children that each resource they have collected will have a different value. For example: 1 pebble = 1 unit, 1 leaf = 10, 1 twig = 100 and 1 stick = 1000. Based on the above values, demonstrate making a 4 digit number by selecting the resources. For example 3 sticks = 3,000, 7 twigs = 700, 5 leaves = 50, 4 pebbles = 4. Using column addition, demonstrate to the children how to add up this sum (3,754). Discuss with the children the 4 digit number you have calculated. What is the value of each digit? (Unit, ten, hundred, thousand).

Practise

Give the children time in their groups to select their resources and using column addition, calculate a 4 digit number.

Teach

Explain to the children they are now going to have a go at dividing their 4 digit number by a 2 digit number (number of children in the class – 32) using a written method of long division. Demonstrate to the children how to do this step by step. (See sample photo). Is there any remaining? Check the children's understanding of remainder. What if the number was rounded? What are the rules for rounding up or down?



Long division

Practise

Give the children time in their groups to have a go at calculating their sum. Does their answer have a remainder? What about rounding the number? The children could then have a go at working out the sums of others groups. Are they correct?

Nature's number patterns and sequences

Resources

Ask the children to help you collect some sticks, pebbles and leaves.

Teach

Explain to the children that they are going to play a game where they try to work out what comes next in the number sequence and explain the rule. Using sticks or pebbles as counters set out a variety of patterns where the following rules apply -

- Add the same number to get the next number
- Subtract the same number to get the next number
- Add a changing number
- Subtract a changing number
- Multiply by the same number each time
- Divide by the same number each time
- Add the previous two terms

What comes next in the sequence? What's the rule? Ask the children to help you continue the sequences and to write down the rule (see sample photos 1 & 2).

Practise

Allow the children time in their groups to create their own sequences and rules using sticks and/or pebbles. Can the other groups solve them? Can they identify the rule?

Teach

Explain now that you are going to create a pattern using sticks and pebbles this time. See sample photo 3 – what would be the next pattern in the sequence? What rule applies?

Practise

Allow the children time in their groups to create their pattern sequence and appropriate rule.

Photo 1

Photo 2

Nature's number patterns and sequences

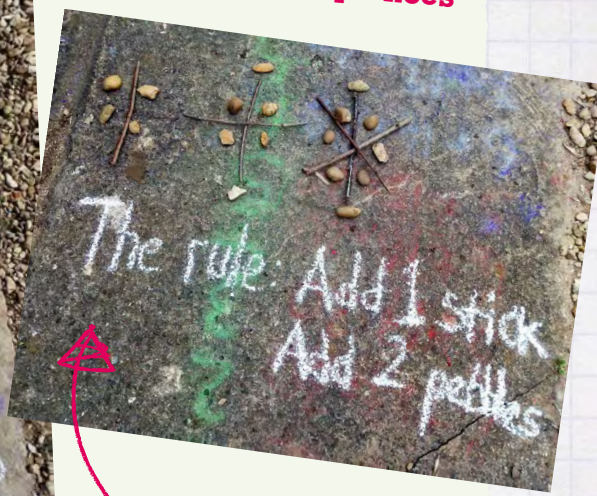


Photo 3

Bird feeder ratio and proportions

Resources

Chalk, scissors, string, pine cones or yogurt pots, bird feeder ingredients, weighing scales, mixing bowls, cutlery.

Teach

Explain to the children they are going to make a recipe for the birds to keep them well fed and to encourage birds into the school grounds. To make the recipe they will need to use their maths skills (measurement, proportion and ratio). Write out the ingredients needed onto the playground to make 10 bird feeders (120g lard, 150g seeds, 40g raisins, 40g of apple). What does "g" stand for? Can the children convert these amounts to kilograms? Demonstrate to the children how to measure out and mix the ingredients and how to attach string to a pinecone or yogurt pot (see sample photos).

Bird feeders

Make use of an old yogurt pot

Practise

Allow the children time in their groups to follow the recipe and make the bird feeders. Ask the children to then hang the bird feeders up in a suitable places in the playground.

Teach

Based on the recipe proportions set out above explain to the children they are now going to calculate the amount of ingredients that would have been needed if we were making 1, 5 or 9 bird feeders rather than 10 in each group. What strategies could we use to work this out? (Work out the amount for 1 bird feeder and then use multiplication to work out 5 and 9 feeders).

Practise

Allow the children time to calculate the required ingredient amounts for the above.

Evidence

Take photographs to show the children's learning of, long division, number sequences and ratio and proportion as evidence for their books and as part of a working wall for them to refer to.

Follow on activity suggestions

Long multiplication, short multiplication and division.

Statistics - Birds and pie charts

	This activity has been designed to allow for the collection of data over a period of time that suits your timetable.
Duration	This activity is designed to take approximately 15 minutes a week over a period of 6 - 10 weeks.
Data Collection	Explain to the children that each week they will be coming outside to record the birds that they see both in terms of species of bird and the number of a particular species. Can the children suggest a good way to record this data? (Tally chart). Each week the data will be collected and added to the previous week so that at the end of the data collection period the children will be able to calculate the total number of birds seen and how many of each species.
Teach	Explain to the children that they are going to use the data they have collected to construct a pie chart. What is a pie chart? Why would a pie chart be a good way to represent this data? Demonstrate to the children the steps needed to draw an accurate pie chart (use of a compass to draw a circle, calculating the frequency and total, calculating the degrees and use of a protractor).
Practise	Allow the children time to draw their own pie charts using the data they have collected.
Teach	Once the children have drawn the pie chart ask – what information can they gather from the chart? The most common bird? The least common bird?

Literacy lesson plan ideas

Wild Words

Contents

Year 1

Outdoor literacy lesson ideas

Reading - comprehension
Writing - composition
Writing - vocabulary, grammar and punctuation

Duration

This lesson plan contains a warm up game and four other activities.

It has been designed to either be delivered as a whole session of approximately 4 hours or as four individual sessions of approximately 1 hour each. Approximate timings for each activity have been given to help with planning.

Learning objectives

- To listen to and discuss a wide range of stories.
- To become familiar with key stories, fairy stories, traditional tales, re-telling them and considering their characteristics.
- To write sentences, discuss what they have written and read aloud their writing.
- To develop separation of words with spaces, capital letters, full stops, question marks and exclamation marks to demarcate sentences.

Resources

School resources

- Camera
- Clay
- Chalk
- Grey Squirrel photo
- Story of Squirrel Nutkin or The Tale of Squirrel Nutkin: click here
- Clip boards
- Pencils
- Strips of paper/card

Natural resources

- Sticks/twigs
- Leaves
- Other natural resources that are seasonally available

Vocabulary

- Fiction
- Non-fiction
- Story
- Punctuation
- Full stop
- Capital letter
- Question mark
- Exclamation mark

Activities

Organisation

Divide the children into 3 groups of mixed ability and explain to them that their literacy lesson is going to be outside today. Explain that they are going to listen to a story and then create their own piece of drama from the story. Also they are going to make an animal clay character, who is going to 'star' in their own story.

Warm up game
- Guess the animal

Explain to the children that you are going to describe an animal that lives in Britain and they have to try and guess what it is. Describe a squirrel – size, colour, what it looks like, where it lives, what it eats, how it moves without telling the children what it is. Can they guess? Ask the children to recall the words you used and write these in chalk on the playground for the children to refer to later. Can they come up with some more words to describe a squirrel? Discuss with the children their phonics knowledge to help them spell the words. Can they move like a squirrel?

Traditional tale – The story of Squirrel Nutkin

Resources

The story of Squirrel Nutkin or a copy of The Tale of Squirrel Nutkin
Click here

Teach

Explain to the children that you are going to read them a traditional tale, a piece of fiction – The story of Squirrel Nutkin by Beatrix Potter. Once you have read the story discuss with the children the following:

- The difference between fiction and non-fiction.
- The meaning of words such as respect, permission and manners and any other words that they are not sure about.
- The main characters in the story: Can they describe the characters? (Squirrel Nutkin and Old Brown). Write these words on the playground for the children to refer to later.
- The main events in the story:
  - Why do the squirrels go to Nut Island?
  - How did they get there?
  - Can the children remember all the different gifts the squirrels brought to Old Brown? (3 fat mice, 1 fat juicy mole, 7 fat minnows, 6 fat beetles, wild honey and a newly laid egg).
  - How does Squirrel Nutkin behave towards Old Brown?
  - How does Old Brown behave towards Squirrel Nutkin?
  - What happens to Squirrel Nutkin in the end?
  - Did he deserve to lose his tail? Did he learn his lesson?
- Can the children think of a different ending to the story?
- What did the children think about the story?
- Was it exciting?

Squirrel Nutkin – The play

Teach

Explain to the children that they are now going to have a go in their groups at acting out the story of Squirrel Nutkin. Discuss with the children the various roles and the sequencing of the story. (Main scenes – sailing to Nut Island, gifts to Old Brown, Squirrel Nutkin and Old Brown's falling out).

Practise

Allow the children time in their groups to work collaboratively to devise a short piece of drama and then to perform their piece to the rest of the class.

Teach

Provide feedback to each group as well as peer feedback. Discuss how they found working in a group? Could they be heard? What would they do differently next time? Could they use natural resources as part of the stage or as a prop?

Creating a character and setting

Resources

Squirrel photo, clay, sticks, twigs, leaves etc and chalk.

Teach

Explain to the children that they are now going to use clay to make their own squirrel character. Using a photograph of a squirrel, discuss with the children the key features of a squirrel (eyes, ears, head, body, limbs and bushy tail). Demonstrate to the children how to make a squirrel out of clay. (See sample photo below). Give your squirrel a name and write this in chalk on the playground. What do they notice about the first letter of the name? (Capital letters for names).

Practise

Provide each of the children with a lump of clay and allow them time to create their very own squirrel character using clay and other natural resources. What will they call it? Ask the children to write the name of their character using a capital letter. What type of character is their squirrel? (Shy, quiet, sleepy, funny, kind, forgetful, noisy, friendly, clever etc). Ask the children to describe the character of their squirrel and as they do, write the words in chalk on the playground for the children to refer to later as a word bank.

A clay squirrel

Teach

Explain to the children they are now going to create a story setting for their squirrel character. Where could the setting be? (Garden, wood, forest, playground, park etc). Demonstrate to the children using natural resources how to create a story setting (see sample photo). Once you have created the story setting, describe to the children the setting so they can listen to a good piece of description.

Practise

Allow the children time in their groups to create their own story setting of choice. Then ask them to describe their setting.

Story setting - squirrel in the park

Creating a story beginning

Resources	Pencils, clip boards, paper/card strips.
Teach	Explain to the children that they are now going to create the beginning of an exciting story about the character they have made. Discuss with the children what they think makes a good story? Show the children your squirrel and describe its character – for example; *Sophie Squirrel is adventurous and likes to climb higher than any of her other squirrel friends.* Explain that you are now going to write the start of your story. For example; *Sophie Squirrel bounced out of her soft bed and scurried out the door. She wanted to be the first to reach the huge oak tree. Today was the day for...* Discuss with the children what is needed to write a good sentence: capital letters, spaces between words, wow words, correct spelling, using 'and' and punctuation. Use your sentence to highlight features.
Practise	Allow the children time to create their sentences. Ask the children to check their sentence structure – capital letters, spelling, punctuation, finger spacing etc. Ask the children to read aloud their sentences. Discuss with the children the sentences they have created. What do the other children think? Can they be improved?
Evidence	Take photos and/or record the children's drama pieces. Photograph the children's squirrels and story settings as evidence for books and/or to make a display to include their sentences.
Follow on activity suggestions	Children to continue with their squirrel stories either as a shared or individual piece of writing. Children could research and create a piece of non-fiction writing about squirrels or perhaps write a poem about their squirrel character.

Photo: Steve Waterhouse

Year 2

Outdoor literacy lesson ideas

Reading - comprehension
Writing - composition
Writing - vocabulary, grammar and punctuation

Duration

This lesson plan contains a warm up game and three other activities.

It has been designed to either be delivered as a whole session of approximately 3 hours or as three individual sessions of approximately 1 hour each. Approximate timings for each activity have been given to help with planning.

Learning objectives

- Listening to, discussing and expressing views about a wide range of contemporary and classic poetry.
- To build a repertoire of poems learnt by heart, appreciating these and reciting some with appropriate intonation to make meaning clear.
- To write poetry.

Resources

School resources

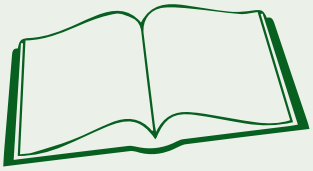
- Camera
- The Rabbit Band by Renee M. LaTulippe Click here
- Clay
- Chalk
- Clip boards
- Paper
- Pencils
- Rabbit photo

Natural resources

- Sticks/twigs
- Pebbles
- Leaves
- Other natural resources that are seasonally available

Vocabulary

- Poetry
- Rhyme
- Non-rhyming
- Intonation
- Performance
- Voice
- Pace
- Book



Activities - Poetry

Organisation

Divide the children into 3 groups of mixed ability and explain to the children that their literacy lesson is going to be outside today. Explain that they are going to listen to some poetry and become performing poets themselves as well as have a go at writing their own poems.

Warm up game
- Move like a...

Explain to the children that they are going to play a game where you call out an animal found in nature in Britain and the children need to move like that animal. For example - move like a rabbit, squirrel, fox, hedgehog, badger, deer, fox etc. When you call out "freeze", the children need to freeze as that particular animal until you call out the next animal. Can the children use a word to describe that animal. Can the children think of other creatures that live in Britain? Can they move like it? Can they think of a word that describes that creature?

Animal poetry

Resources

A copy of The Rabbit Band poem Click here, pen and paper.

Teach

Explain to the children that you are going to read them a poem about an unusual group of rabbits who form a band. Read aloud "The Rabbit Band" by Renee LaTulippe. Firstly, in a very dull way. What do the children think of your performance? Ask your children how you can make it better? (Intonation, pace, facial expressions, actions). Read the poem a second time using their suggestions. What do they think this time? Discuss with the children the poem – verses, rhyme, sounds, use of voice etc. What do they think of the poem? Do they like it? Why? How would it differ if it was written as a story?

Performance poetry

Resources

The Rabbit Band poem, pen and paper.

Teach

Explain to the children they are going to perform the poem "The Rabbit Band" as a whole class. Discuss the meaning of performance and what makes a good performance? Take each line of the poem and discuss with the children how they think the poem should be performed? Ask the children to think about: different voices, actions, pace, volume, who and how each line should be performed to make it into a performance. Could they use a certain area outside as the stage? Does nature provide any props? Make a note of these ideas.

Practise

Give each of the three groups one verse of the poem and allow them time to develop their performance of the verse, reminding them to consider different voices, actions, parts etc. Allow the children time to perform their verse to you and the rest of the groups. Offer feedback. Does the whole poem work as a performance? How could it be made better? Allow more time to practise before recording the whole performance.

Creating a character and setting

Resources

Clay, natural resources and chalk.

Teach

Explain to the children that they are now going to make their own rabbit character from clay. This character will be their inspiration for their own poems. Demonstrate to the children how to make a rabbit discussing its physical characteristics – long ears, head, nose, eyes, whiskers, body, limbs, feet and fluffy tail (see sample photo).

Practise

Allow the children time to make their own rabbit character. Ask the children to describe their rabbit. What sort of character is it? (Cheeky, naughty, funny, silly, sensible, mischievous etc).

A clay rabbit character

Teach

Explain to the children that they are going to create, out of natural resources, a setting for their rabbit character. (See sample photo). Discuss with the children where they might see rabbits? (Park, woods, garden, side of the road etc). Demonstrate how to make a story setting from natural resources and describe the setting to the children.

Practise

Allow the children time in their groups to create their own settings and describe these to other groups.

A rabbit in the vegetable garden

Creating a poem – The Rabbit Disco

Resources	Clay rabbit characters, settings, paper, clip boards and pencils.
Teach	Explain to the children that they are now going to become poets, writing their own poem using their rabbit character for inspiration. Ask the children to imagine their characters are at "The Rabbit Disco" listening and dancing to "The Rabbit Band". How will they dance? (Hop, bop, groove, move, twist, waltz, leap, creep, bounce etc). Demonstrate to the children by writing a short poem in chalk on the playground. For example: *The Rabbit Disco* *Down at the Rabbit Disco* *Every rabbit is in the groove* *Hopping happily and leaping* *With every move!* *The Rabbit band plays badly,* *But still the rabbits hop.* *For these rabbits dance so gladly* *No matter if the bands a flop.* Discuss with the children the example poem. Remind the children that a poem does not have to rhyme to be a poem, use of punctuation etc.
Practise	Allow the children time to create their own poem. Children can use the opening line of the poem – Down at the Rabbit Disco or make up their own first line and so on.
Evidence	Record the children's performance of "The Rabbit Band"and photograph the clay rabbit characters in their poem settings. "The Rabbit Disco" poems could form part of a display.
Follow on activity suggestions	Children to learn by heart "The Rabbit Band" and perform in assembly or to another class. Children to write a non-fiction piece of writing about rabbits or a story about their rabbit.

Photo: Jon Hawkins - Surrey Hills Photography

Year 3

Outdoor literacy lesson ideas

Reading - comprehension
Writing - composition
Writing - vocabulary, grammar and punctuation

Duration

This lesson plan contains a warm up game and four other activities.

It has been designed to either be delivered as a whole session of approximately 3 hours or as four individual sessions of approximately 45 minutes each. Approximate timings for each activity have been given to help with planning.

Learning objectives

- To listen and discuss non- fiction text.
- To retrieve and record information from non-fiction.
- To plan, draft and write; to evaluate and edit writing.
- To read aloud their writing to the whole class.
- To use a range of conjunctions, adverbs and prepositions to express time.

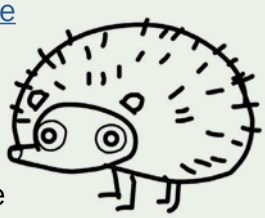
Resources

School resources

- Camera
- Cones
- Chalk
- Clip boards
- Paper
- Pencils
- Coloured pencils
- Clay
- Hedgehog photo
- Hedgehog fact cards (These can be made by using the following websites: Click here or Click here

Natural resources

- Sticks/twigs
- Leaves
- Other natural resources that are seasonally available



Vocabulary

- Fiction
- Non-fiction
- True
- False
- Heading
- Sub-heading
- Draft
- Evaluate
- Edit
- Adjective
- Conjunction
- Verb
- Preposition
- Habitat
- Habits
- Nocturnal
- Species

Activities - All about hedgehogs

Organisation	Divide the class into 4 groups of mixed ability and explain to the children that they are going to have their literacy lesson outside today. During the lesson they will be: finding out all about hedgehogs, discussing their habits and habitat, creating a fact file, making their own hedgehog and writing a diary account of the night in the life of a hedgehog!
Warm up game ***- True or false?***	
Resources	True and false hedgehog fact cards and chalk.
Teach	Before starting the game mark on the playground with chalk the words 'true and false'. Explain to the children that you are now going to read them some interesting facts about hedgehogs. Some will be true but some will be false. The children will have to decide and move to the area marked true or false. What have the children discovered about hedgehogs?

Non-fiction hedgehog facts

Resources	Hedgehog fact cards and chalk.
Teach	Explain to the children that by using the 'true' hedgehog fact cards they are going to create a class fact file on the playground. Discuss with the children: the difference between fiction and fact and what makes a good fact file - heading, sub-headings, grouping facts, interesting facts, paragraphs, pictures and diagrams. Agree with the children how they would like to organise their class fact file and ask the children to group the facts. Can they come up with a sub heading for each group of facts? Then start the fact file off by asking the children to suggest an interesting heading, for example – *"Hedgehog Blog"*. Ask the children to help you write in chalk a short introduction, setting out some general facts about hedgehogs - e.g. number of species, where in the world they are found. Then assign each group a section to write about, based on a group of facts.
Practise	Allow the children time in groups to come up with a suitable sub-heading and present their facts in an interesting and clear way. Do they want to add pictures, captions or diagrams?
Teach	Discuss with the children what they have produced. Does it work? Is it clear and interesting? What would they change next time?
Evidence	Take a photo of the hedgehog fact file.

Hedgehog character and setting

Resources

Chalk, clay, twigs, leaves and any other natural resources that are available seasonally.

Teach

Explain to the children they are now going to make their own hedgehog character from clay and natural resources. Discuss with the children the physical characteristics of a hedgehog - nose, eyes, ears, body shape, spines etc and demonstrate how to make a hedgehog. (See sample photo). As you make the hedgehog describe to the children its physical characteristics.

Clay hedgehog character

Practise

Allow the children time to create their own hedgehog characters.

Teach

Discuss with the children the character of your hedgehog. Can they help you come up with some adjectives to describe the physical characteristics of your hedgehog? For example – nut brown eyes, a pointy nose and sharp spines. What type of character is your hedgehog? (Sleepy, slow, fast, alert, shy, quiet, noisy etc).

Practise

Allow the children time to describe their own hedgehog character and write these descriptions in chalk.

Teach

Explain to the children they are now going to create, out of natural resources, a setting for their hedgehog character. Discuss with the children where hedgehogs are found. (Habitat - garden, woods, hedgerows, fields etc). Demonstrate how to make a setting from natural resources (see sample photo).

Practise

Allow the children time to create and discuss their own setting for their hedgehog.

Story setting - hedgehog in the hedgerows

A diary entry – A night in the life of a hedgehog

Resources

Chalk, clip boards, pencils, coloured pencils, paper.

Teach

Explain to the children that they are now going to imagine they are a hedgehog for a night (nocturnal animal). Discuss with the children what it would be like to be a hedgehog – what would you see, hear, smell, taste and touch? What would you feel? How would you move? Where would you live? What would you eat? Who would you be afraid of? How would you protect yourself? What would you be doing during the day? Write their suggestions in chalk on the playground, for the children to refer to later.

Next, explain to the children that they are going to have a go at writing a diary account of a night in the life of a hedgehog. Check the children's understanding of a diary. Discuss with the children the features of a dairy entry – date, written in the first person (I), past tense, informal tone, feelings and reflection, paragraphs. Also, the use of conjunctions to express time. Why will these be helpful in a diary entry? (To tell the reader when something is happening). Can you and the children come up with a list to help them in their writing?

For example – when, as, until, while, after, after that, after a while, next, then, first, second, before long, meanwhile, suddenly, finally, at the end etc.

Demonstrate to the children how to start a dairy entry by writing in chalk the start, for example:

25th May 2017

I woke up as the bright North star appeared in the night sky, stretched my limbs and unfurled my spines. Quickly, I realised that I was famished and needed to find a tasty worm or two. With that in mind, I pushed away the leaf pile and set off to scavenge in the hedges beyond, with my heart pounding. As…

Discuss with the children your beginning – use of first person, past tense, informal tone, feelings and time conjunctions. Why might my heart be pounding? (Predators, cars, humans). Can the children help you with your next sentence?

Practise

Allow the children time to create their own diary entry. Reminding the children to plan, draft and write their diary account including the features of a diary as discussed. Once the children have created their first draft, allow the children time to read their diary account out to a partner. What do they think? Can they suggest improvements? Then allow the children time to edit their work using a coloured pencil. Finally allow the children to read their edited work out to their partner. What do they think? Offer feedback.

Evidence	Children's hedgehog fact file, characters and setting and diary accounts to be used for books and/or for a display.
Follow on activity suggestions	Children to find further facts about hedgehogs to extend their class fact file, write up their diary accounts using their "best" handwriting and illustrate these with pictures. What about a hedgehog poem.

Photo: Tom Marshall

Year 4

Outdoor literacy lesson ideas

Reading - comprehension
Writing - composition

Duration

This lesson plan contains a warm up game and four other activities.

It has been designed to either be delivered as a whole session or as four individual sessions. Approximate timings for each activity have been given to help with planning.

Learning objectives

- To listen to and discuss a wide range of fiction.
- To increase their familiarity with a wide range of books, including fairy stories, and to re-tell these orally.
- To plan, draft and write.
- To read aloud and perform, showing an understanding of intonation, tone, volume and action.
- To use a range of conjunctions, adverbs and prepositions to express time.

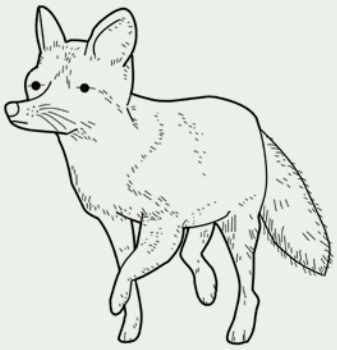
Resources

School resources

- Camera
- Chalk
- Clay
- Apples
- Bird seed
- Clip boards
- Paper
- Pencils
- Photo of fox
- Photo of hedgehog
- Copy of Aesop's Fable – suggested websites: Click here or Click here

Natural resources

- Sticks/twigs
- Leaves
- Other natural resources that are seasonally available



Vocabulary

- Fiction
- Fable
- Moral
- Personification
- Metaphor
- Simile
- Intonation
- Tone
- Volume
- Action

Activities - The fox and the hedgehog

Organisation

Divide the class into mixed ability pairs. Explain to the children that they are going to have their literacy lesson outside today where they will be: listening to and discussing a fable, creating fable story characters and settings and writing and performing a fable.

Warm up game
- The "yes/no" game

Duration - 15 minutes

Explain to the children that their writing and performance is going to be based on two very different animals found in nature in Britain. Explain that the children are going to have to work out what the animals are by asking questions, to which you can only reply YES or NO. Can the children guess what these animals are? (A fox and a hedgehog).

Aesop's Fable – The Fox and the Hedgehog

Duration - 45 minutes

Resources

Copy of the Fox and the Hedgehog fable.

Teach

Before you read the fable, discuss with the children their understanding of what a fable is. (A short story, typically with animal characters, conveying a moral). What is a moral? (Concerned with what is right or wrong).

Read the fable of the Fox and the Hedgehog. Can the children identify the moral? (Better to accept a lesser evil). Do the children agree with this? Do they know any other fables? (The Hare and the Tortoise). What morals do they contain? Discuss with the children the features of the fable (animals have human characteristics, benefits of following the moral and consequences of not and usually an outdoor setting).

Creating the fox and hedgehog characters

Duration - 45 minutes

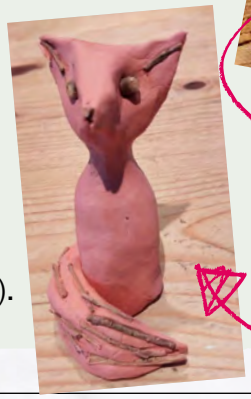
Resources

Fox and hedgehog photos, clay, apples cut in half, bird seed, sticks, twigs, leaves and other natural resources that are seasonally available.

Teach

Explain to the children they are now going to have a go in their pairs at making the fox and hedgehog characters in the fable they have just listened to. The Fox from clay and the Hedgehog from apples and bird seed. Discuss with the children the physical features of a fox and a hedgehog by showing them the photos and then demonstrate how to make a simple clay fox and an apple and bird seed hedgehog (see sample photos).

Apple and seed hedgehog for the birds



Clay fox character

Practise

Allow the children time in their pairs to make one fox and one hedgehog. Then ask them each to describe the physical characteristics of their animals to their partner.

Teach

Explain to the children that the hedgehog character will later be left as food for the birds. Ask the children to look out for what type of birds come to feed over the next week or two? Can they name any birds they think they might see?

Creating a setting for the fox and hedgehog characters

Duration - 1 hour

Resources

Chalk, sticks, twigs, leaves and other resources seasonally available. Ask the children to help you collect these.

Teach

Explain to the children that fables are usually set in an outdoor setting and that the children are going to create a setting for their characters to be in. What sort of setting do they want it to be? (Woodland, meadow, by a river, lake, pond, farm, mountain etc). First, demonstrate to the children how to make a natural frame from sticks. Then, using the collected natural materials, create a setting for your characters. (See sample photo).

Practise

Allow the children time in their pairs to agree the setting of their fable and then allow them time to create a frame and the detail of the setting from collected natural resources.

A story setting for the fox and hedgehog

Teach

Explain to the children that they are now going to write in their pairs a short piece of descriptive writing about the setting they have just created. Discuss with the children the following: interesting vocabulary, use of the senses, personification, metaphor and simile. Ask the children to make suggestions, and write these in chalk for the children to refer to later. Using the children's suggestions write in chalk a short piece of descriptive writing about the setting you have created.

Practise

Allow the children time in their pairs to write a description of their setting and then to read it out to the class. What do you and the other children think?

The fox and the hedgehog performance

Duration - 1 hour	
Teach	Explain to the children that they now have the following: characters, setting and the moral of the fable. The next challenge is for the children in their pairs to create a short piece of drama, acting out the fable. Discuss with the children what they need to include to make it a performance - • Setting the scene • The moral • Actions • Intonation • Volume • Tone • Dialogue
Practise	Allow children time in their pairs to create their performance and to perform it to the whole class. Provide feedback and allow for peer feedback.
Evidence	Take photos of the children's fox and hedgehog characters and settings and record their drama performances. The children's descriptive writing could be used in books or displayed.
Follow on activity suggestions	Turning the fable into a play script, writing their own fables or writing a fact file on either of the animals. What about a debate - the fox - to eradicate or protect?

Photo: Don Sutherland

Year 5

Outdoor literacy lesson ideas

Reading - comprehension
Writing - composition

Duration

This lesson plan contains 4 activities.

It has been designed to either be delivered as a whole session or as four individual sessions. Approximate timings for each activity have been given to help with planning.

Learning objectives

- To increase their familiarity with a wide range of books, including books from other cultures.
- To draft and write descriptive characters and settings.
- To prepare plays to read aloud and perform, showing an understanding through intonation, tone and volume.
- To use a dictionary and thesaurus.

Resources

School resources

- Camera
- Chalk
- Clip boards
- Pencils (3 different colours per group)
- Paper
- Clay
- Dictionaries
- Thesauruses (7 copies)
- Badger photo
- Rabbit photo
- Copies of - The Farmer and the Badger Click here

Natural resources

- Sticks/twigs
- Leaves
- Other natural resources that are seasonally available

Vocabulary

- Intonation
- Tone
- Volume
- Motive
- Moral
- Thesaurus
- Dictionary
- Characteristics
- Story setting
- Metaphor
- Personification
- Simile
- Scene
- Stage directions
- Dialogue
- Colon

Activities - All about badgers

Organisation

Divide the class into mixed ability groups of 4 children.

Explain to the children that today their literacy lesson will be outside and it will be based around an animal found in nature in Britain.

The activities will include: listening to a story from a different part of the world, creating a character in the story from clay, making the story setting from natural resources and turning the story into a play script.

Warm up game
- The "YES/NO" game

Explain to the children that they will need to ask questions to find out what the animal is. You can only answer yes or no to their questions. Can the children work out what the animal is?

Duration - 15 minutes

A Japanese folk tale – The Farmer and the Badger

Duration - 40 minutes

Resources

Copy of the Farmer and the Badger.

Teach

Read the children the story, using a variety of intonation, tone and volume to engage the children. Discuss with the children how you told the story? Did it make for a good performance? What do they think about the story? What do they think of the characters? What motives do the characters have to behave in the way that they do? Does the story have a moral? Is the story similar to any other stories they know?

Clay badger character descriptions

Duration - 1 hour

Resources

Clay, natural resources, badger photo.

Teach

Explain to the children that they are now going to have a go at creating the badger character in the story from clay. Show the children a photo of a badger and discuss the physical characteristics - head, eyes, ears, body shape, claws etc. Demonstrate how to make a simple badger using clay and other available natural resources (see sample photo). As you make the badger, discuss with the children the characteristics and behaviour of badgers (bad eye sight, superb sense of smell, distinctive black and white markings, live in social groups, homes underground called setts etc).

Practise

Allow the children time to create their clay badgers.

Clay badger

Charcoal or paint to give those badger strips

Resources Chalk, dictionaries, thesauruses.

Teach Explain to the children that they are now going to describe the characteristics of the badgers they have made. Can they make the sentences interesting with ambitious vocabulary? To help them do this, the children can use a dictionary to help with spelling and to check the meaning of a word. Also a thesaurus to give a wider variety of words. Check the children's understanding of how to use a dictionary and a thesaurus.

Practise Allow the children time in their groups to write in chalk a description of the badger and to read their sentences out to you and other groups for feedback.

Setting the scene

Duration - 1 hour

Resources Dictionaries and thesauruses, sticks, twigs, leaves and other natural resources that are seasonally available.

Teach Explain to the children that they are now going to create the story setting for the badger they have made. Can the children remember where the story was set? (Remote farm in the mountains). Demonstrate to the children how to make a story scene from natural resources – see sample photo (include scenery, weather and all the characters).

Story setting for The Farmer and Badger

Practise Allow the children time in their group to collect natural materials and create the story setting of the Farmer and the Badger.

Teach Explain to the children that they are now, in their groups, going to write a description of the story setting. Ask for suggestions for descriptions of the mountains, fields, weather. Can they come up with a metaphor and/or a simile? Write these in chalk for the children to refer to later. Write a beginning, for example:

In the craggy snow-capped mountains there nestled a ramshackle farm house, where a poor rice farmer lived with his kind and gentle wife. Their nearest neighbour was a cruel character, a badger, who was as mean as mean could be.

One winter's day, as the snow fell from the sky creating a thick carpet of white, the hard-working farmer looked out his window, to see the badger trampling his rice crop. Angrily, like a gathering storm, he rushed outside and...

Practise

Allow the children time in their groups, with the help of dictionaries and thesauruses, to write in chalk a short but interesting description of the setting of the story. Allow the children time to read out their descriptions and offer feedback. What do the other children think?

Play scripts of the farmer and the badger

Duration
- 1 hour 30 minutes

Resources

Copies of the story (one for each group) chalk, clip boards, pencils and paper.

Teach

Explain to the children that they are now going to have a go in their groups at turning the story into a play script. First of all, discuss with the children the key events in the story. (The farmer and the badger falling out and the farmer catching the badger, the wife and the badger soup scene, the rabbit's revenge for the death of the farmer's wife and the rabbit and the farmer's final conversation).

Practise

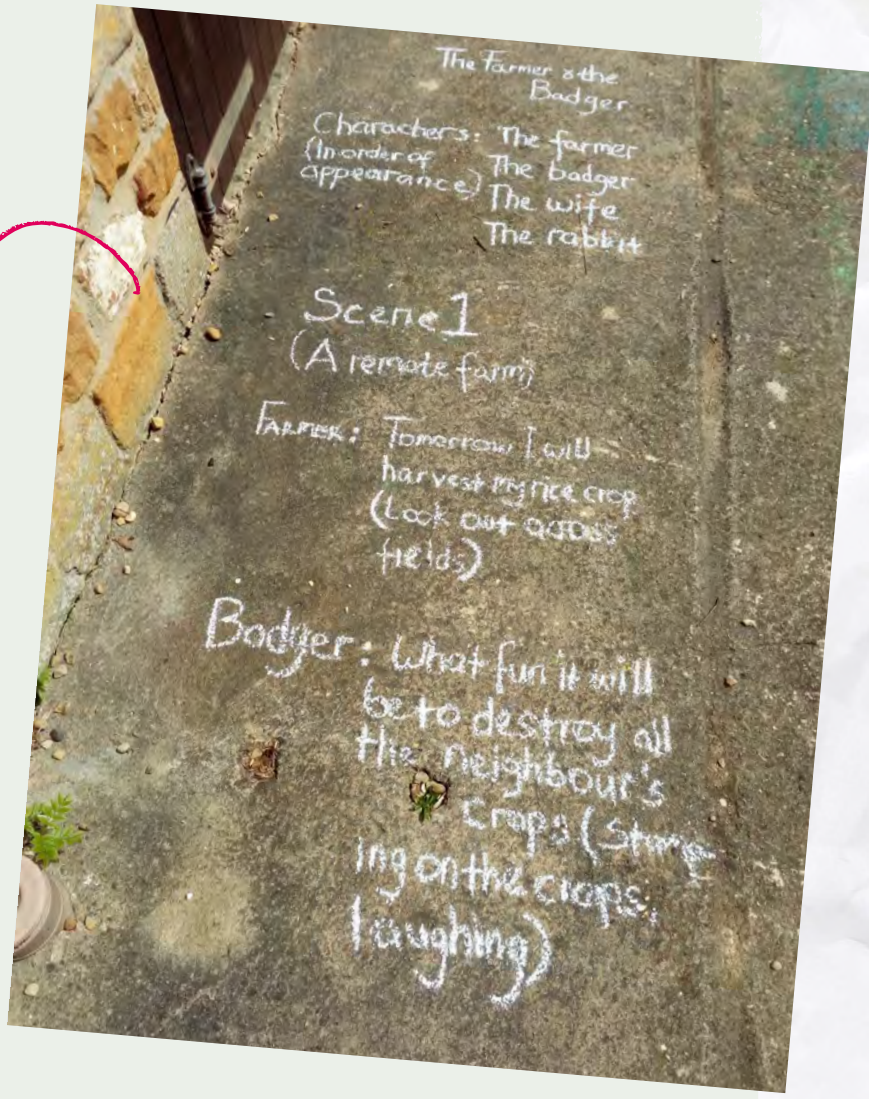
Allow the children time in their groups to read the story again, noting the key important events.

Teach

Explain to the children that they are next going to learn how to set out a story in the form of a play script. Discuss with the children if they know any of the features of a play script? (Title, character list, stage directions, dialogue, scenes). Discuss with the children each one of these features and set the features out on the playground, for the children to refer to later.

	The Farmer and the Badger (title of the play)
Characters in order of appearance	*Character list – sets out who are the actors and what part they are playing.*
Scene	*Sets the scene of the play and says what is happening. Can be used to change location and time.*
Dialogue	*The speech between the actors. This is set out in a particular way with the character's name on the left hand side of the page, no speech marks and speech is separated by the use of a colon and a new line.*
Stage Directions	*They are either in brackets or italics and give instructions to the actor on how to speak and/or act.*

Practise	Once you have been through the features of the play script, allow the children time in their groups to identify the possible scenes, stage directions and dialogue in the story. Ask the children to mark these using different coloured pencils.
Teach	Demonstrate to the children how to set out the story as a play script (see sample photo).



Play script

Practise	Allow the children time in their groups to write on paper their play scripts. Have they included all the features?
Evidence	Photos of the children's clay badgers and story settings, descriptive character and scene writing and copies of their play scripts for use as a display and for book evidence.
Follow on activity suggestions	Children to have an opportunity to learn and perform their play scripts, to research and note facts about the badger, to create a non-fiction piece of writing about the badger. What about a debate – Is the badger a pest or a treasured animal in Britain?

Photo: Elliot Smith

Photo: Richard Burkmar

Year 6

Outdoor literacy lesson ideas

Reading - Comprehension
Writing - Composition

Duration

This lesson plan has 4 activities.

It has been designed to either be delivered as a whole session or four individual sessions. Approximate timings for each activity have been given to help with planning.

Learning objectives

- To read a wide range of poetry.
- To learn a wider range of poetry by heart.
- To prepare poems to perform, showing understanding through intonation, tone and volume so that meaning is clear to an audience.
- To plan, draft and write poetry.

Resources

School resources

- Camera
- Chalk
- Clip boards
- Pencils
- Clay
- Copies of Edward Lear's poem – The Owl and the Pussy Cat Click here
- Tawny Owl photo

Natural resources

- Sticks/twigs
- Leaves
- Other natural resources that are seasonally available

Vocabulary

- Intonation
- Tone
- Volume
- Rhyme
- Performance
- Audience

Activities - Owls

Organisation

Divide the class into 3 groups of mixed ability.

Explain to the children that their literacy lesson will be outside today and it's going to be all about owls. What do the children know about owls? Have they ever seen an owl? What would they like to find out about owls? Make a note of these, for the children to investigate later.

Explain to the children that today they are going to: listen to a nonsense poem about an owl, prepare the poem as a class to perform to a real audience at a later date and become poets themselves, as they create the characters, write and perform their own poems.

Poetry warm up games

Duration - 45 minutes

Resources

Chalk.

Teach

Explain to the children that you are going to call out words that are associated with British wildlife and the children in their groups are going to come up with as many rhyming words as possible for that word. Examples could include: Birds such as an owl, woodpecker, Blue Tit, Swift, Blackbird. Animals – such as fox, deer, hedgehog, hare, mole. Minibeasts - bee, snail, ant, slug, worm etc.

Practise

Allow the children time to write any words that rhyme.

Teach

Explain that the children are now going to use their rhyming words to start to write a poem about British wildlife. Demonstrate how by choosing just two rhyming words you can start to write poetry. For example – owl and towel.

Upon a branch perched an owl

Wrapped up in feathers like a fluffy towel.

Practise

Allow the children time in their groups to write some rhyming sentences about different creatures found in nature in Britain.

Owl poetry – The Owl and the Pussy Cat by Edward Lear

Duration - 45 minutes

Resources

Four copies of the poem - The Owl and the Pussy Cat.

Teach

Explain to the children that they are going to listen to the poem, the Owl and the Pussy Cat by Edward Lear. Read the poem to the children using a range of appropriate intonation, tone and volume as well as actions (facial expressions, gestures), to make the reading a performance. Do the children know this poem? What do they think

about the way you read the poem? What did they think about the use of your voice and actions? Discuss the use of intonation, tone, volume and actions. What do they think could be improved? Have a go at reading the poem again, this time incorporating their suggestions. Next, explain to the children that they are going to have a go at starting to put together a class performance of the poem, with each group performing one of the verses.

Practise

Allow the children time in their groups to devise a performance for their verse of the poem and to then perform it, using all the devices discussed. Allow for feedback. Does the performance work as a whole? Can the children suggest improvements? Explain to the children that they will have time to practise and polish their performances before performing it to an audience.

Owl and ...clay characters and settings

Duration - **45 minutes**

Resources

Owl photo, clay and natural resources that are seasonally available.

Teach

Explain to the children that they are now going to create, from clay and available natural resources, the owl character from the poem. Demonstrate how to do this, by showing the children a picture of an owl and discussing the physical features – large eyes, small ears, feathers, wings, beak, claws (see sample photo).

Practise

Allow the children time to each make their owl characters.

Teach

Explain to the children that they are now going to make another character from clay to go with the owl. They can choose what it is, provided it is a creature found in nature in Britain. This character will then be the other character in the poem they will write. For example – The Owl and the Slug.

Practise

Allow the children time to make their creature.

Clay owl

Poem setting

Duration - 45 minutes

Resources

Sticks/twigs, leaves and any other natural resources that are seasonally available.

Teach

Explain to the children they are now going to create a setting for their poems. Where will they set their characters? Using natural resources demonstrate how to make a poem setting. (See sample photo below).

Practise

Allow the children time to create their poem settings.

Poem setting for the owl and the ...

The Owl and the ...poem

Duration - 1 hour

Resources

Copies of the Owl and the Pussy Cat poem, clip boards, pencils, paper.

Teach

Explain to the children that they are now going to write their own poem based on the two characters they have made from clay and their poem setting. Before they start, discuss the Owl and the Pussy Cat poem and ask the children to answer the following questions:

Where are the characters going? To sea- to the land where the Bong trees grow.

How are they getting there? By pea green boat.

What did they take? Honey and plenty of money.

What did they say to each other? Love and marriage.

What did they find? A ring.

How did they celebrate? By dancing by the light of the moon.

Now ask the children to answer the above questions for their characters.

Practise	Allow the children time to think of and make up the answers to the above questions and write these down for the children to refer to later. For example – *Where?* The land of the Coconut tree. *How?* By sea in a brand new red tug. *What to take?* Sweets and treats. *What did they talk of?* Friendship. *What did they find?* Chocolate. *Celebrate?* A feast.
Teach	Explain to the children they are now going to turn their ideas into a poem. Demonstrate this by writing a verse. For example: *The Owl and the Slug* *The owl and the slug went to sea* *In a brand new red tug,* *They took some sweets and plenty of treats* *All wrapped up in the wings of a giant bug.* Can the children help you with the next verse?
Practise	Allow the children time to write their own poems and then to read them out loud. Offer feedback from yourself and the other children.
Evidence	Record children's performance of The Owl and the Pussy Cat and their own poems. Children's clay characters and poem settings can form part of a display along with their own poems.
Follow on activity suggestions	Children to research owls and to create a non-fiction piece of writing. Children to perform the Owl and the Pussy Cat poem in an assembly. What about writing a letter to an organisation supporting their work in the conservation of owls?

Photo: Damian Waters/Drumimages.co.uk

Websites

Supporting outdoor numeracy teaching

Website Name	Access	Areas of study	Resources
CREATIVE STAR LEARNING creativestarlearning.co.uk/c/maths-outdoors	FREE	• Symmetry investigations • Shape explorations • Angles outside • Pattern work • Number activities • Measurement • Money • Data handling activities • Open ended maths investigations • Topic related maths – minibeasts	• Downloadable lesson ideas • Blog with links to a wide variety of maths activities • Messy Maths book (published in May 2017)
THE YORKSHIRE WILDLIFE TRUST - Wild About York! Education Pack www.ywt.org.uk/discover-learn/local-environmental-education/wild-about-york	FREE	• Number activities • Shape • Estimation • Measurement • Angles • Position and direction • Data collection	• A downloadable 2 hour lesson plan for each year group in Key Stage 1 and 2 • Downloadable resources linked to lesson plans
THE MUDDY PUDDLE ACADEMY www.muddypuddles.com/customer/pages/muddyacademy **THE MUDDY PUDDLE BLOG** blog.muddypuddles.com/category/schools	Membership to the Academy costs £60.00 per annum FREE Blog	The blog has lesson plans and activity sheets on: • Numbers • Multiplication • Measurement • Estimation • Angles • Data collection	Membership gives the following – • 4 outdoor learning lesson plans per month in line with key Ofsted objectives for Early Years, KS1 and KS2 • New activity sheets every month to download and print for the class • 6 sets of 35 stickers to reward pupils for outdoor learning • 4 seasonally themed classroom certificates • Access to discounts from a large range of Outdoor Learning partners

Website Name	Access	Areas of study	Resources
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS (NCETM) www.ncetm.org.uk	**FREE**		• Allotment maths • Kite making maths • A maths scavenger hunt
THINKING CHILD **OUTDOOR NUMERACY IDEAS – DIGITAL DOWNLOAD** www.thinkingchild.org.uk/outdoor-numeracy-ideas	**£10.99**	• Number and Place Value • Addition • Subtraction • Multiplication • Division • Geometry (shape) • Geometry (position) • Measurement • Ratio • Algebra • Problem solving	• Over 100 downloadable lesson plans for Key Stage 1 and 2 • Sufficient material to allow each year group to enjoy an outdoor maths session every week of the year • Designed for minimum preparation and to use resources that are easily accessible in most schools
WILD TIME LEARNING https://wildtimelearning.com	**FREE AS A SUPPORTER**	• Shape • Angles • Geometry (position) • Measurement • Equations • Problem solving	• Access to an online library of downloadable lesson activities
TES **Primary teaching resources - 5 to 11 years** www.tes.com/teaching-resources/hub/primary/	**MANY RESOURCES ARE FREE**	Wide range of outdoor numeracy lesson ideas covering a variety of areas of learning	Wide range of lesson resources

Website Name	Access	Areas of study	Resources
PINTREST 1000+ images of outdoor learning https://uk.pinterest.com/tamborambo/outdoor-learning	FREE	Wide range of creative outdoor numeracy activities	Good visual aids
RSPB Teaching resources www.rspb.org.uk/ourwork/teaching/resources/index.aspx	FREE	• Data collection • Fractions	Downloadable lesson ideas for Key Stage 1 and 2

Practical books to help with outdoor learning

The Stick Book
By Jo Schofield and Fiona Danks

Dirty Teaching – A Beginner's Guide to Learning Outdoors
By Juliet Robertson

Messy Maths
By Juliet Robertson

Forest School for All
By Sara Knight

Primary Outdoor Learning
By Paul Barron

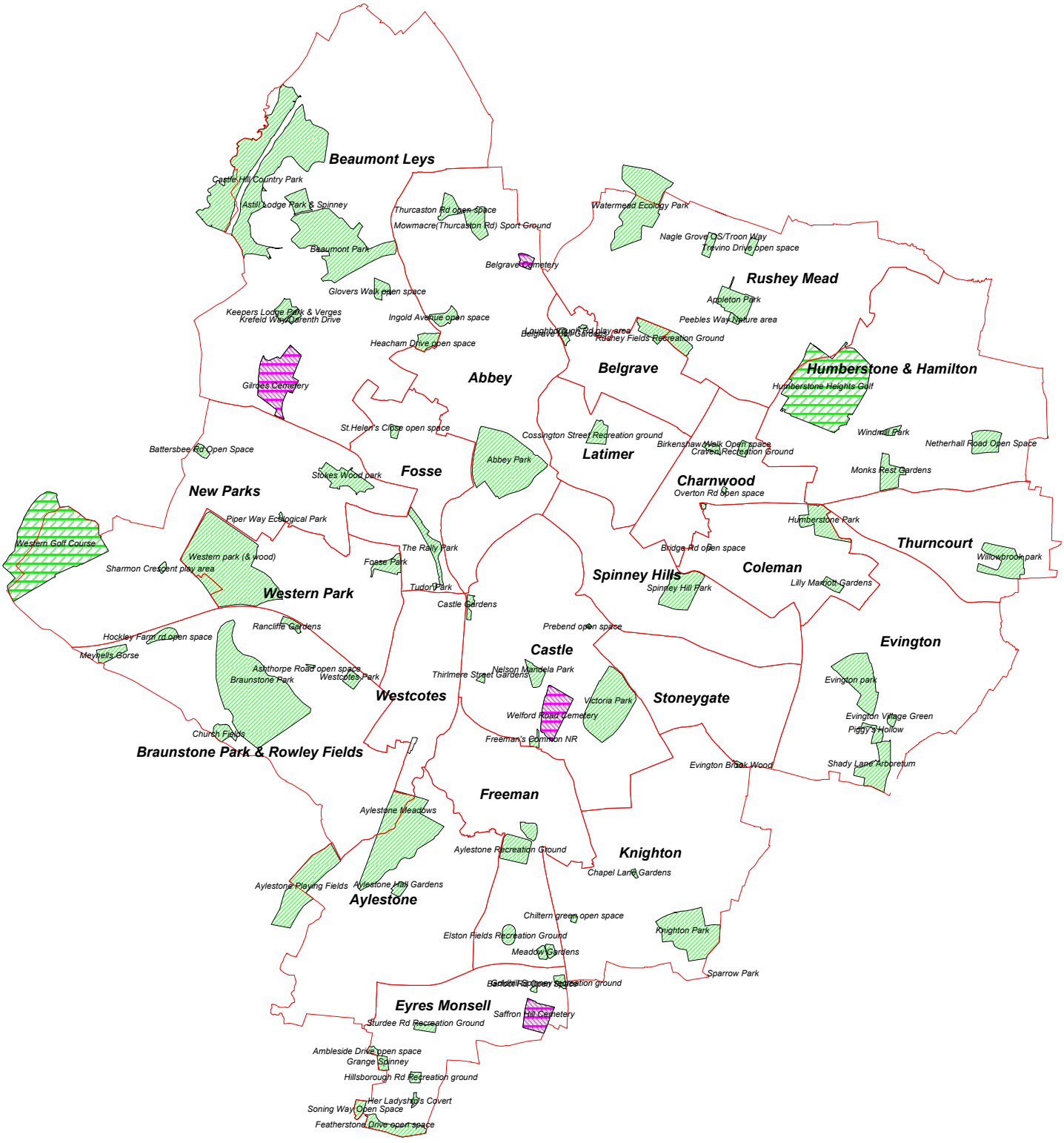
Websites

Supporting outdoor literacy teaching

Website Name	Access	Areas of study	Resources
CREATIVE STAR LEARNING www.creativestarlearning.co.uk/c/literacy-outdoors	**FREE**	• Writing • Letter awareness and formation • Reading outside • Talking and listening outside	• Lesson ideas • Links to outdoor literacy blogs and research
The YORKSHIRE WILDLIFE TRUST **Wild About York! Education Pack** www.ywt.org.uk/discover-learn/local-environmental-education/wild-about-york	**FREE**	• Ambitious vocabulary • Speaking and listening • A variety of dialogue-discussion/debate • Developing sentence structure • Organisation of text • Drama • Poetry	• A 2 hour lesson plan for each year group in Key Stage 1 and 2 • Resources for each of the lesson plans
THINKING CHILD **OUTDOOR LITERACY PACK – DIGITAL DOWNLOAD** www.thinkingchild.org.uk/outdoor-literacy-pack	**£19.99**	• Developing vocabulary • Developing sentence structures • Understanding and writing different texts • Thinking skills	• Includes over 100 lesson plans for outdoor literacy for both Key Stage 1 and 2 • Easy to prepare resources
THE MUDDY PUDDLE ACADEMY www.muddypuddles.com/customer/pages/muddyacademy **THE MUDDY PUDDLE BLOG** blog.muddypuddles.com/category/schools	**Membership to the Academy costs £60.00 per annum** **FREE Blog**	**The blog has lesson plans and activity sheets on:** • Story telling • Poetry and rhymes • Drama • Sentence structure • Irregular words • Phonics • Using the senses • Literacy trails	**Membership gives the following –** • 4 outdoor learning lesson plans per month in line with key Ofsted objectives for Early Years, KS1 and KS2 • New activity sheets every month to download and print for the class • 6 sets of 35 stickers to reward pupils for outdoor learning

Website Name	Access	Areas of study	Resources
THE GREAT PLANT HUNT www.greatplanthunt.org/teachers	**FREE FOR TEACHERS**	**Although this has a science basis, it also includes opportunities for:** • Story telling • Creative writing • Different writing genres	**Free downloadable resources that are mainly science-based but provide literacy opportunities:** • Diaries • Letters • Field and research books • Thinking walks
RSPB **Teaching resources** www.rspb.org.uk/ourwork/teaching/resources/index.aspx	**FREE**	• Poetry • Letter writing	• Activities for Key Stage 2
THE WOODLAND TRUST **Curriculum linked resources** www.woodlandtrust.org.uk/get-involved/schools/curriculum-linked-resources	**FREE**	• Sensory activities • Trails	• Free lesson ideas and resources for Key Stage 2
TES **TES collection Outdoor learning** www.tes.com/articles/tes-collection-outdoor-learning	**MAINLY FREE**	• A variety of literacy based outdoor learning	• Many free lesson activities and resources
PINTREST **1000+ images of outdoor literacy and numeracy** uk.pinterest.com/pamwoodward/outdoor-literacy-and-numeracy	**FREE**	• A variety of literacy based outdoor learning • Ideas	• Good visual aids

Location of Parks, Cemeteries and Green Spaces In Leicester



Leicestershire & Rutland Wildlife Trust

Our Outreach Education Programmes

www.lrwt.org.uk/learn-discover/schools

We offer a range of exciting Outreach Education Programmes for EYFS, KS1 and KS2.

Environmental Education Workshops

Our Environmental Education Workshops have been specifically designed to be delivered in schools. We bring hands-on resources into your classroom and use your outdoor space and grounds to explore and discover the natural world.

Our workshops are:

- Fun and interactive
- Curriculum-linked
- Run by experienced Education Officers

Workshop topics

Topics include life processes and living things, variation and classification, habitat exploration, plant reproduction, animal survival strategies and much more. We also offer a number of workshops on climate change and other key environmental issues for KS2 pupils. These aim to increase understanding and awareness of human impacts on the environment, and show what actions we can all take as responsible global citizens to make a difference.

Forest School

Forest School is a unique outdoor education programme run by trained Leaders. It gives children and young people the chance to explore, learn and discover at their own pace, developing their confidence and self-esteem in a safe and supportive space. Our comprehensive programme can be run either in your school grounds or in a nearby green space.

Woodland Workshops

Our Woodland Workshops give pupils the opportunity to experience elements of Forest School, without having to take part in a full six week programme. Each session lasts approximately 1.5 hours.

During the workshops, pupils get take part in practical hands-on activities, many of which they will be doing for the first time. They will also learn new skills and explore nature and natural materials first-hand.

Grow Wild: gardening with nature in mind

Grow Wild supports schools to make the most of their outdoor spaces for people and for wildlife.

Our team of experienced local gardeners can work with you to:

- Design a wildlife garden/area, sensory garden, peace garden, mindfulness garden, minibeast trail, barefoot trail or wildlife-friendly vegetable plot
- Create a garden from scratch - there's something possible for everyone from window boxes to wildflower meadows and ponds
- Renovate existing gardens that have fallen by the wayside
- Maintain and improve your outdoor spaces
- Train your staff, volunteers and students in nature-friendly gardening techniques

We can work with you on all stages of a project, or you can brief us and we'll do the rest.

Using your garden to learn

Our Education Team can help you use your space to learn – if you're starting from scratch we can support you to involve pupils in every step of the process from learning about wildlife gardening to designing their own plot.

How to book

For more information or to make a booking, please contact:

Martha Rose,
Education Officer

mrose@lrwt.org.uk
0116 248 7356

Other Outdoor Education providers in Leicester

UNIVERSITY OF LEICESTER

Environmental Studies

GORSE HILL CITY FARM

Environmental Studies

We offer fun, practical and curriculum-relevant outdoor learning INSET: 2-hour Twilight sessions in your school grounds or at our approved sites.

Our literacy and numeracy sessions:

Story making

Develop your confidence in telling stories from memory and using the natural world to enhance your storytelling.

Use natural objects to stimulate imaginative plots, characters and settings.

Get your young learners making and telling stories through fun games to develop literacy and confidence.

Muddy maths

Discover a host of great ideas for engaging children in maths. Take the curriculum outdoors at all ages and levels to enthuse your kinaesthetic learners. The activities will be relevant to number, measurement, geometry, ratio and proportion and statistics.

Twilight INSET also available in...

- Shelters for design and technology
- Wild Art
- Marvellous minibeasts
- Pond-dipping
- Building Learning Power with fire
- What is Forest School?

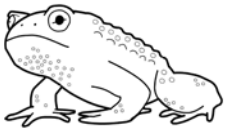


Photo: Helen Walsh

or something bespoke for your setting

We also offer...

- Forest School Training at Levels 1, 2 and 3
- Forest School programmes for children
- Curricular outdoor learning programmes
- School grounds development with children
- John Muir Award delivery
- Practical qualifications for KS4 upwards

INSET is delivered by a Forest School trained primary teacher with a wealth of experience in the classroom and a range of outdoor settings.

For more information or to book, please contact Bethan:
bpainter@environmentalstudies.biz

07398 777691/01162 895454
www.environmentalstudies.biz /
www.facebook.com/environmentalstudiesltd

Gorse Hill City Farm

Our activity sessions can be booked for groups of approximately 30. The length of the session will vary dependant on the Key Stage.

Our sessions are designed and delivered by CEVAS qualified staff and meet all the LOtC criteria. We have designed sessions with the National Curriculum in mind and curriculum links can be found in the details below. The farm is wheelchair friendly and all activities have been designed to be accessed by SEN groups.

Literacy sessions

Story Telling sessions including:

- The Three Little Pigs
- The Three Bill Goats Gruff
- The Gruffalo

These three sessions are linked to the traditional tales aspects of the national curriculum they are all designed to be engaging and to encourage interaction with the story and characters.

Other sessions

- 'Plant a Seed' mini sessions. Suitable for EYFS, KS1 & lower KS2. Approximately 20 mins per group of 15.
- 'Pond Dipping' & 'Mini Beast Hunt' mini sessions. Suitable for EYFS to KS2, approximately 20 mins per group of 15.
- Mini Farms: 45 to 60 min session, Suitable for KS1 & 2.
- Children will learn what being a farmer entails, how animals are kept and why.
- My Breakfast: 60 minute session suitable for KS2.

An interactive tour of the farm that enables children to understand 'where our food comes from' as well as 'seasonality in food' and 'where and how a variety of ingredients are grown, reared, caught and processed'.

Full details of each session can be found on our website: www.gorsehillcityfarm.org.uk in the education section.

Please contact our Education Officer, Jenny, for more details on:
education@gorsehillcityfarm.org.uk
or 0116 253 7582

Photo: Lyndsey Young

University of Leicester Botanic Garden

We offer an exciting menu of primary and secondary programmes for schools, colleges and youth groups and can adapt these to fit particular curriculum or special needs.

We aim to bring a global perspective to the curriculum, especially in environmental and development issues and we have been awarded the Learning Outside the Classroom (LoTC) quality badge and the Growing Schools awards.

Our Literacy and Numeracy sessions:

Bear Hunt (EYFS)

We're Going on a Bear Hunt is a day of active learning designed for Foundation stage children that looks closely at the Michael Rosen and Helen Oxenbury story of the same name. The session includes singing the song whilst going to all of the places in the book; art and literacy activities such as mud printing, taking leaf and bark rubbings, paddling in water and thinking of watery words; and collating all the work they have done by sticking them on long pieces of paper to show their journey. The day finishes under our special story tree with each group sharing their journey and then all singing and signing 'We're Going on a Bear Hunt'.

Elmer (EYFS and Year 1)

Elmer is based on David McKee's story 'Elmer and the Lost Teddy' published by Andersen Press. In groups, the children are given a soft toy animal and their task is to follow the clues around the garden to find the teddy for their animal. At each place the group also has a picture of a plant to match to each place and as a group draw a leaf. When they return with their teddies they match the toys to a plant in the habitat where they were found and we discuss what each place was like. The group then make an Elmer from a milk carton, colour pictures of Elmer and create scenery for their model based on the illustrations from the books. The day finishes with our special Elmer action song.

Numeracy Trail

Follow a trail around the Botanic Garden and complete a series of differentiated practical maths activities. The day starts with an introduction, discussing why maths is important and its relevance to the Botanic Garden. Children then set out on a trail around the Garden in small groups to complete up to fourteen differentiated practical activities, with an accompanying worksheet. A range of numeracy topics is included: number, area, symmetry, size, measurement, data handling, estimation, shape, time, and direction and number patterns.

Fibonacci Fun (for KS2)

Fibonacci Fun starts with an introduction to Fibonacci and his number series and introduces ideas about where these series of numbers and the Golden Ratio (dividing consecutive Fibonacci numbers) can be found in nature. Students are then split into five groups and in turn examine through a series of practical activities the validity of these claims.

For more information:

0116 271 2933

botanicgarden@le.ac.uk

www2.le.ac.uk/institution/botanic-garden/collections-1

Photo: Debs Richardson Bull

Acknowledgements

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Leicestershire & Rutland Wildlife Trust

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