



CLIMATE SCIENCE

Connecting with Nature and Caring for the Earth



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In our climate science section of this newsletter, we are bringing you a set of nature focussed cross-curricular activities for you to enjoy with your children.

For us all, wellness is a priority and time spent in nature helps to reduce stress, which is vital at this time. What each of us does every day makes a difference. This starts with the thoughts we think and the experiences we are having. This then leads to the conversations we have and the words we write. Just one conversation can change the way someone thinks. Reading just one letter or poem can change the way someone feels.

All of the activities that follow will help children to strengthen their bond with the natural world and, through observation and reflection, enhance their appreciation for finer details which they may not have previously noticed. Both nature-themed reading and writing activities as well as some other practical and creative activities follow-on from this introduction.

LETTERS TO THE EARTH

Letters to the Earth is a collection of letters and poems which express human feelings about the climate crisis. In the book there are letters from children, parents, artists, actors, poets, politicians, songwriters and scientists. We would like your children to add their voices to the collection.

PSTT is delighted to be working with the Letters to the Earth team and Harper Collins publishers who have kindly given permission for us to reproduce a selection of letters written by teenagers or adults which may act as inspiration before writing. Each one comes with some questions for discussion.

Insects

To the Earth,

For many years I had been fortunate to work with insects. They are some of the most beautiful creatures on earth. They are often so tiny that nature hides them. But I learned about the smallest of them through the lens of a microscope. I marvel that they can be so beautiful and yet so few people get to see them! What a privilege it was to work with them – years that felt more like playing than working ...

And what strange a process that happened here on earth – the evolution of such diversity! And so extraordinarily intricate!

How is it then that we are letting these incredible life forms down? Selfishly for thousands of years we humans only saw our own importance and mastery. Now we have to wake up and at last see *their* importance and realise that their lives are also ours – humans cannot live without this diversity in nature.

Ottilie Nesper

Can you find clues in the letter which suggest what Ottilie's job used to be?

Some words and phrases in the letter let us know exactly how Ottilie feels about insects. Can you find them?

How does Ottilie view humans? How do you know?

What does Ottilie want humans to do?

What is the overall message of Ottilie's letter?



Why do you think Harkiran gave the poem the title 'Sea Change'?

In line 5, Harkiran wrote 'Together you form a sea in an ocean'. Discuss what you think is meant by this.

Why did Harkiran use the word 'droplet' throughout the piece?

What is the message of this writing? How does it make you feel?

Sea Change

You may think that you are simply one small positive droplet in an ocean of troubles. A droplet that can't do anything. But if you search our ever expanding ocean you will find millions of other small droplets with the same mindset as yourself. Together you form a sea in an ocean. That sea can stir a storm. That sea can make a change.

Harkiran S. S. Dhingra, 15

I Believe in You

Dear Earth's Young People,

It has been an honour for us to walk on earth's sand at the beach, just so we can get a glimpse at the infinite ocean, and watch the glorious sun set and rise each day.

It has been an honour for us to walk up her mountains, hills, and travel by water, air, car, and walking.

Therefore, I ask you young people to encourage keeping her beautiful by respecting her, preserving her for years and generations to come.

One thing we can do for the people and planet is to grow a tree. I didn't see a difference between planting and growing until I saw a quote written by a Kenyan woman that said:

'Anybody can dig a hole and plant a tree. But make sure it survives. You have to nurture it, you have to water it, you have to keep at it until it becomes rooted so it can take care of itself. There are so many enemies of trees.'

You see the difference too? When we grow a 'lung of the planet', the air is purified and our people are given fresh strength.

Lastly, we can share with and teach other people the importance of preserving the planet.

If every person we know could take one small step towards being greener, the collective effort could be phenomenal.

I believe in you.

Yours sincerely,
Your friend, Molly Wingate, 16

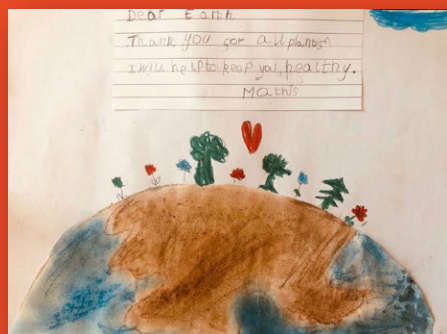
The word 'honour' is used in lines 1 and 4 of the letter. What does it mean?

In the letter there is a clear difference described between planting and growing. This description begins in paragraph 4. How would you explain it to someone?

In the 6th paragraph, Molly writes 'lung of the planet'. What is meant by this?

What does Molly want people to do?

Children around the world have responded to the invitation to write a letter to the Earth. Here are some of the letters that were received:



Dear Animals

Dear Animals,
The world used to be a safe place for you.
I am sorry we have ruined that.

Elliotte Mitchell, 12

Earth

The earth's name is unique. We need to keep it.

E = Energetic
A = Amazing
R = Respectful
T = Trusty
H = Happy

The letters of the EARTH are what keeps us alive, without it we will be extinct.

Please forgive us for our mistakes.
It's up to us to support the earth.

Emily Trenouth-Wood, 11



What have we done to the Planet?

I don't know about you,
but this is how I feel
about Mother Nature.
We have become Mother
Nature's enemy.
The Planet is dying.
Mother Nature is crying
Out for help.
we need to start working
together.
you may think the planet
is not crying, but it is.
Mother Nature is inside of us.
She is all around us. She
made us be alive.
For if she were not alive,
we would not live.
we must thank her
every day.

Tabitha, Ravula
Age 7 1/2

Why Should We Care?

My dad said that we
should worry about our own life, not the rest of
the world.

It won't affect us.

But I disagree with that
because in the year 2050 the world will be
completely different, in a bad way.

Between
10,000 and 100,000 species are becoming extinct
each year so I will worry about the world now.

Haydon Bushell, 12

Everything

To the people who think that there's no point in trying, to the people who think that because we have done this we deserve to suffer the consequences. There's no point in giving up! In the past we have decided to turn away from mother nature's screams but not today! We will not let the earth we live on be destroyed so easily, we will try hard to save it from the very threat we created and see the world for its glory and its beauty.

Don't be the person who is standing back watching other people as they do the work.

Join the fight to save our world. If you don't then everything that we love about the world will slowly disappear.

Ollie Barnes, 12

WOULD YOUR CHILDREN LIKE TO ADD TO THE COLLECTION?

Before writing

To prepare for writing, it would be great to spend some time connecting with nature. This could be by gazing at the sky, taking a walk or carrying out one of the nature activities on the next pages.

To support planning, you could ask your child to think about:

- How does nature makes you feel?
- What is special to you about the natural world?
- What are your favourite sounds, smells, sights or tastes?
- Which textures do you like?
- What would you like to express?
- How do you feel about the climate crisis?
- Is there something you would like people to do or stop doing?

The next stage is planning. At this point it is useful to make some notes of words that spring to mind. These could be words detailing what has been seen, feelings, hopes or a call to action for humanity.

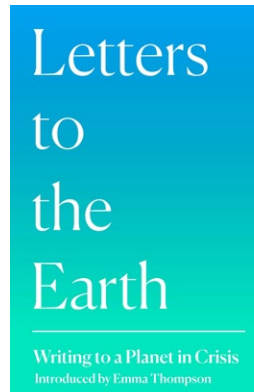
Useful planning prompts are:

- How would you like to express your relationship with nature and the Earth?
- Would you like to write about your love for nature and the beauty that you see around you?
- Perhaps there is a particular animal, plant or natural phenomenon, like rainbows, that brings you deep joy.

- Would you like to write about love, loss, anger, hope or action?
- Take some time to consider what feels most important to you today.

Whatever your child wants to write about is welcome. Then it is time to write a letter to the Earth. This could be a letter, poem, song, postcard or a picture. The letter could be written to the Earth or from the Earth, to future or past generations, to adults who have the power to make important decisions, to ordinary people or to other species (animals or plants). It could be written as a human or perhaps from the point of view of a bee, bird, beech tree or another species. Other ideas are also very welcome. Encourage your child to be creative and express themselves and to remember, that their words can make a difference.

Please send your letters to PSTT by using the form on our website. Click here for more information.



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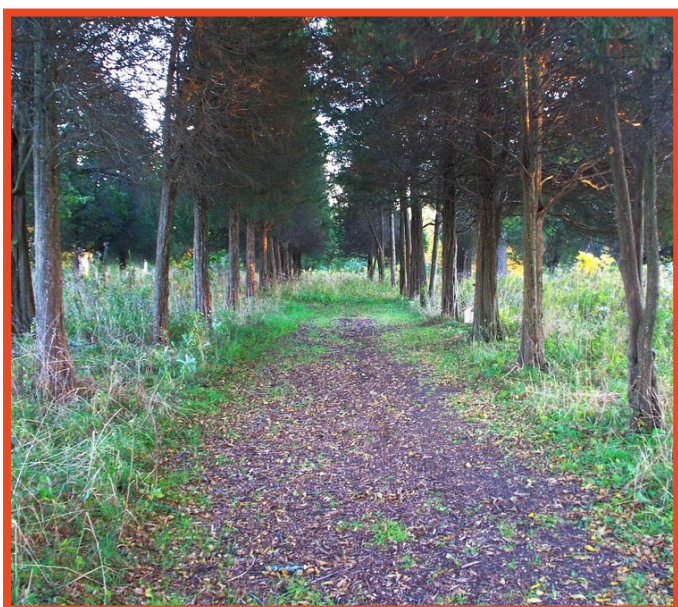
Letters to the Earth represents an on-going campaign in response to the climate and ecological emergency that you can be part of at www.letterstotheearth.com



If you are a parent or carer at home with your child, or a teacher in school, this series of nature-focused activities will support children to build a relationship with nature. Spending time outdoors and connecting with the natural world is a vital aspect of children wanting to care for it. By experiencing and talking about nature together, you can help your child or children to understand the importance and effects of nature in their lives.

NATURE WALK

Take your children on a nature walk. This can be done either in an urban or a rural setting. The focus is on noticing the nature that you see or experience whilst out walking. This could be plants pushing up between paving slabs, birds you hear singing or trees you walk past. If there is a park or other large green space to visit, take time to enjoy that together.



You could:

- Discover a favourite local tree and take a photo of it each week to observe how it changes over time.
- Find an item that interests you (e.g. a pine cone, pebble, fallen leaf or twig) and pick it up to take home with you as a memento of your walk. Make sure your child does not pick any live plants.
- Create a journey stick ([click here for more information](#))

Question prompts:

- What do you see/hear/smell?
- Can you describe it in detail? Can you tell me more?
- What do you see if you look more carefully? Do you notice any new details?
- Does it remind you of anything else you have seen before?
- What else would you like to know about it?
- How does it make you feel?

NATURE OBSERVATION DRAWING

Take time to observe nature closely by sketching. This can be done at home with an item that you have brought home from a walk or with a natural specimen that you have around your home e.g. a feather, shell, stone, twig. Spend some time looking very carefully at your chosen specimen. Take time to notice the details of the colour, textures, shape and shades of the specimen. As you sketch, pay attention to the details you are drawing but don't worry too much if your drawing doesn't look exactly like your item.

You may also be interested in entering the **Nancy Rothwell specimen drawing competition** - please see [LINKS](#) section at the end of this article on page 11.

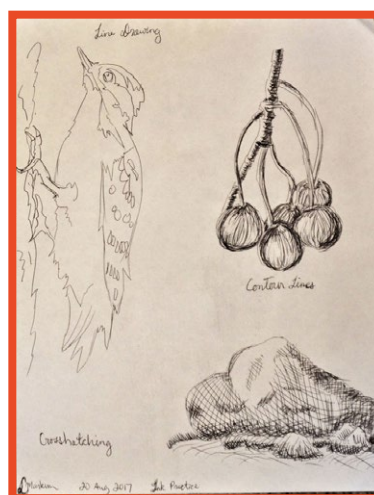




PHOTO DIARY

Choose a spot at home or out on your daily walk to photograph each day. This could be a view from one of your windows looking at the sky, a favourite natural place which you see out on your daily walk or a scene in your garden if you have one. Try to take a photo of your chosen place at the same time every day, including some of the sky. This will become a photo diary where you can see changes in nature and the weather over time. Once you have taken the photograph, look closely to see what you notice and compare the photos over time. Think about what changes and what stays the same. If you have a printer, you could make a scrap book and write notes around the photos or you could add the photographs to the notes feature on a phone or tablet and write your observations there.

The Royal Society of Biology's 2020 Photography Competition has the theme Our Changing World. See details in the **LINKS** section below for how to enter.

TIME LAPSE PHOTOS

Time lapse photography is a great way to observe changes over a longer period of time condensed into a shorter film. Apps can be downloaded onto smartphones or tablets for this purpose. You could take pictures of:

- A piece of fruit or a vegetable decaying
- A plant growing
- Growing a vegetable scrap – carrot tops or celery are great for this. **Click here for more information.**
- A pale flower placed into food colouring



LINKS

For science investigations visit www.science-sparks.com

Lessons which explore the work of Charles Darwin and highlight the importance of being outdoors to the development of his scientific ideas.

Royal Society of Biology competitions

The Nancy Rothwell Award 2020

The Nancy Rothwell Award 2020 specimen drawing competition for 7 – 18 year olds is now open for submissions by 31st July. Prizes include an experience day at the Royal Veterinary College for students, and their school can also win £100.

Photography Competition 2020

'Our changing world' is the theme of this year's Royal Society of Biology Photography Competition. Life on Earth is dynamic, and we invite you to capture these transformations. The competition has two age categories each with a cash prize: 18 years old and over (£1000) and under 18s (£500). Submit your images by 24th July.

Ruth Shallcross works full time for the Primary Science Teaching Trust as Regional Mentor for London and the South East. She is currently leading the development of PSTT's Climate Science Project 'Educating for a Future' which, by working in collaboration with academics and projects, aims to empower children with accurate scientific knowledge to understand the principles of climate change and some of the solutions.