

WE ARE THE UNIVERSE

This resource has been produced for About Us as part of UNBOXED: Creativity in the UK.

This interdisciplinary resource brings together creative writing, literature and science: teachers can use it in the classroom to explore literary techniques in scientific contexts, and to explore the creativity behind scientific themes. Older students can use the resource in their own time to further their reading and generate ideas for poems of their own.

If you're aged 4-18 and you're inspired to write a poem on the themes covered here, submit it to the About Us poetry competition by **23:59 GMT on 19 December 2021** for a chance to win some amazing prizes. You can also enter the coding competition on the same theme by submitting a Scratch project. Find out more and enter online at aboutus.earth.

KEY STAGES 1-3

(with teacher / parent/ guardian guidance)

Topics

- Earth and Space – our relationship to the universe
- the journey of a star
- features of space: light years, black holes, supernova

Literary features

- rhyme
- syllabics
- glose poems

This resource looks at a new poem and related material by poet and educator Cheryl Moskowitz. The poem, 'Roll up! Roll up!', explores the magic of the universe and the idea that we are all connected because we all come from stars. The resource contains discussion and writing prompts for young people to engage with the text and create their own poem in response.

GETTING STARTED

The poem you are about to read is all about the idea that the whole universe is connected through the Big Bang. The chemicals that make up our bodies and everything around us were once part of stars. So much of the universe is invisible and yet we know it is there. The poem compares being in the universe to taking part in a magic act.

Read the poem aloud to a friend, a parent or guardian, or the rest of the class. Remember, you are a magician! So use big gestures and your most impressive magician's voice!



ROLL UP! ROLL UP!

The night sky is a magic act
Hey presto! 'What we see, we see
And seeing is changing'^{**}

In 13.8 billion years, how much has already disappeared?

No thing can turn into nothing,
It simply becomes something else.
Do not be sad when a star dies...

Supernova, supernova, new worlds start from one that's over

We are all time travellers, now.
When we look out to space from Earth
What we see has already been.

Waves of light, waves of sound, oceans of time to reach the ground

Invisible doesn't mean gone.
Even a hollow contains air.
Sometimes we only sense what's there.

Hungry hole at the dead star's core, keeps on swallowing more and more

All that matters is important
And all that exists is matter.
The light and the dark together.

Ashes to ashes, the fire of stars - the dust they make, makes us what we are!

'Truths are easy to understand
Once they are discovered; the point
Is to discover them.'^{**} Presto!

To be Astronomer is to be Mathematician... Detective, Historian and Magician

Oh Universe! You take us past
The farthest reaches of our minds.
'There's magic in thy majesty!'^{****}

* from 'Planetarium' by Adrienne Rich, *Collected Poems (1950-2012)* (New York: W.W. Norton, 2016). Read the full poem and watch Astrophysicist Janna Levin read it aloud [here](#).

** Galileo Galilei (1564-1642) *The Life of Galileo*

*** Leonte's speech (act 5, scene 3) from *The Winter's Tale* by William Shakespeare

FIRST THOUGHTS

What is your first reaction to the poem? If there are words that are new to you, ask a teacher or parent/guardian to explain, or look them up together. What kinds of images does the poem create in your mind?

What do you think the link is between an astronomer (someone who studies outer space), a mathematician (someone who studies maths), a detective (someone who solves crimes), a historian (someone who studies history), and a magician? Do their jobs seem similar to you?



Do some research into these ideas and explain them to a partner:

- supernova
- light waves
- sound waves
- black holes
- matter
- dark matter

EXPLORING THE TOPIC



Cheryl Moskowitz, the poet who wrote this poem, says:

“I like the fact that Universe contains the word ‘us’. The Universe is a vast, awe-inspiring place and we are a significant, though miniscule, part of it! Our galaxy, the Milky Way, is one of around 100 billion galaxies and there are at least as many planets, including our Earth. Our sun is just one amongst 200 billion trillion stars. Imagine.

When we look at other galaxies we are looking way back into history. This is because most planets and stars are so far away their light can take millions of years to reach us.

Everything that began in the Universe, stays in the Universe, including us. This is to do with the law of conservation of matter, which means that mass cannot be created or destroyed, only changed or turned into something else. We don’t stay the same exactly but the stuff that makes up who and what we are will keep on becoming other things. Every part of us, including each breath we have ever exhaled, is still out there somewhere.

There are many things in the Universe that can’t be seen, like black holes. Dark matter too. We know it is there, all around us, even though it is invisible. To me, that is like magic.

To get inspiration for my poem ‘Roll up! Roll up!’ I went to meet Johanna Vos, a real live astrophysicist whose job is to discover how the universe works, how it began, and search for life on planets around other stars. Astrophysicists like Johanna spend lots of time staring into space, asking questions and writing down their thoughts and observations. This is what poets do too!”

You can explore an astrophysics resource featuring Johanna [here!](#)

READING THE POEM

Take a moment to read the poem again. Now, with a partner or in a group, can you answer these questions?



FORM

- 'Roll up! Roll up!' is a poem written in three-line **stanzas**, or verses. Each stanza contains a statement about the Universe followed by a single line that is either a question or an explanation relating to the verse before it. How do the lines in italics change the way we read the rest of the poem?

RHYME

- Poems don't always have to **rhyme** at the end of the lines. Sometimes rhyming words are hidden just like celestial bodies can be hidden inside galaxies in the Universe. See if you can discover where the rhymes are in this poem and if there is a pattern to them at all. Hint: look at the single lines that follow each of the verses.

NUMBERS

- Numbers are an important part of studying the Universe as we need to be able to figure out the distances between bodies in space. Numbers are an important part of the making of this poem too. This poem uses something called **syllabics** to create a sense of order and rhythm, just like there is in the Universe. A **syllable** means a single, unbroken unit of sound in a word. For example, the word 'universe' has three syllables: u-ni-verse. The word 'magic' has two syllables: ma-gic.
- Look again at the poem. Those detectives or mathematicians amongst you may have already worked out that most of the lines in the verses contain the same number of syllables. Can you work out what number that is?

OTHER VOICES

- The other thing you may notice about the poem is that it contains three quotations, which means lines or phrases that were originally said by someone else, and which are repeated here. 'Roll up! Roll up!' includes a quotation from a poem by Adrienne Rich, one by Galileo, the first astronomer to ever use a telescope, and one by the playwright William Shakespeare. If you don't know anything about these people, look them up. Would you normally expect these figures to be connected?
- A poem that contains lines drawn from other sources is sometimes called a **glose** or a **glosa**. The really fun thing about including quotes in your poem is that your poem can become like a conversation between you and that person who you are quoting. Though none of the people whose words are quoted in 'Roll up! Roll up!' are alive anymore, their words are still here. Just like everything else that stays in the Universe. Research when Rich, Galileo and Shakespeare were alive. How does the poem span time? Can you compare it to the journey of a star in any way?



WORD PLAY

- The poem includes word play around the word 'matter'. What are the different meanings of this word? Do you think all matter matters?

WRITING YOUR OWN POEM

- Astronomers are all asking the same three questions in one way or another. Use one of these questions as a title or starting line for your poem and then use the rest of your poem to imagine some answers:

- Where did we come from?
- Are we alone?
- What happens next?

- Or, write a conversation poem about the universe. Start each new verse of your poem with a quotation by someone else and then let the rest of that verse be a response to that quote. Here are a few possibilities. I'm sure you can find plenty more!

'It suddenly struck me that that tiny pea, pretty and blue, was the Earth.' Neil Armstrong (the first person to walk on the moon)

'I know the sky is not the limit because there are footprints on the Moon — and I made some of them!' Buzz Aldrin (astronaut - pilot of the 1966 Gemini 12 mission)

'Look at the stars! look, look up at the skies!' Gerard Manley Hopkins (English poet and priest)

'I am a child of the Milky Way. The night is my mother. I am made of the dust of stars.' Chet Raymo (American writer and physicist)

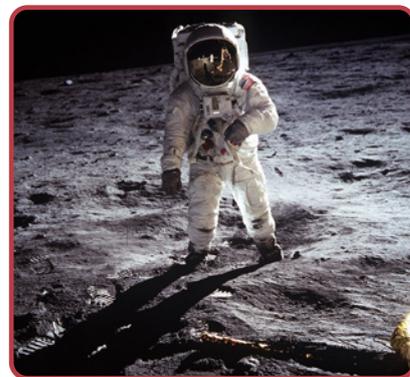
'Could it be that the planets are castaway heads?' Visar Zhiti (Albanian poet)

'The wisest astronomer living cannot tell us how far the stars reach...for there is no getting to the borders of space.' Agnes Giberne (British novelist and science writer)

- Or, write a portrait poem of a particular star/planet/galaxy or object in space that interests you. [Here](#) is an example about the moon, by poet Emily Dickinson.

First, collect as much information as you can about the object you have chosen – search the internet, look at books on astronomy, or find people who know more about your subject than you do and talk to them. This resource, produced by the Natural History Museum, is a good place to start. Use your imagination to fill in any details you are not able to find out.

Now write a poem using images and words that work to paint a picture of this star/planet/galaxy or object. Give your reader a good sense of what it looks like, feels like, sounds like and any other peculiarities or characteristics. Give it a name if it hasn't got one already. Remember, there is so much that is still unknown in the Universe so as poet, you can be as inventive, playful and imaginative as you like!



This resource and the poem contained within it, 'Roll up! Roll up!' were written by poet Cheryl Moskowitz. Cheryl Moskowitz was born in Chicago and lives in London. Her poetry has won awards in several international competitions including the Bridport Prize, Hippocrates Prize for Poetry and Medicine, the Moth Poetry Prize and the National Poetry Competition. She writes for adults and children, practices as a creative translator, runs workshops regularly in schools and is passionate about getting teachers and pupils to write their own poems. Recent publications include poetry pamphlet *Maternal Impression* (Against the Grain Press 2021) and *The Corona Collection—A Conversation* (Circle Time Press 2020).

Poem 'Roll up! Roll up!' © Cheryl Moskowitz.

NEXT STEPS

Once you have written a poem, consider entering it into the About Us competition. It's free to enter, and the competition is open to young people who live in the UK and are aged 4-18 on the closing date of Sunday 19 December 2021. Poems should be no more than 20 lines long. If you win, your poem could be featured in a major live show that will tour the UK in spring 2022. Winners will also receive lots of other goodies and development opportunities. Enter online at aboutus.earth.

About Us is an epic new show for everyone who has ever looked up at the night sky and wondered about our connection to the vast universe. Developed in collaboration with poets and scientists across the four nations of the UK, About Us will tell the story of the infinite number of ways we are connected to the universe, the natural world and one another.

About Us is a collaboration between 59 Productions – the award-winning design studio and production company who created the breath-taking video design for the London 2012 Olympic Opening Ceremony; Stemettes – the award-winning social enterprise working across the UK & Ireland to bring young women and non-binary young people into Science, Technology, Engineering and Maths (STEM) careers; and The Poetry Society – one of the UK's most dynamic arts organisations championing poetry for all ages.