## GLOBAL GENERATION

# STAY AT STAY STAY AT S

The Sky and the Universe Beyond







Issue no



# GLOBAL GENERATION



Hello everyone,

Welcome to our virtual garden! We hope this will help you appreciate everything that moves through the sky and to imagine the wonder of the universe.

This issue is packed full of fun and creative activities that you can do at home, from cloud spotting, to recipes, to star and planet making. Say hello to the sun, learn to make your own timeline of the journey of the universe and lots more to inspire you and your kids.

Please share with your friends and on #stayathomegarden

We would love to see what you come up with so please send through pictures and writing to martina@globalgeneration.org.uk

Enjoy!

The Global Generation Team

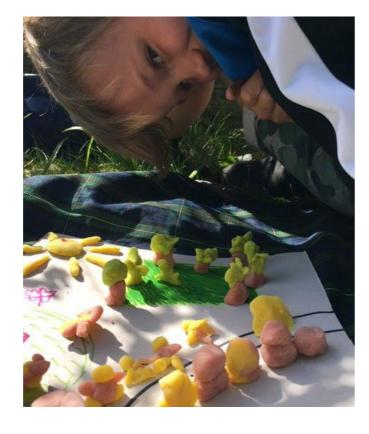
April 2020



# What you've been up to since last time:

#### Sonny and Nicole:

Sonny and Nicole tried out our playdough recipe from Issue 1. They made a cityscape in response to the question "What does our city feel like now?"



#### Natalie, Zoe and Emma Shulman:

The Shulman family made the Banana Bread Recipe and they also included Dates, Blueberries, Chocolate and Walnuts!

'It came out totally yummy... Thanks again for sharing the recipe'



#### Malaika:

Malaika tried out the coconut and lentil soup:

'I had so much fun cooking it, dancing to the radio. The flavours were beyond yummy, and just a feel good dish all round!'



#### Martina, Nic and Axel:

Martina and her housemates cooked the delicious vegan pasta bake recipe!

'It was so hearty and rich and full of flavour, really great comfort food leaving you feeling all warm and satisfied.'



#### Contents:

#### The Sky and the Universe Beyond

	Creative	activities	for	all	ages:
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- Draw the phases of the moon	8
- Make your own planet	10
- Paint your planet with natural paints	12
- Make a sky viewing frame	14

#### I challenge you!:

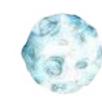
- Golden Record: what would you show?	16
- Cosmic Writing	18
- Timeline of the universe	2

#### Fun recipes to keep you healthy:

- Star studded apple bread	26
- Galaxy Swirls	28
- Hokev Pokev	30











#### Stories from the natural world:

- How light came into the world	32
- Drakeena The Dragon	34

#### Calming our bodies and minds:

- Cloud Spotting	36
- Journey into Space	40

#### Energising our senses:

- Sun Salutations	42

#### Inspiring Links:

	Further resources	to	anagga ang	1 inchira	VOII	1	4
_	i uitilei resources	ιΟ	engage and	ı iiispire	you	4	4







# Meeting the Moon

For thousands of years people all over the world have danced, sung and meditated by the light of the moon. The moon is the Earth's only natural satellite and its nearest neighbour in the solar system. It orbits the Earth once a month and it's gravitational pull on the Earth causes the rise and fall of ocean tides. The moon shines by reflected sunlight and depending on relative positions of the Sun, Moon and Earth, we see different fractions of the Moon illuminated. These are called the phases of the moon.

#### Drawing the Phases of the Moon

Over the coming month, take the time to find the moon in the night sky.

Find a comfortable position, pause for a few minutes to breath slowly in and out.

What do you think about when you look at the moon?

What are its qualities ... what shape, colour or texture is it?

Does it make you feel like moving or being still?

When you are ready, draw the phase of the moon that you see.



## ACTIVITIES >

# Make your own planet





## Equipment:

- Scissors
- Tape
- Paper bag to make ball
- Scrap paper, old envelopes or newspaper into strips
- White Flour mixed with water to yogurt thickness
- **Paintbrush**



#### Method:

Scrunch up paper or paper bag into ball



Cut scrap paper into strips



Wrap a strip of paper round the ball and secure end with tape.



Continue wrapping with strips until ball is covered.



Take flour mix and more strips of paper



Cover your planet with strips to create smooth edges



Dry planet in the Sun and Paint





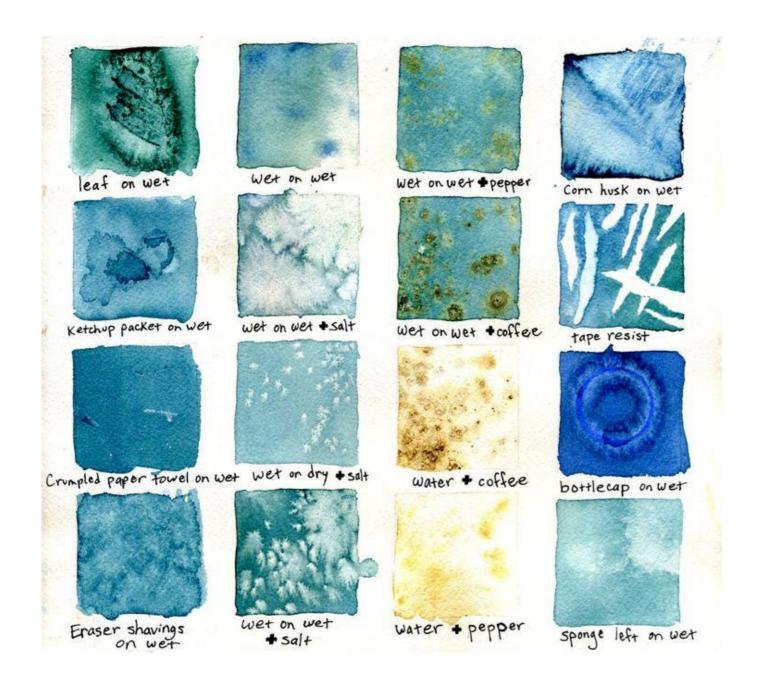


#### ACTIVITIES



# Painting your planet with different textures and/or natural paints...

Why not try painting your planet using these techniques if you have some paints...



#### If you do not have paints you could try...

Cooking a beetroot and using the juice, or even printing with the beetroot.

Boiling a purple cabbage and using the water to make blue... Add a lemon to change the colour!

Rubbing green leaves on white paper.

Mixing turmeric with a bit of water to make an orange colour.

You could even try painting with some soil form a local park... just mix it with a bit of water.

See what colour explosions you can make!







# Make a sky viewing frame

Artist James Turrell makes huge openings in walls and roofs to allow us to look at the sky with fresh eyes.

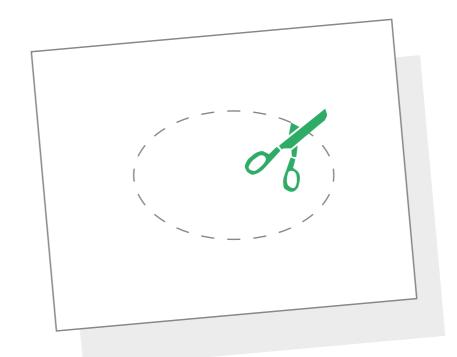
He talks about the 'experience of looking'.

When everything else is masked out, what do you see?



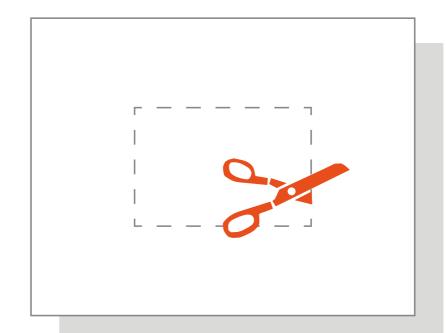
#### Instructions:

- Use stiff paper or card and cut a shape out.
- Keep to simple shapes and use it to look at the sky, the clouds, and just about everything
- Remember not to look directly at the sun!













# CHALLENGE you...

# Golden Record: \*\* What would you show?

Imagine what our planet would look like to someone who had never heard of planet earth before and didn't even know we existed.

What would you want to show them is special about our planet and the creatures (including us) that live here?



16

#### Photography Challenge:

Your challenge is to take 3 pictures that capture what you feel is important and special about the planet we live on. What is important to you? What would you like to show an alien about our world.

Think about what's close to you. Do you want to create an image by putting objects together, do you want to take a photo of what your home looks like or perhaps your face? Is family important to you, do you want to take a family picture?

Can you capture nature or an animal?

What would you like to share with someone from another world?

Pick your favourite picture and send it in to us... martina@globalgenneration.org.uk

#### Did you Know?

Did you know this has actually happened. In 1977 The Voyager Golden Record was created by NASA, it includes 116+ photos of our world, natural sounds and greetings in different languages. It also includes music. This was made into a Golden Record and shot off into space where it still travels right now to communicate our world to extraterrestrial beings. How cool is this???

Find more information here:

https://voyager.jpl.nasa.gov/golden-record/



This activity was
led by Silvia for the
led by Silvia for the
Global Generation
Global Generation
Fellows as part of our
Fellows as poices of
ongoing Voices of
the Earth project

\* Look out for more work from Voices of the Earth participants in the next edition...

#### CHALLENGE





## Cosmic Writing



- Observe the first 6 major steps of Cosmic evolution opposite
- Look at the word bank opposite. Choose some of the listed words that excite you and, just as good if not better, add some of your own describing words.
- Imagine that you are the Universe and that you are going to write your own story from before anything happened, from the Big Bang, to the formation of life in the oceans of the Earth. How did you feel? What did you imagine? What qualities did you have? Were you fiery, patient or peaceful? What did you see, smell, taste and touch? What happened?
- Try to write in a 'Free Flow Writing' way. Free Flow Writing is when you are not overly concerned with your grammar, punctuation or spelling and you are more concerned about writing down your immediate feelings and inspirations. Try to be spontaneous and 'forward moving' in your expression rather than keep checking back on what you have written.
- Write for maybe 5, 10, 15 minutes or more if you like.
- Start with...... "In the beginning there was no time or space. I felt....."
- Please send us your writing. We would love to read it! The best pieces will be chosen for our website.



**Big Bang:**14 billion years ago



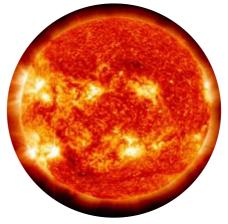
**Galaxy Formation:** 13 billion years ago



Milky Way Galaxy: 12 billion years ago



**Supernova:** 7 billion years ago



The Sun:
6 billion years ago



**Earth:** 5 billion years ago

#### Word Bank:

Peaceful unlimited stillness infinite calm serene tranquil endless immeasurable motionless still determined focused purposeful boundless patient creative ingenious inspired inventive powerful strength courage

#### Describing Words:

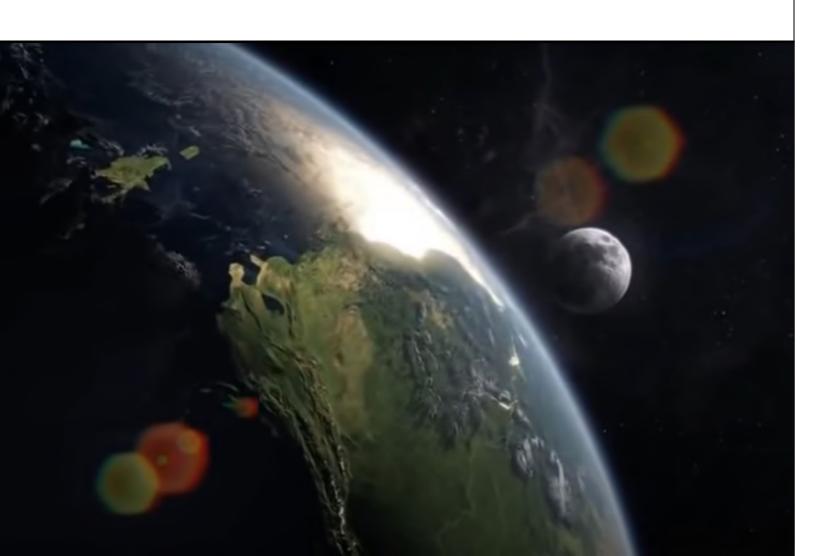
Spectacular explosive beautiful radiant shimmering brilliant bright intense spiral turquoise mysterious magnificent glowing glorious swirling tremendous incredible overwhelming



# Watch our story in a minute...

Here is an exciting video of the University story made by 'Melody Sheep.' It is called 'Our Story in One Minute': -

https://www.youtube.com/watch?v=ZSt9tm3RoUU



#### Summary of events:

- **1. The Big Bang.** 14 Billion Years Ago there was absolutely nothing. Out of this Emptiness appeared a tiny dot it expanded in all directions with unbelievable power and heat as the Big Bang!
- **2. Galaxies form.** After about 1 billion years all the hydrogen gas from the Big Bang started clumping together. Within these clumps stars emerged. They burned brilliantly bright in huge collections of different shapes called galaxies.
- **3. Milky Way Galaxy.** After another billion years our very own Milky Way Galaxy was created. We now know that it is only one amongst 100's of billions of galaxies. Each one of them containing more than 100 billion stars.
- **4. Supernova.** About 7 billion years ago a star in our Milky Way galaxy went supernova. It exploded, sending out new particles into space. The phosphorous that is in your brain; the iron in your blood and the calcium in your bones, for example, were all created inside a supernova star.
- **5. The Sun.** One billion years on, our very own Sun was formed out of all the stardust emitted from the Supernova.
- **6. The Earth.** About 5 Billion Years ago our Earth was formed also, from all the stardust emitted from the Supernova. The early days of the earth were violent and chaotic. Meteors crashed into the Earth's surface; lightning bolts flashed across the skies, huge volcanoes spewed poisonous gases up into the atmosphere and torrential rains poured down forming the oceans.
- **7. Bacteria.** Some 4 billion years ago something quite miraculous and mysterious happened. Out of all the inert matter some tiny slimy bubbles in the oceans started to move. Not because they were being swayed by the currents or the waves but because they were coming alive. Life burst into the Earth's existence as bacteria cells. They were the first building blocks of living creatures.
- **8. Mammals**. 60 million years ago, without the dinosaurs around, mammals flourished and spread across the Earth.
- **9. Agriculture.** Modern humans started to plant seeds and grow their own crops, some 10,000 years ago.

10. Now!

#### CHALLENGE

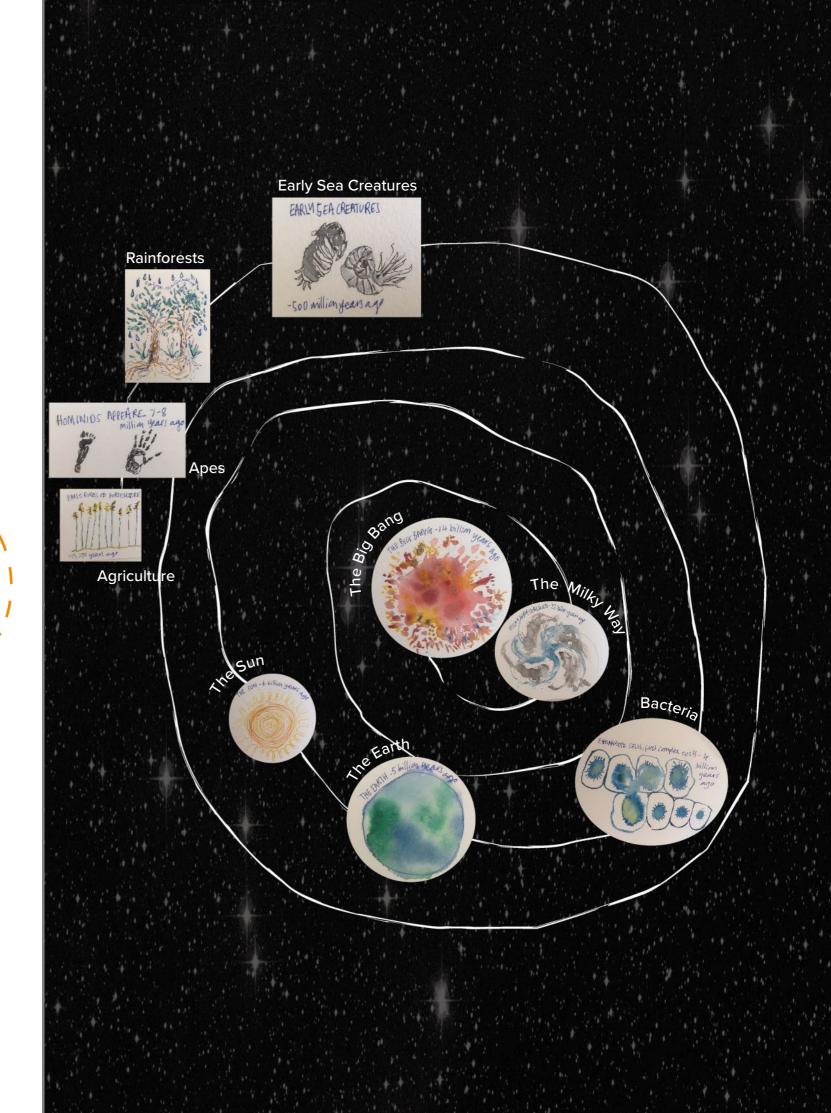
## Then let's make a timeline of the universe!



- Take a ball of string and measure off 14 meters. This is equal to 1400cm.
- Take a felt tip pen and mark off at the following measurements, which correspond to the different cosmic events and life forms, that emerged.

	cm
Big Bang Galaxies forms Milky Way Galaxy Supernova Sun Earth Bacteria Early Sea Creatures Dinosaurs Meteor Rainforests Mammals Apes Hominids	0 100 200 700 800 900 1000 1350 1380 1335 1395 1394 1398.5 1399.5
Homeo-sapien Agriculture	Fraction of hair width

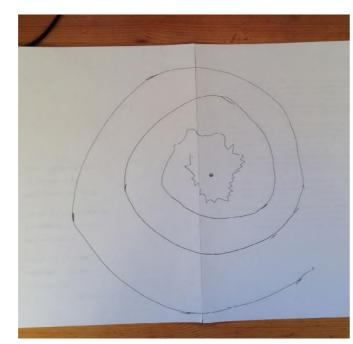
- Arrange your string in a spiral with the Big Bang at the centre.
- Draw pictures of each event and place on the time line. You will find it difficult (if not impossible) to place the last five events at the right places because the distances are so small – but you can put them in the right order near the string.
- Stand back and gaze at the amazing view of how each of these major events unfolded in time. Is there anything that particularly fascinates or surprises you?



#### CHALLENGE

# Or make a 3D deeptime spiral...

Sellotape 2 pieces of A4 paper together and draw a spiral on it



Draw on the major events of Cosmic Evolution, starting with the Big Bang in the middle.





Cut out the spiral





Place an object under the middle or hang from ceiling.





# Star Studded Apple Bread

This is an adaptation from an Abel and Cole recipe. I've been making this for years, it's a go to recipe for breakfast with an egg, a slice of this bread with cheese alongside soup or with butter and your favourite topping for an afternoon snack.

You can add extras into the mix easily and is a curious texture of half bread half cake. What's not to love!!

Below is the recipe for the bread but we suggested you add these optional extras to make it star studded and zingy:

Handful of dates, handful of nuts, 1 tsp cinnamon, half tsp of ginger or freshly grated ginger

#### Ingredients:

- 150g Oats (or a different type of flour which creates an added texture)
- 200g Flour (wholemeal, plain, buckwheat you can use whatever you have)
- 1tsp bicarbonate of soda
- 1tsp salt
- 50g melted butter or oil
- 1 egg whisked
- 1 large apple or a few smaller apples
- 250g milk, plant based milk or water
- 1 tbsp honey or syrup

#### Method:

- Weigh and mix all the dry ingredients
- Melt the butter or weigh the oil and mix with the egg and whisk together.
- 3 Add this to the dry ingredients
- 4 Grate the apples and add to the mix
- Measure the milk or water and add to the mix
- 6 Mix everything together
- Add any optional extras here mix well together and put into your loaf tin
- Prizzle some honey and chopped nuts on top for some added amazingness!
- Bake for 45 mins 180\* or until the knife comes out clean (usually takes 1hour but check after 45mins)



#### RECIPES



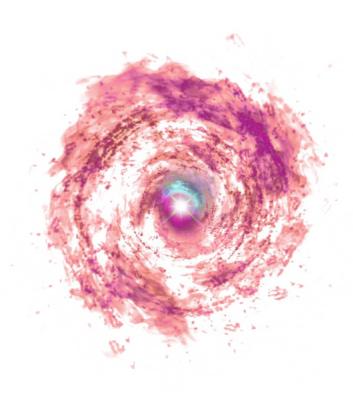


# Peanut Butter and Jam Galaxy Swirls

This recipes is a good way to use up the chocolate from the Easter Bunny, if there is any left! You can make them vegan by using coconut oil instead of butter and 3 tbsp chia seeds soaked in 9 tbsp of water instead of eggs. Add 1 tsp of baking powder if going vegan. You can use any flour you want-plain, ground almonds, buckwheat flour are just suggestions. They are just magical!

#### Ingredients:

- 250gr chocolate
- 200gr butter
- 3eggs
- 200gr sugar
- 100 gr flour (anything will work)
- 50gr cocoa powder
- 70gr peanut butter
- 70gr raspberry jam



#### Method:

- Preheat the oven to 160 C
- Melt the butter and chocolate together in a bowl over a pan of simmering water, making sure the bowl doesn't touch the water.
- In another bowl, whisk the sugar with the eggs until the mixture is smooth and creamy.
- Add the chocolate/butter mixture to the egg mix.
- 5 Sift the flour and cocoa powder and fold until it is all incorporated.
- Line your baking tray (20 cmx20cm) with foil/baking parchment and pour in the mixture, smoothing the top with a spatula.
- Drop teaspoons of peanut butter and jam over the surface and swirl them into the batter using a skewer.
- Put the tray in the middle of the oven, and bake for 20 minutes.



#### RECIPES

# Hokey Pokey



Make your own cosmic explosion with this famous recipe from New Zealand... be prepared for a surprise.



30

#### Ingredients:

- 150 grams caster sugar
- 2 tablespoons honey
- 1 tablespoon golden syrup
- 1.5 teaspoons baking soda
- pinch of ground cinnamon

#### Method:

- Grease a large baking tin with a little vegetable oil or butter.
- Sift the cinnamon and baking soda into a small bowl. (lumps in the baking soda can cause problems later!)
- Put all the other ingredients into a large, deep saucepan Over a low heat melt all the ingredients together slowly, stirring all the time.
- 4 Once the grains of sugar have disappeared turn the heat up to medium and stop stirring. Watch it closely and wait for it to go a deep amber colour! This should only take about 2 minutes.
- Quickly as you can, sprinkle over the baking soda and fold together really quickly until it's mixed in. (It will foam up a lot so be careful not to get hot sugar on your hands as you mix.)
- Tip the whole lot out into the prepared baking tin and leave it to set.. This can take from 20minutes to an hour. You can test it by gently tapping the top with your fingertip to see if it's hard.
- Break the honeycomb into manageable pieces and enjoy.



# STORIES

from the natural world...

# How Light Came into the World By Jane

A story inspired by the Maori creation story, Rangi and Papa and re-written for London children who come to the Paper Garden

Long, long ago at the very beginning of time, the earth and the sky lay together in a warm-hearted embrace – together they had many children, that they loved dearly and doted on – their children the plants, the birds and the animals grew restless living in the cramped world between the tight clasp of their parents. They longed for the light to come in so they could stretch their legs and spread their wings. The only way was for their parents to separate and their children knew it was up to them – to push the sky away from the earth.

Each one tried – first the fox said ... "I'll use my claws to tear the earth from the sky" but he couldn't do it

The hedgehog decided to have a go and she shimmied this way and that with her sharp pointy spikes but to no avail The bite of the beetle's pincers was no good either

The heron thought "I'll use the point of my long beak like a long flashing silver sword "

All their efforts were to no avail and the earth and the sky stayed in their everlasting embrace and the darkness continued – the creatures grew sad and miserable ...

Then the wisest creature of all spoke – this was the wise Oak tree.

"I'll grow slowly and steadily – through my roots I'll draw strength from the rhythms of the earth" ... and so he began to grow ... slowly and gently over thousands of years, each time he grew a little more light came in – and it nourished his leaves and gave him energy so he could grow some more and provide food for all of his brothers and sisters.

At last bright warm sunshine bathed the earth, lush forests grew and the animals flourished.

The sky missed the earth dreadfully and his tears of sorrow fed the soils and became the rivers and the seas

With the power of the sun the creatures grew, diversified and spread across the land ...

they multiplied they made roads and buildings
Until in some places, the city was all that

The people even flew to the moon and as

you could see ...

This was not easy for many of the creatures ...

They came together to figure out what they could do

They felt the pulse of the city and they too drew strength from the rhythms of the earth

It was through the voices of children that they stood up and they spoke

They said who they are and how they would like the city to be ...



#### STORIES

# Drakeena The Dragon

#### By Rod

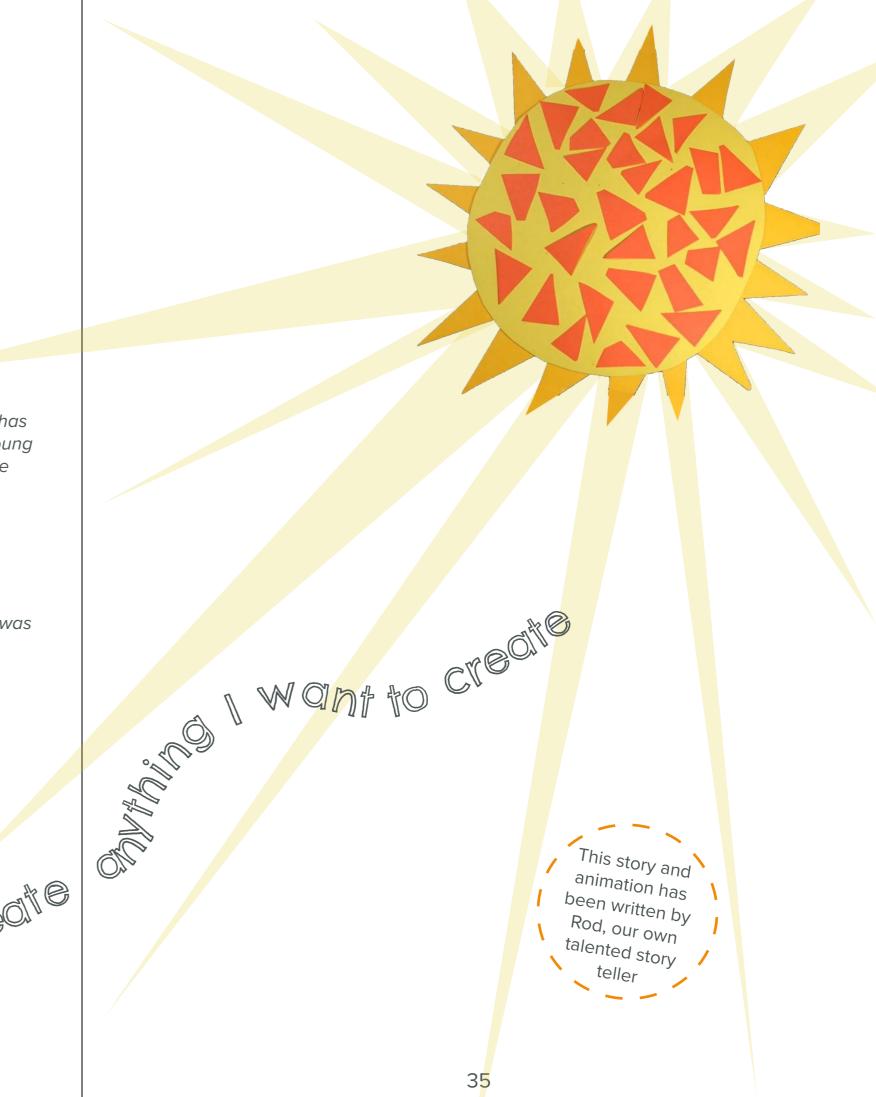
There are many different stories about how the universe was created. This one has been written by Rod, one of the Global Generation team, and is the story of a young dragon named Drakeena whose creativity and determination brings the universe into being!

Watch the beautiful animation of the story here: <a href="https://vimeo.com/404612724">https://vimeo.com/404612724</a>

You'll need the password 'Drakeena' to watch it.

After watching it maybe you can write your own stories about how the universe was created? How many different versions can you tell?







our bodies and minds...

# Cloud Spotting:

Is there anything more relaxing than staring up at the sky and watching the clouds drift by? For this calming activity we invite you to find a comfortable spot where you can sit and observe the sky for a while, this could be from your window, balcony or garden.

Watching the clouds could be a great time to use your sky view-finder from page 14... Move it across the sky to help you look at different clouds and really focus on what you can see.

On the next page we will give you some scientific information about different cloud types, but to start with we ask you to just lie back and use your imagination, try the following two techniques:

#### Drawing on Clouds:

See if you can use your finger to trace over the clouds. What shapes can you see? Do they look like different animals or objects? How do they change over time? Has one animal now become another!?

#### Stories in the Sky:

What stories can we make from the scenes we see in the sky? Trying doing this in pairs, one person can use their view-finder to point out what they can see in the clouds and tell the other a short story about it out loud, then swap! Try to bring in different characters and scenarios as the clouds change...

## Clouds and Mythology:

As well as telling stories about what we can see in the clouds, for centuries stories have been told about the clouds themselves! Here are a couple of examples:

#### Ancient Greece:

The ancient Greeks believed that clouds were spirits called Nephelai who spent their days collecting water from rivers in large jugs, once the jugs were full they would pour the water back down onto the earth, creating rain! This would nourish the soil for the plants to grow and fill the lakes, rivers and oceans.

#### Hindu:

Ancient Hindus believed that elephants bring the rain. For them the clouds are the celestial (spirit) ancestors of the white elephants that roam the land in India.

These spirit elephants use their trunks to shower water down onto the earth.

Do yo know other stories or myths about clouds and rain? Could you write your own?

### CALMING

These are the 10 main different types of clouds and what they mean for the weather!

Over the next few weeks have a look out of the window everyday and see how many you can spot...

#### Cumulus:

Cotton wool puffs!

The smaller Cumulus clouds produce no rain but the large ones can build up and produce showers.



#### Stratocumulus:

This is the most common type of cloud in the UK. They are low lying clouds that form a layer over sky. They some times produce rain but it's generally pretty light.



#### **Cumulonimbus:**

This enormous cloud is called the king of clouds! These are storm clouds so produce heavy rain, snow and hail in quick, sudden downpours.



#### Altocumulus:

These are made up of patches of small fluffy clouds or rolls called 'cloudlets'.

These clouds don't tend to produce rain but can be early indicators of storms to come.



#### Altostratus:

These are low lying flat clouds that just create a flat, overcast sky. In the hills these can be as low as ground level.

They can produce a very light rain.



#### Cirrus

These are beautiful, whispy clouds that look like brush strokes in the sky.

The don't produce rain but can tell of a change in weather.



#### Contrails:

Short for 'condensation trails' these are the lines left behind aeroplanes and are caused from the water vapour from the planes exhaust hitting the cold atmosphere.



#### **R** Lenticularis:

Named after lentils because of their round, disk shape, they also look a bit like UFO's! These clouds are very unlikely to produce rain.



#### Mamma:

These are round, grape-like, clouds that look like they are hanging from the cloud layer above. They tend to indicate that it is raining near-by or that a storm has all ready passed.



#### Noctilucent:

These clouds are really high up in the sky and often glow silvery as they catch the sunlight. They are too high to affect the weather on the ground. They are very rare so don't worry if you don't manage to spot these ones!



#### Combining Science and Storytelling:

Now that you have spotted all the different types of clouds and told stories of what you see in the sky can you combine the two?

For example could each of these type of clouds be a different character in your own cloud myth? What would these characters be like? Would one be happy, another angry and another an artist? Would each cloud type be a different animal? Which ones?

Send us your ideas!





# Journey into Space



This works well having one person being the reader and letting everyone else who is listening stretch their imagination. Who wants to be the reader? Someone new?

Get pens and paper ready, get all your colours or anything else you would like to draw with.

Sit somewhere comfy, get all snugly making sure you're warm enough and in a comfortable position.

#### Reader get ready to start reading:

Close your eyes and take a breath in and out.

In and out

Stretching your imagination, imagine you can see the room you're in with your eyes closed. Now grow this picture to imagine the whole of your building and keep growing, now you can see your street and your town or city and now you can see the whole country - perhaps other countries and oceans.

Now stretch your imagination even bigger into the sky, you can see clouds and birds and blueness stretching on and on.

And higher and higher you go until POP, you pop out of the blue and into the inky sky above.

What can you see? In your imagination can you see stars and planets? Can you see the sun?

Are you floating in space or zooming through the stars? What do you see?

You come to stop in space, floating there with planets and stars all around you. You see something far off in the distance, what is that?

Move towards this point by flying, floating, swimming or any other magical way...

You get closer and closer and wow what is that? Can you imagine that, can you believe that?

Wow look at it's shape and closer. What is that? Taking a really good look at what you see, take a picture in your minds eye. Capture it like a photo.

Coming back to your breath. In and out.

In and out.

You gently float back down through the stars into the bright blue sky, through the clouds resting in their fluffiness and continue floating back into the blue, seeing the oceans and countries, into your town into your building and then back into your body in the room you're sitting in.

Wiggle your toes and fingers and open your eyes.

#### Activity:

Can you draw the magical thing you saw far off in the distance, what did you see in your imagination. Spend some time drawing being as free and creative as you like. There's no right or wrong, it can be as wild as you like.

Give it a go and send us in your photos of your magical reality.

Have a drink of water and a snack to land back to earth:)



# ENERGISING

our senses

# Tune into your biological clock

#### Say Hello to the Sun

A circadian rhythm is the biological body clock of humans, other animals and plants. It regulates how our body works, makes plants flower and humans sleep at the right time. This clock is based on the 24 hours that it takes for the earth to turn on its axis so that in the morning we are facing the sun. Sunrise and sunset gives us the sensation that the sun is rising and falling but really the earth is turning.

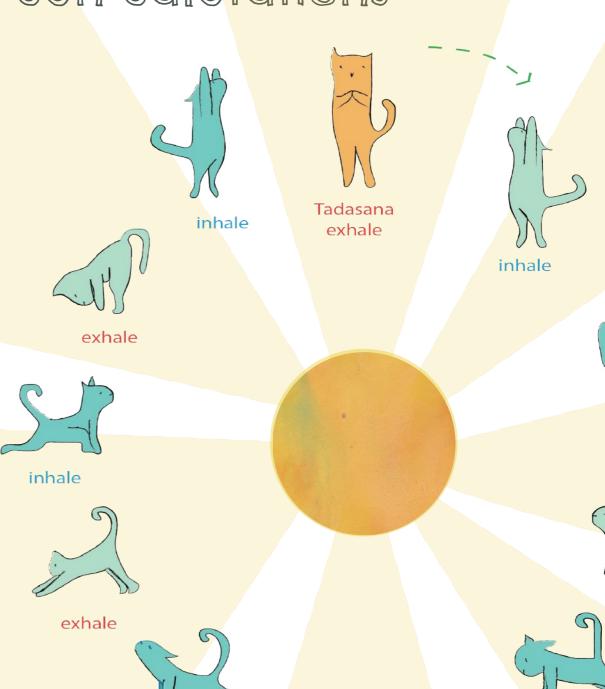
- Why not go outside in the morning and say hello to the sun, it will help your biological clock work in a healthy way.
- Like the Pima people of North America, each morning you could name and appreciate freshly, everything the sun enables to grow ...

#### Morning yoga

Doing sun salutations activates your endocrine system and your chakras, the energy centres of the body. The yoga sequence opposite will also build strength and flexibility.

It is especially nice to do outside in the early morning light!

#### Sun Salutations





inhale



Exhale, stay for an inhale

exhale

inhale

# INSPIRING links...

## Click for more...

To help you find more inspiring resources we've put together some useful links:

#### More about clouds:

https://www.ducksters.com/science/earth\_science/clouds.php

https://www.instagram.com/cloudappsoc/?hl=en

#### More about the universe:

https://apod.nasa.gov/apod/astropix.html

https://resilientblog.co/inspirational/quotes-about-the-universe/

https://www.youtube.com/watch?v=HEheh1BH34Q

#### Science activities:

https://www.stem.org.uk/home-learning/family-activities

#### **Global Generation Video:**

https://www.youtube.com/watch?v=OtKPYG5VO1M



Don't forget to message us to let us know what you've enjoyed, what you'd like to see next and to share your stories and creations!



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