

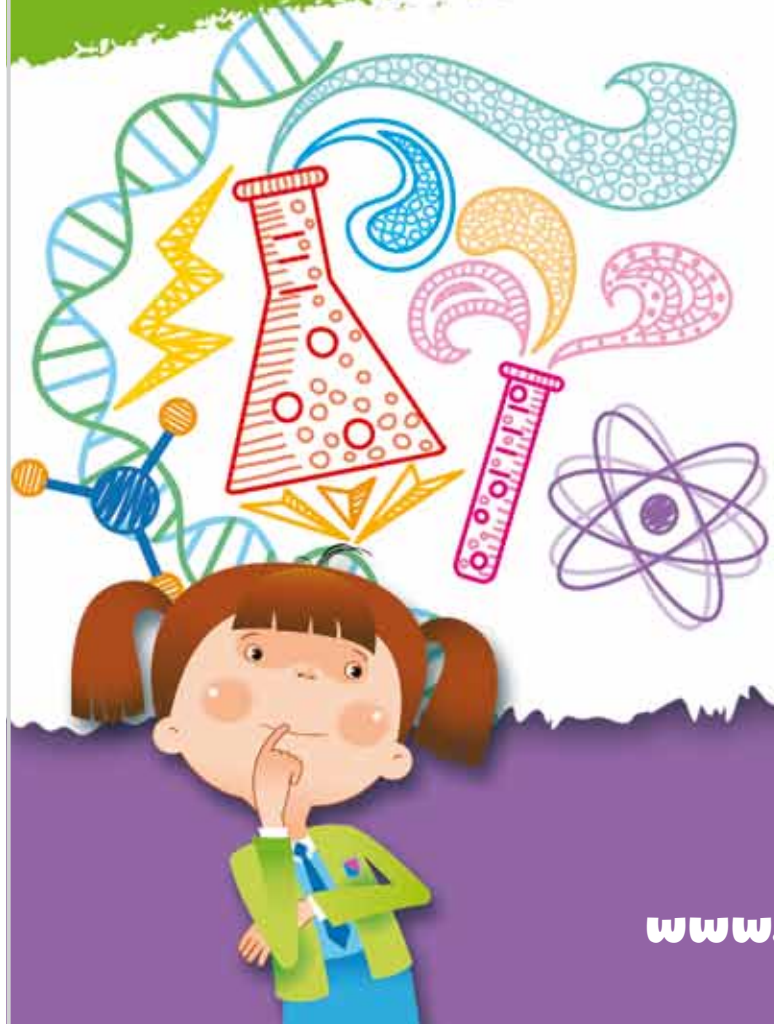
St. Patrick's  
festival

dublin  
city of science2012

How? What? Why?

ST. PATRICK'S FESTIVAL PARADE  
17TH MARCH 2012

EXPLORING  
THE WONDER  
AND CURIOSITY  
OF SCIENCE



[www.stpatricksfestival.ie](http://www.stpatricksfestival.ie)

[www.dublinscience2012.ie](http://www.dublinscience2012.ie)

# How? What? Why?

**How? What? Why?** is the theme for the **2012 St. Patrick's Festival Parade** and it will explore science questions that you might be curious about.

We asked you and the pageant companies that take part in the parade to think about these questions.

**On 17th of March** the pageant companies will present their wonderful, colourful creations in the parade.

See some children's thoughts and find the answers to the questions here!

**Come to the parade in Dublin or watch it live on RTÉ One from 12 noon to explore the wonder and curiosity of Science.**





## How is a Rainbow Formed?

Rainbows form when the sun shines through water droplets in the air, for example when it rains, or near waterfalls and fountains. Light from the sun is not simply one colour but a mixture of colours: red, orange, yellow, green, blue, indigo and violet. When the light travels through a water droplet, it splits up the light into these different colours. This splitting of light is what scientists call dispersion and it is how a rainbow appears in the sky. Unfortunately, there is no pot of gold at the end of rainbows, but they are beautiful!

### What You Thought...

"There is no end of the rainbow because if you move the rainbow will also move with you because of the way you are standing"

**Aaron O'Reilly**

**Age 11**

**St. Patrick's National School,  
Gowna, Co. Cavan**

"Here is a rhyme that often reminds me of the rainbow colours: Ring Out Your Great Bells In Victory"

**Oonagh Shiels,**

**Age 11,**

**St. Patrick's National School,  
Gowna, Co. Cavan**

Eve Reilly  
Age 12  
Ratoath National School  
Co. Meath



Glory Joseph  
Age 11  
Kilbride National School  
Co. Meath



## PAGEANT 1 ARTASTIC – KILDARE

The Artastic pageant will include the colourful raindrop, the spectacular sun, and IRIS, the Greek Goddess of the rainbow.



# What lives beneath the sea?

There are many creatures that live beneath the sea. The bottom of the sea is called the sea floor. Under the sea there are loads of different types of fish. Near the shore, where the sea and the land meet, you might see crabs, lobsters, starfish, or even sea urchins. Crabs and lobsters have legs they use to crawl along the sea floor. Starfish and sea urchins use funny kinds of little feet. The world beneath the sea can seem strange sometimes but it is always interesting!

## What You Thought...

"Beneath the waves, beneath the tide,  
A monster swims about.  
With dark grey eyes and light grey skin  
That pounds about and shouts  
He eats just everything about  
And maybe people too  
So if you go down just beware  
Because he just might eat you!"

**Lauryn Murray**  
Age 11  
Ratoath National School,  
Co. Meath

Tom Dunne,  
Age 7  
St. Patrick's National School  
Rathangan, Co. Kildare

Dylan Nevin,  
Age 8  
St. Patrick's National School  
Rathangan, Co. Kildare



**PAGEANT 2 SPRAOI - WATERFORD**

Look out for Spraoi's deep sea divers, sea creatures and strange fish people!





# If the earth is spinning why don't we fall off?

When you are on a merry go round you need to make sure you don't go flying off by holding on tight. When we hear that the earth is spinning we might expect the same thing to happen to us. The reason we don't go flying off the earth is because gravity is holding us down. Gravity is the force that acts between all matter in the universe and more matter means more gravity. As the earth is massive, the force of gravity is big enough to keep us grounded. Lucky for us!

## What You Thought...

"Gravity holds us down so we don't float around the sky. There is no gravity in space that's why astronauts float around in space. If the world stopped spinning suddenly we would all be flung off it"

**Alannah Mooney,**  
Age 11  
St. Ita's National School,  
Loughrea, Co. Galway

"The earth keeps on spinning because there are no forces acting to stop it."

**Cillian O'Reilly,**  
Age 11,  
St. Patrick's National School,  
Gowna, Co. Cavan



Robert Séan O'Connell,  
Age 10  
St. Mary's College Junior School,  
Dublin 6

Niamh Lennon,  
Age 11  
St. Ita's National School  
Loughrea, Co. Galway



Matthew,  
Age 10  
St. Mary's College Junior School,  
Dublin 6



**PAGEANT 3 BRIGHTER FUTURES - DUBLIN**

The Brighter Futures pageant illustrates Isaac Newton's apple falling with acrobatics, flying machines, and dreams

# How do you tell the age of a forest?

It can often be a tricky thing to tell exactly how old a forest is but there are some ways you can try! One way is to look at maps and see how long the forest has been standing there. By looking at Ordnance survey maps in Ireland you can check if there were trees there in the year 1910 and also as far back as the year 1830 (which are the two years the country was mapped). There are older records in the National Library which you could check too, which go as far back as the 1600s!

If you don't have maps of course there are other ways. Trees grow taller and wider each year, and every year they grow they make a new growth ring inside their trunk. You can look in the forest for tree stumps or recently cut trees and count the rings, but be careful because this will only tell you how old that one tree is and the forest may have been there before that tree.

Finally, another good way to find out is to ask! There may well be a local forest manager who will know the history of the woodland and who may well have planted the trees that you are looking at.

## What You Thought...

"If you go deep enough into the forest, which you probably won't, you might find a talking bear or fox and they will tell you"

**Pierce Butler**  
Age 12  
Ratoath, Co. Meath



Lianna,  
St. Francis Xavier National School,  
Roselawn, Dublin 15



Adam Courtney  
Age 11  
Kilbride National School  
Co. Meath

Shannon Connolly  
Age 11  
Kilbride National School  
Co. Meath



## PAGEANT 4 LUXE - DONEGAL

On this Spring planting day LUXe will celebrate the fertilising of seeds in order that future generations may be sheltered by trees





# Why do we dream?

No one really knows why we dream but one idea is that dreaming is a way for our minds to 'put to bed' all of the activities we took part in and thoughts we had during the course of the day. If you think of our brain activity during the day as a car driving down a motorway, generating noise and displaying signals, a dream is a way our minds park the car correctly and turns off the engine. A good night's sleep may allow us to make sure our memory is working well, helping us to remember things like how to play a piece of music

## What You Thought...

"I think we dream because we all need to get away from reality and use your imagination to think of the perfect world that you want to be in! You think of a world with candyfloss clouds or a house in the sky!"

**Alicia Crawley,**  
**Age 12**  
**Ratoath National School,**  
**Co. Meath**

"We dream because our brain is bored"

**Callum Scanlon,**  
**4th Class**  
**St. Mary's College Junior School,**  
**Dublin 6**



**Anna Keevans**  
**Age 11**  
**Mercy Convent Primary School**  
**Co. Kildare**

**Rhianna Flaherty**  
**Age 12**  
**St. Ita's National School**  
**Loughrea, Co. Galway**



## PAGEANT 5 MACNAS, GALWAY

Macnas have invented a world filled with inventors, dreamers, mystics, punks and poets, a rhino philosopher, a dragon inventor and more.



# How do our Senses work?

We have five main senses that help us to hear, taste, smell, feel and look at something.

Our five senses are **(1) eyes for sight (2) ears for hearing (3) nose for smell (4) skin for touch (5) tongue for taste.**

All these senses work by taking information from our surroundings and sending it to the brain along special cells called nerve cells. The brain sorts all the information and decides to take a particular course of action. For example if you ever decide to put your hand on something too hot, you will remove it. What happens here is when you place your hand on something too hot, a message is sent to your brain (via your nerve cells). Your brain will then send a message to the muscle in your arm to withdraw your hand quickly. Your brain works really quickly to keep you safe and to make sure you enjoy life to the full!

## What You Thought...

"I love the colours of the Irish flag,  
I see the floats zooming by,  
I smell the fumes of the vintage cars,  
I hear Irish music playing in the street,  
I taste the sweets, crisps and fizzy drinks,  
I feel proud to be Irish on Paddy's Day"

**Catriona Culkeen**  
**Ballinlass National School,**  
**Dunmore, Co. Galway**



Ballinlass National School,  
Dunmore, Co. Galway



## PAGEANT 6 CITY FUSION - DUBLIN

Look out for the fantastical City Fusion characters representing smell, touch, hearing, taste and sight





# How is electricity made?

Electricity is made by generators in power stations. A generator is a magnet fixed to a rod inside a coil of wires. When the rod is turned, electric current is created in the wires. Different power stations spin the rod in different ways. Some use coal, gas and oil to change water into steam, which pushes blades on a steam turbine to turn the rod. Others use water or wind to directly push the blades of turbines.

The electric current flows through the wires from the power stations into our homes, powering our TVs, which allows us to see St Patrick's Day festivals from all over the world.

## What You Thought...

"We need it in our daily lives.  
Like school, home and work.  
Our lives wouldn't be the same  
without electricity.

**Andrea Gaffney**  
**St. Patrick's National School,**  
**Loch Gowna, Co. Cavan**



Molly McKeon,  
Age 11,  
Kilbride National School,  
Co. Meath



David Naughton,  
Age 10  
St. Mary's College Junior School,  
Ratmines, Dublin 6



## PAGEANT 7 BUI BOLG - WEXFORD

Bui Bolg take us back a few million years to the time of the fossil  
with dinosaur like machines and Rock Gods.

# What makes the weather change?

The weather describes the state of the atmosphere above and around us at a given time. The main reason the weather changes is because the earth is a sphere and so the sun heats the earth unevenly. Some places like the Equator receive lots of sunshine, while other places like Ireland don't get as much!

The different temperatures of the atmosphere across the earth causes the air to move in large masses. The following four are examples of the different types of air masses we get in Ireland: Polar (cold air), tropical (warm air), maritime (moisture in the air) and continental (drier air). Ireland gets many different types and that is why our weather changes so much. If only we could choose tropical the whole time and have nice warm weather!

Take a look at [www.greenwave.ie](http://www.greenwave.ie) to see the signs of Spring and how the season changes.

## What You Thought...

"The raindrops and the sun work as a team to make the weather change. They take turns."

**Ava D.**  
**St. Francis Xavier National School,**  
**Roselawn, Dublin 15**



Seri  
St. Francis Xavier National School,  
Roselawn, Dublin 15



Mollie  
St. Columba's National School,  
North Strand, Dublin 3

Wynona  
St. Francis Xavier National School,  
Roselawn, Dublin 15



## PAGEANT 8 INISHOWEN, CO. DONEGAL

Inishowen have created a world above the clouds, full of weather making flying machines like The Cloud Maker and The Windmaker





**Thanks to all of the children from the schools  
around the country who took part.**

**Thanks to Vincent McCarthy  
Curator of Dublin City of Science 2012 for his input.**

**ENJOY THE FESTIVAL PARADE!**

