

# SUN | Earth

Discover the connections between our Sun and Earth



## WHO ARE THESE VIDEOS FOR?

Children aged 7-11, their families and teachers.

## WHO MADE THEM?

The project was led by award winning artist and physicist [Geraldine Cox](#), and dance artist and producer Ania Straczynska from The Place's 'Creative Learning Team'. The scientists are physicists from [Imperial College London](#), [Warwick](#) and [Cambridge](#) Universities. The dance artists in the film are from [The Place](#) in London.

The project team is:

- Physicists – Bryony Lanigan of Imperial College London, Ravi Desai of Warwick University, Harry Cliff of Cambridge University.
- Dance Artists: James Aiden Kay, Dulcie Fraser, Kiren Virdee.
- Musician: Bobby Demers.
- Film Maker: Alice Underwood.

The project is supported and funded by: [Imperial College London's 'Centre for Cold Matter'](#), [The Engineering and Physical Sciences Research Council \(EPSRC\)](#), [The Arts Council](#), [John Lyon's Charity](#).

## WHY DID YOU MAKE THEM?

- To introduce important ideas about the Sun and Earth using movement exploration, allowing children to learn in a physical way.
- To encourage creativity and imagination by highlighting the cross-curricular links between art and science.
- To encourage curiosity in the world around us and share the beauty of Nature.
- To reach more minds and bodies more effectively and provide a resource for families and schools in teaching this work.
- To have fun.

## WHAT ARE THE VIDEOS ABOUT?

The videos are about our nearest star the Sun and its relationship with Earth.

## HOW IS EACH VIDEO STRUCTURED?

Each video begins with a short introduction by one of the physicists followed by the dance exploration of the theme, featuring a warm-up, creative dance tasks and a cool down. To close, we return briefly to the physicist, and they suggest an idea for a creative follow-on project which may be visual art, writing or an experiment. The learning points are summarised at the end, allowing the viewer to press 'pause' and recap the information covered.

## HOW SHOULD I USE THESE FILMS?

Clear a space and you follow along with the films, you can use them to create your own lesson plans or press pause at any time to lengthen or repeat different activities. These films might slot into your existing science curriculum, or you may wish to use them as additional content, as part of a STEAM topic, for example. They may inspire ideas about how you can incorporate dance and art into other curriculum areas. You can find additional music to accompany the activities in the [Spotify playlist](#) detailed at the end of this handout or choose your own.

# WHAT IS EACH EPISODE ABOUT?

## 1. LIFE STORY: What is the story of our Sun and Earth?



This episode explores how the Sun and Earth were born. We consider their relative sizes and separation, and how our days and years are formed. We close by imagining how the Sun's life will likely end.

In the dance section of the video we will:

- Explore the birth of the Sun, including the idea of growth and pressure.
- Reimagine the scale in which we can compare the size of the Sun to the size of the Earth.
- Learn a dance routine inspired by the birth of the Sun.



Photo by Alice Underwood



## 2. TRIP TO THE SUN: What is the Sun like close-up?



7<sup>th</sup> June 2011. David Long UCL & Huw Morgan Aberystwyth. Courtesy on NASA/ SDO and the AISA, E/ve and HMI science teams.

We zoom in close to the Sun's surface by looking at recent satellite imagery. We discover ever changing sunspots, bubbling cells the size of a country, and vast dynamic explosions which have their origins in the Sun's complicated magnetism.

In the dance section of the video we will:

- Take an imaginary trip to the surface of the Sun.
- Explore movement inspired by the bubbling and explosive movement on the Sun's surface.
- Create looping shapes and moves inspired by coronal rain.
- Create a dance for the surface of the Sun, using all the dynamics learned.



Photo by Alice Underwood



### 3. RELATIONSHIP: What is our relationship with the Sun?



Photo by Alice Underwood

This episode looks at everything the Sun sends to us: visible and invisible light, charged and uncharged particles and the Sun's gravity which holds us in its orbit. Almost all the Earth's energy comes from the Sun. We close by asking what we can send the Sun: Our appreciation, creations, and dances.

In the dance section of the video we:

- Explore the movement of Earth around the Sun which gives us our days and years.
- Learn to move directly like neutrinos in straight lines.
- Create a dance inspired by the spiralling movement of charged particles along magnetic field lines.

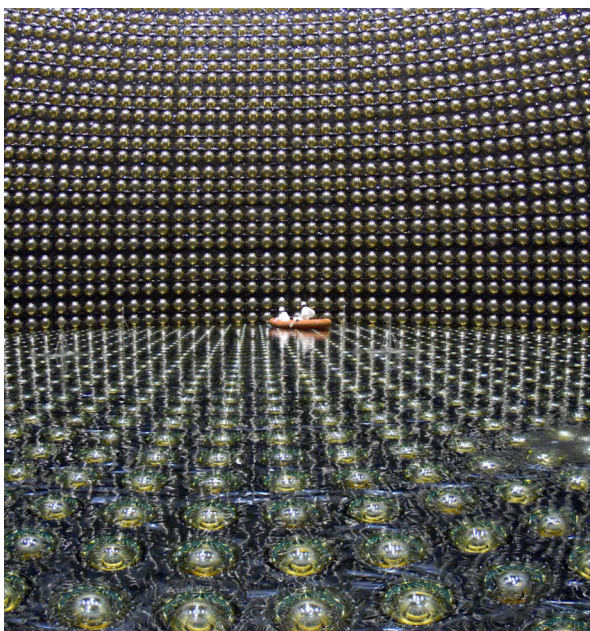


Photo by superkamionade

## WHO CAN I CONTACT WITH QUESTIONS AND SUGGESTIONS?

Please email your questions and feedback to [Creative Learning Team](#) at The Place. We are keen to hear your thoughts and learn about how you have used these films. Please send us your photos!

## WHERE CAN I VIEW THE FILMS?

You can view all the films and a trailer on [The Place's website](#).

## THANK YOU.

'The Creative Learning Team' at The Place, '[The Centre for Cold Matter](#)' at Imperial College London, and artist Geraldine Cox.