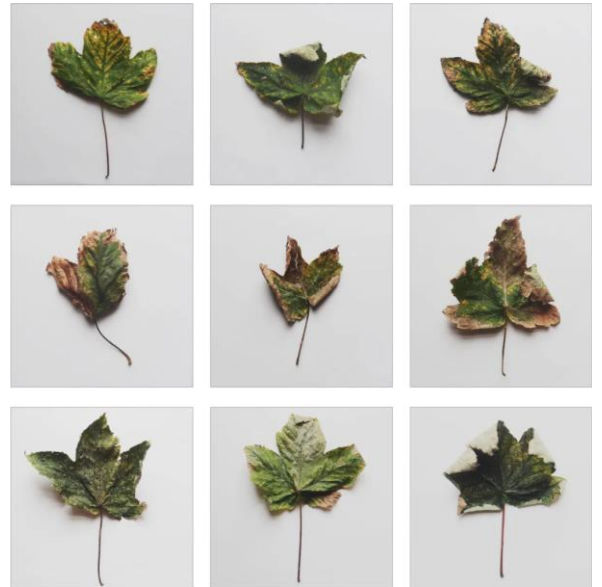


Suggested Activities:

The following activities are just a few ideas to get you thinking about and making scientific photographs. It's tempting to think that science and photography are only for specialists with fancy equipment. Nothing could be further from the truth. It's important that we all engage in both science and photography because they help us understand the world we live in so that we can change it for the better. Have fun!

- **WHAT'S YOUR TYPE?** Scientific research often involves the recording and classification of various samples. This kind of looking and visual documenting process helps researchers identify similarities and differences between the objects recorded. Sets of pictures like this are often referred to as [typologies](#). Choose something that you wish to study. It could be something as mundane as the leaves on a nearby tree, the cracks in the paving stones on the street where you live or the meals you eat every day for a week. **Try to make your own typological study** by taking a series of pictures of these things. Choose the same viewpoint. Consider placing the object on a plain, well-lit background. Try to make photographs that look 'scientific'.



- **UP CLOSE AND PERSONAL:** The discovery of [microphotography](#) and the use of [special macro lenses](#) have enabled scientists (and artists) to create mysterious images of the world around us. **Take a series of photographs** (with whatever camera you have available) **as close as you can to the surface of your objects**. Don't worry too much about precise focus. The point is to look in a different way than you usually do with the aid of your camera and to create images that surprise the viewer with new views of familiar things. Once you've experimented with still photographs, try video!



THINKING ABOUT SCIENCE: [Nick Bowers](#) has taken portraits of 'Scared Scientists' contemplating the implications of their research. In his exploration of the mathematics that underpins our entire lives, [Peter Fraser](#) has taken portraits of family and friends seconds after asking them to imagine that something they had held to be true for most of their life had just been proved wrong. What is the science of thought and is it possible to make an image of it? In the nineteenth century, some photographers claimed to be able to make pictures of thoughts - [Thoughtography](#) or psychic Photography. **How might you create a series of pictures of people thinking?** Perhaps you could ask a teacher to think about the hardest bit of science they know, capturing the expression on their face? Or maybe you could ask a family member or friend to imagine the year 2099?



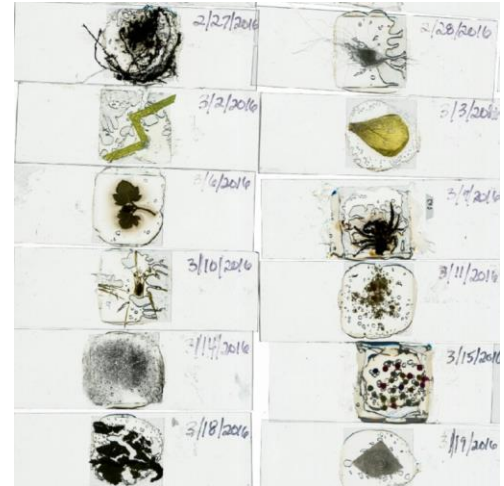
CAPTURING THE INVISIBLE: Photographs can help us 'see' things that are otherwise invisible to the naked eye. [Eadweard Muybridge](#) and [Etienne-Jules Marey](#) both attempted to capture various types of movement with ingenious camera devices. [Berenice Abbott](#) was asked to make a set of illustrations for a Physics text book in the 1950s. [Harold Edgerton](#) is famous for creating photographs using a high speed flash that allow us to see objects travelling too fast for human perception. Think about everyday scientific phenomena - melting ice, pedalling a bicycle, a rolling ball etc. **Experiment with a variety of photography techniques to capture these processes to reveal what is otherwise hidden from view.** For example, use the time lapse function on your phone camera app to speed up something very slow or take a series of photographs of something moving very quickly in order to stop the motion.



- PERSUASIVE EVIDENCE: [Philippe Braquenier](#) has made a series of photographs exploring the idea that the Earth is flat, something believed by a group of people referred to as the [Flat Earthers](#). The photographer employs the language of the science experiment to explore what the vast majority of people would regard as bogus. **Imagine you are a scientist researching something that might be true.** Perhaps you are attempting to prove that plants have feelings or that your cat is planning a trip to Mars! It could be serious or silly. How can you use photographs to persuade the general public that your theory is true? You might like to use this [photography advice for scientific researchers](#).



- **THE LITTLE THINGS:** Microscopes help us to see things too small for the human eye alone. Science is often concerned with the tiny things - atoms, molecules, electrons etc. - that make up all matter in the universe. Human beings can also be bothered by little things. Artist [Melissa Penley Cormier](#) has created a series of laboratory type slides from tiny things she had been worrying about - dead spiders, spilt milk, dandelion seeds etc. She then enlarged these with a projector to better examine them. **You could collect a series of little things, samples of materials you have interacted with during the day, to make your own slides.** You could use sticky backed plastic or old 35mm glass slide cases. These could be beautiful objects in themselves or you could devise a way to project the images, enlarging your worries on the wall.



- **BUILD A MODEL:** Scientists sometimes build models to better understand a particular phenomenon. In 1874, in order to create photographs of the moon's surface, before the technology was available, [James Nasmyth](#) and [James Carpenter](#) created plaster models which they then photographed outside in raking light and published in a book entitled *The Moon: Considered as a Planet, a World, and a Satellite*. Daniel Stier's project [Ways of Knowing](#) explores the way scientists present information through photography. **Build your own model using everyday materials representing a particular scientific idea** that interests you and photograph it, both the process of making it and the final outcome.



- **CAPTION IT:** Photographs on their own can [mean lots of different things](#), depending on where they are seen and who is looking at them. One way to make the meaning more specific is to provide a caption - a small piece of text usually alongside or underneath the photograph which helps to explain its primary meaning. Given that all photographs are, in some sense, scientific because their creation involves scientific and technological processes and the laws of science govern everything in the world, try the following experiment. **Choose a photograph of anything. Write a scientific caption for it.** You could borrow this from a text book, make it up



<https://www.photopedagogy.com/scienceandphotography.html>

yourself or do some detailed research about the science behind the image. Congratulations, You have made any old photograph into a science photograph.