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# Hands On Science!



## Welcome back to 2016.

We have been planning for another busy year. Over the Summer we have hired new presenters, updated kits, reviewed [lesson plans](#) to support the Victorian Curriculum, and enjoyed some R & R. We are looking forward to sharing some exciting hands-on learning experiences with you and your students in 2016.

**Bookings open for terms 1-4,  
2016**

**Book early to secure your place.  
Popular weeks filling fast!**

# STEM: Science, Technology, Engineering and Maths

[Office of the Chief Scientist 2013, \*Science, Technology, Engineering and Mathematics in the National Interest: A Strategic Approach\*, Australian Government, Canberra.](#)

- As we position to meet whatever challenges lie ahead, a vital part of our investment must be in the whole Science, Technology, Engineering and Mathematics (STEM) enterprise – all levels of STEM education and research.
- Curricula should be delivered to students in ways that ***encourage curiosity and reflection.***
- ***Inquiry-based learning*** should be emphasised, along with the teaching of ***critical thinking and the scientific method.***

***This is what we do at Hands on Science!!***

## Staff Favourites: [Weather](#) by Allison

I love to watch how the *Hands on Science* lessons ignite a keen interest among students. One of my favourites is the [Weather module](#), where students learn about the fundamental physical principles of weather and climate. Students create their own weather systems and through simple experiments learn the cause and effect relationships which, at much larger scales, manifest themselves as rain, clouds, wind, and storms. Experiments are simple but meaningful, capturing the key concepts involved in what could be a complex and difficult subject. Every activity prompts a flood of insightful questions and discussion about the way our world works, discussions which I am quite sure continue well after the session concludes, in the playground and at home.





### **Experiment: Expanding air**

1. Collect bottles of the same size and material.
2. Paint them different colours
3. Put balloons on top.
4. Place them out in the sun
5. Return to check on them periodically.

#### **What is happening?**

The black bottle absorbs the sun's energy heating the air inside. As the air gets warmer it expands blowing up the balloon. The white bottle reflects the sun's energy so the air temperature inside does not change as much.



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