

# Course Information Sheet

## Family Bottle Rockets



### Course Summary:

Join our 2-hour Bottle Rockets Workshop! Learn to design, build, and launch bottle rockets. Explore aerodynamics, propulsion, and Newton's laws. Construct fins and nose cones. Conduct launch experiments and analyze results. Hands-on activities and feedback ensure an engaging experience. Ideal for hobbyists, aspiring engineers, volunteers, and carers. Potential progression includes physics courses, STEM activities, and childcare roles. Enhance skills for science outreach or community programs. Launch into science!

### Course Description:

Join us for an exhilarating Bottle Rockets Workshop! This hands-on session combines fun and learning as you explore the principles of aerodynamics and propulsion. Learn how to construct bottle rockets using readily available materials, understand the science behind their flight, and participate in a thrilling launch competition. Perfect for anyone interested in science, engineering, and hands-on activities.

### What will I learn?

- Rocket Design and Construction:
  - Understanding the basic components of a rocket.
  - Learning how to build a bottle rocket using plastic bottles, water, and air pressure.
  - Designing and constructing fins and nose cones for stability.
- Principles of Aerodynamics and Propulsion:
  - Exploring Newton's laws of motion and their application to rocket flight.
  - Understanding the role of air pressure and water in propulsion.

- Learning about factors affecting rocket stability and trajectory.
- Launch and Experimentation:
  - Safely launching bottle rockets and observing their flight.
  - Conducting experiments to test different designs and launch parameters.
  - Analyzing launch results and applying scientific reasoning.

### **How will I be assessed?**

- Formative Assessment:
  - Observation of participation and engagement during construction and launch.
  - Interactive discussions and question-and-answer sessions.
  - Practical application of scientific concepts during experiments.
- Summative Assessment:
  - Completion of a functional bottle rocket.
  - Participation in a launch competition and analysis of results.

### **Progression Opportunities:**

- Further courses in physics and engineering principles.
- Workshops on advanced rocket design and construction.
- Courses in STEM education and outreach.
- Courses in leading educational workshops.

### **Career or Job Enhancement Pathways:**

- Science education volunteer or worker.
- STEM activity leader or assistant.
- Childcare assistant or playgroup leader with science focus.
- Volunteer roles in science museums or community science programs.

**How do I enrol?**

The quickest way to enrol is online at [www.oncoursesouthwest.co.uk](http://www.oncoursesouthwest.co.uk), simply create an account and select 'Enrol now'. Alternatively, if you have any questions, please call our friendly customer service team on 01752 660713.

**How will the course be delivered?**

This is a practical course, and the sessions will include tutor-led demonstrations, learner-led group activities, instruction and repetition. These will form part of the delivery together with one-to-one support as required.

**Will I need to practise outside the classroom?**

You will be encouraged to review your notes between lessons to ensure maximum benefit from your course. It is always useful to practise your skills between sessions. Your tutor may encourage home learning, or independent research.

**How will I know I'm making progress?**

During the first session, your tutor will discuss your goals and current level in relation to the course. Based on this assessment, you will agree individual targets which you will record in your individual learning plan (ILP). You and your tutor will review your targets regularly to ensure that you are making progress; these will be written in your individual learning plan.

**What will I need?**

Please bring a notepad, and pen to each session. You may wish to bring a file for any handouts. A laptop with internet access is required for completion of coursework and home learning outside of the classroom.

**Please note:**

Most courses attract a subsidy from the Education and Skills Funding Agency (ESFA). It is a requirement of the ESFA that you complete various forms at different stages of your course, further information is available on request. Courses are subject to a minimum number of enrolments and could be cancelled if recruitment is low. In some cases, an alternative class at a different location may be offered.

Terms and conditions are available at

<https://www.oncoursesouthwest.co.uk/learner-information/essential-information-for-every-learner>

Room numbers are subject to change - please check when you arrive at the venue.

