



# Hot Air Balloons Lesson Plan

## Aim

To help young people to learn about engineering job roles by learning about the laws of motion and doing a related experiment

## Mapping

CES 'I Can' Statements	CMS Themes and competencies
<ul style="list-style-type: none"> <li>★ I can discuss the relevance of skills to the wider world and make connections between skills and the world of work</li> <li>★ I can demonstrate and apply the skills I have learnt across the curriculum in relation to the world of work</li> </ul>	<ul style="list-style-type: none"> <li>★ Horizons</li> </ul>

## Learning Outcomes

Young people will understand:

- ★ Learn about how hot air balloons stay in the air
- ★ Be introduced to Newton's Laws of motion
- ★ Using a step by step guide, construct a hot air balloon
- ★ Investigate job roles related to the experiment.

Activity on next page...



## Development of Activity

### Instructions

#### Before you start

- ★ Print off the Hot Air Balloons worksheet.
- ★ To do the experiment, you'll need:
  - two thin bin liners
  - a pair of scissors,
  - sticky tape
  - a hairdryer
- ★ An adult should oversee the experiment

### Follow-up

The activity looks at the jobs related to engineering. There are lots of related job profiles on My World of Work that the young person could find out more about:

[Aerospace engineer](#) (1), [Materials technician](#) (2), [Physicist](#) (3), [Energy engineer](#) (4), [Structural engineer](#) (5), [Chemical engineer](#) (6), [Materials engineer](#) (7)

They can find out about related apprenticeships on [Apprenticeships.scot](#) (8)

Foundation Apprenticeships - [Engineering](#) (9), [Scientific technologies](#) (10)

Modern Apprenticeships – [Engineering](#) (11), [Process Manufacturing](#) (12)

Graduate Apprenticeships - [Engineering: Design and Manufacture](#) (13), [Engineering: Instrumentation, Measurement and Control](#) (14), [Data Science](#) (15)

## Website References

1. Aerospace engineer <https://bit.ly/2WO5Dpu>
2. Materials technician <https://bit.ly/3dV9R4C>
3. Physicist <https://bit.ly/2XgpAo2>
4. Energy engineer <https://bit.ly/2Xs47J9>
5. Structural engineer <https://bit.ly/2ZmRdyE>
6. Chemical engineer <https://bit.ly/2zd0m1O>
7. Materials engineer <https://bit.ly/3cPfG3g>
8. Apprenticeships.scot [www.apprenticeships.scot](http://www.apprenticeships.scot)
9. Engineering Foundation Apprenticeship <https://bit.ly/3gaZqMm>
10. Scientific technologies Foundation Apprenticeship <https://bit.ly/3bUcbHO>
11. Engineering Modern Apprenticeship <https://bit.ly/3bHoM0M>
12. Process Manufacturing Modern Apprenticeship <https://bit.ly/3bLsGG0>
13. Engineering: Design and Manufacture Graduate Apprenticeship <https://bit.ly/3e41ync>
14. Engineering: Instrumentation, Measurement and Control Graduate Apprenticeship <https://bit.ly/3bUcxOE>
15. Data Science Graduate Apprenticeship <https://bit.ly/3cPOZeK>