

## Cardiff and Vale College Family Learning Team

Winner of the Family Learning to  
Support STEM Award

Cardiff and Vale College (CAVC) is one of the largest colleges in the UK, delivering high quality education and training within the Capital Region of Wales. They have more than 14,000 learners each year across full-time and part-time college courses, university qualifications and apprenticeship programmes, along with dedicated training provision for employers.

Family Learning is a cornerstone of their Widening Participation in education objectives. Their aims are to provide outstanding learning and enrichment experiences, increase engagement in learning by removing barriers, and work with partners to maximise their collective impact.



### Family Learning STEM: Fizzy Fun

As part of a wider award-winning Family Learning programme, CAVC delivered 27 family learning STEM courses throughout the year. The Family Learning with CAVC: Fizzy Fun provision was developed to foster a deeper understanding of STEM topics in families, challenging misconceptions and supporting the whole family's understanding.

The CAVC team delivered innovative, practical and fun hands-on learning experiences, empowering children and parents to actively explore and interact with key STEM concepts both within the classroom and home. The activities strengthened communication skills, critical thinking and problem-solving amongst the whole family.



The activities were developed to provide cost-effective, transferable activities that could be replicated at home. Each activity promoted critical thinking and problem-solving skills for both children and family members and highlighted real-world applications of STEM principles, such as the use of ketchup and custard. Parents also attended progression weeks as part of the course to gain a better understanding of STEM career pathways.

Throughout the programme, families had access to up to 45 fun and practical STEM activities, including:

- Spaghetti structures
- Save the egg
- Ooblek
- Chromatography
- Volcanoes
- Crystals
- Coding with microbits
- Extracting DNA from a strawberry.



### Impact and next steps

*"We are incredibly proud to have hosted the Family Learning Course in our school, an initiative that has truly transformed the way families engage with education. The course has not only enriched the learning experiences of our children but has also empowered parents with valuable tools to support their children's development at home."*

- Primary School Headteacher about Fizzy Fun.

The STEM courses enabled 330 families to attend free weekly classes in the local community, engaging 670 people over the year. The hands-on experiments provide families with the opportunity to explore and ask questions, fostering curiosity and active participation in warm and friendly learning environments in their community. Using project-based learning, such as repurposing plastic waste, helped families apply STEM concepts to authentic problems they cared about.

The activities also generated a wide range of discussion topics, such as the gender pay gap, women in STEM industries and LGBTQ+ icons such as Alan Turing. The Fizzy Fun project was effective in raising aspirations of all the family members and creating a route to employment for the adult.

Schools reported the benefits of the family learning course and how it made learning accessible and enjoyable for everyone. Anecdotally, schools reported disengaged families now supporting their children at school and home, with positive impacts on attendance and attainment of pupils.

Using feedback from parents, Cardiff and Vale College have continued to develop the programme for more families to experience, including developing coding courses and 'Progression Weeks' for parents interested in developing their own journey into more advanced programmes.