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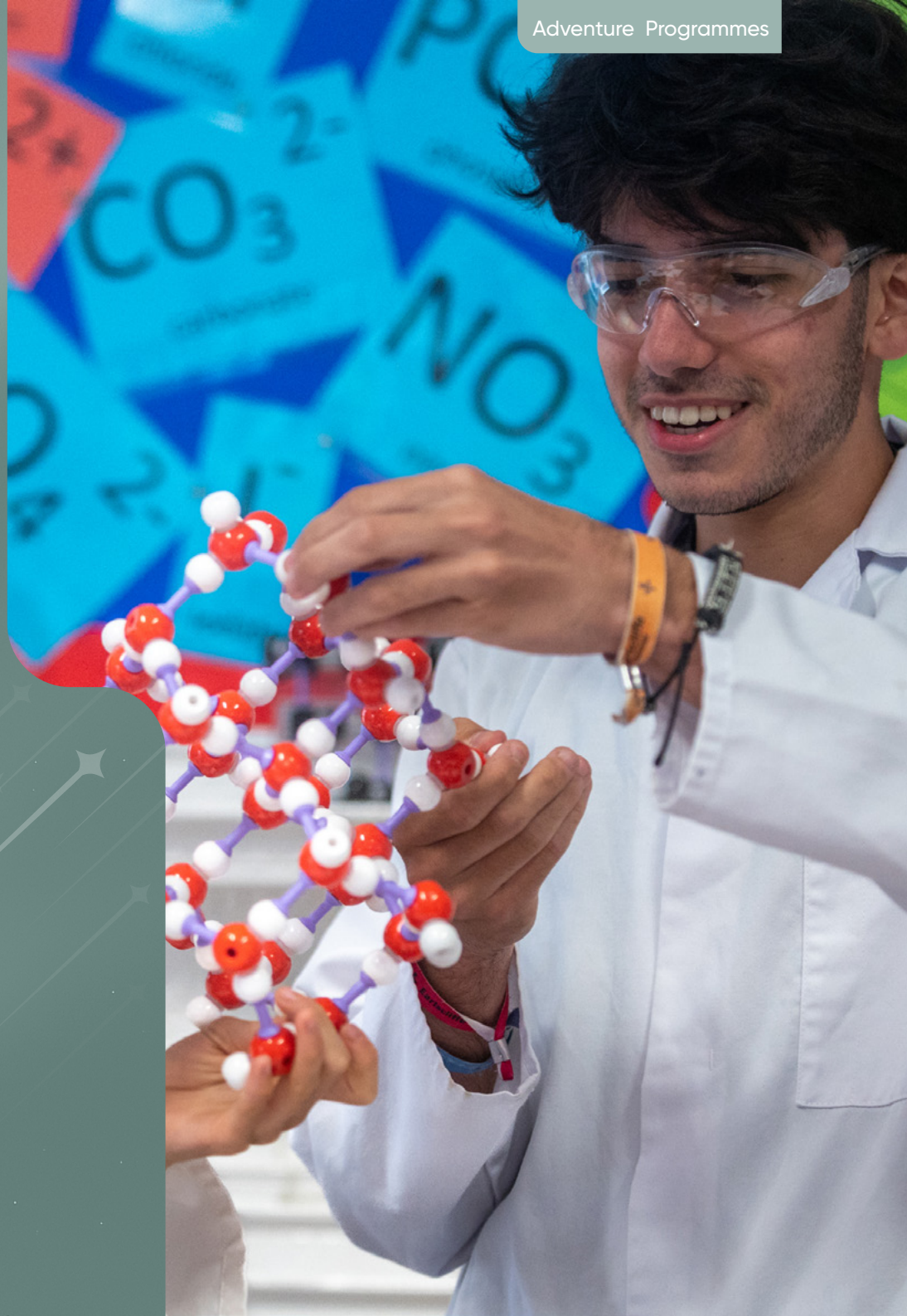


COURSE OVERVIEW

Future Scientist

11-16yrs

Canford

At a glance

Introduction to Future Scientist

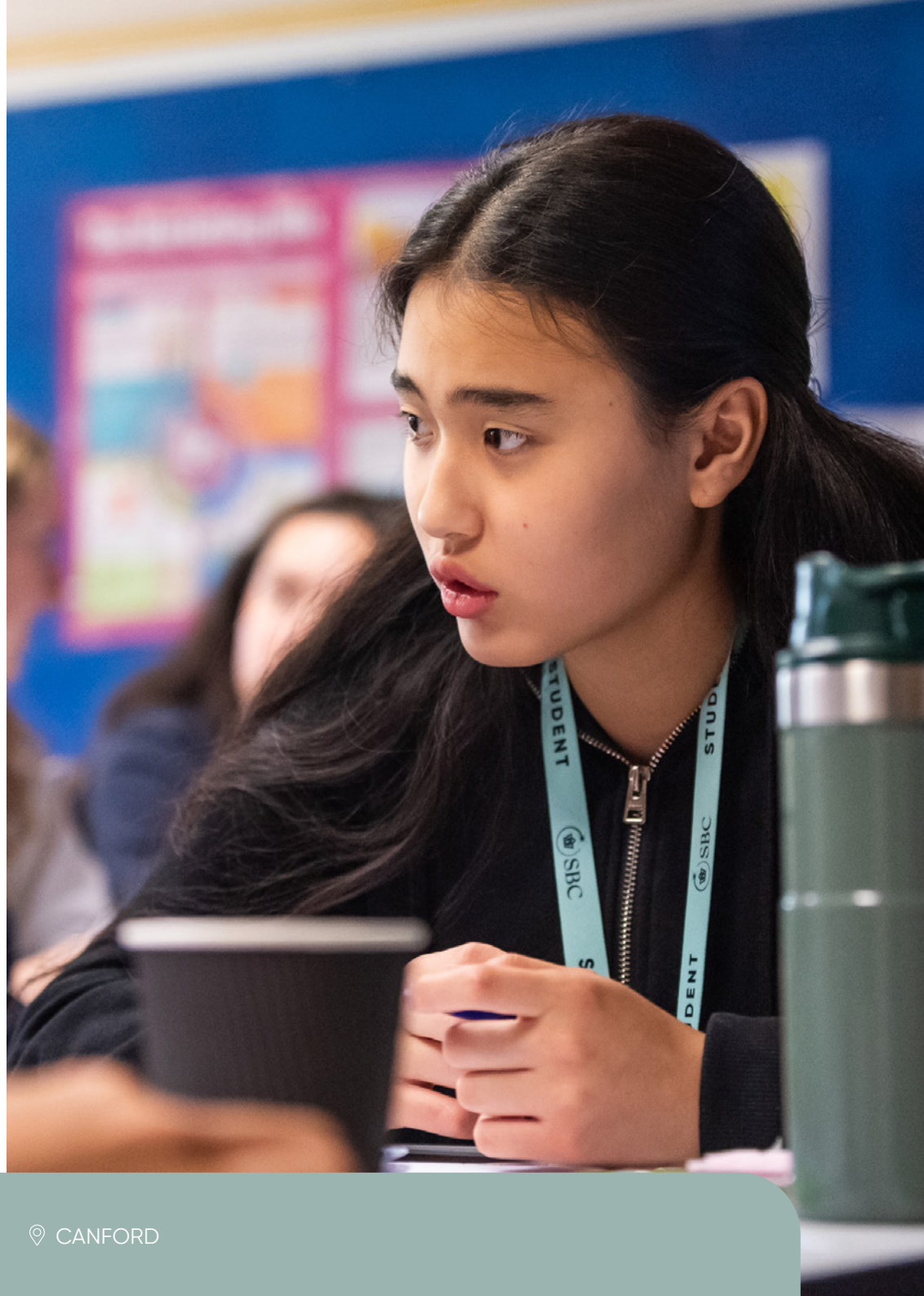
Future Scientists introduces you to the methods and questions that define modern science. Across two weeks you'll study biology, chemistry and physics through practical experiments, observation and analysis. The programme builds both understanding and technique, giving you the chance to investigate real problems and present clear scientific explanations.

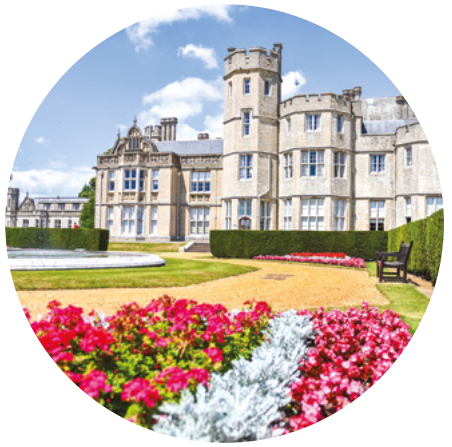
Academic Content

15 hours of subject-specific academic content per week with an experienced subject tutor, delivered through interactive and hands-on lessons.

English Language Level

Students require a minimum English level of B1+ to enrol onto this programme.





About the programme

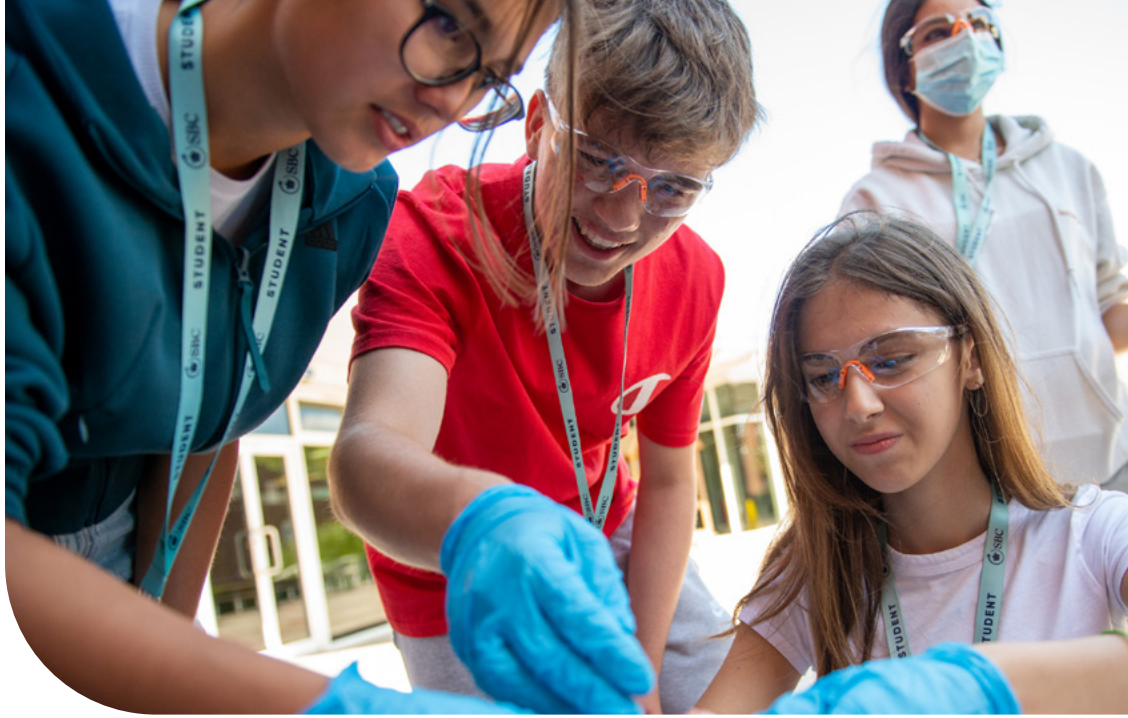
Future Scientists is a two-week programme for students who want to understand how science works in practice. You'll study biology, chemistry and physics through experiments, demonstrations and guided research, learning how to test ideas and explain your findings with clarity.

The course gives you the chance to practise core skills such as designing investigations, collecting and interpreting data, and presenting results. Alongside this, you'll look at new scientific developments and the ethical questions that surround them, building your ability to think critically about the role of science in society.

Work is collaborative as well as individual. You'll take on group challenges that require discussion, problem-solving and shared responsibility, reflecting how scientists work together in research and industry.

Teaching is led by educators with a background in the sciences, who combine subject knowledge with practical insight. By the end of the programme you'll have strengthened both your scientific understanding and the skills needed to explore it further at school or university.

FUTURE SCIENTIST | 11-16 YRS | B1+ | 2 WEEKS | CANFORD



Key Learning Outcomes

1.

Understand Core Scientific Principles

Gain a solid grounding in biology, chemistry, and physics through interactive lessons and practical activities.

2.

Apply Knowledge Through Experiments

Carry out hands-on investigations and learn how scientific theories connect to real-world phenomena.

3.

Develop Analytical Thinking

Learn to observe, record, and interpret results, strengthening problem-solving and critical reasoning skills.

4.

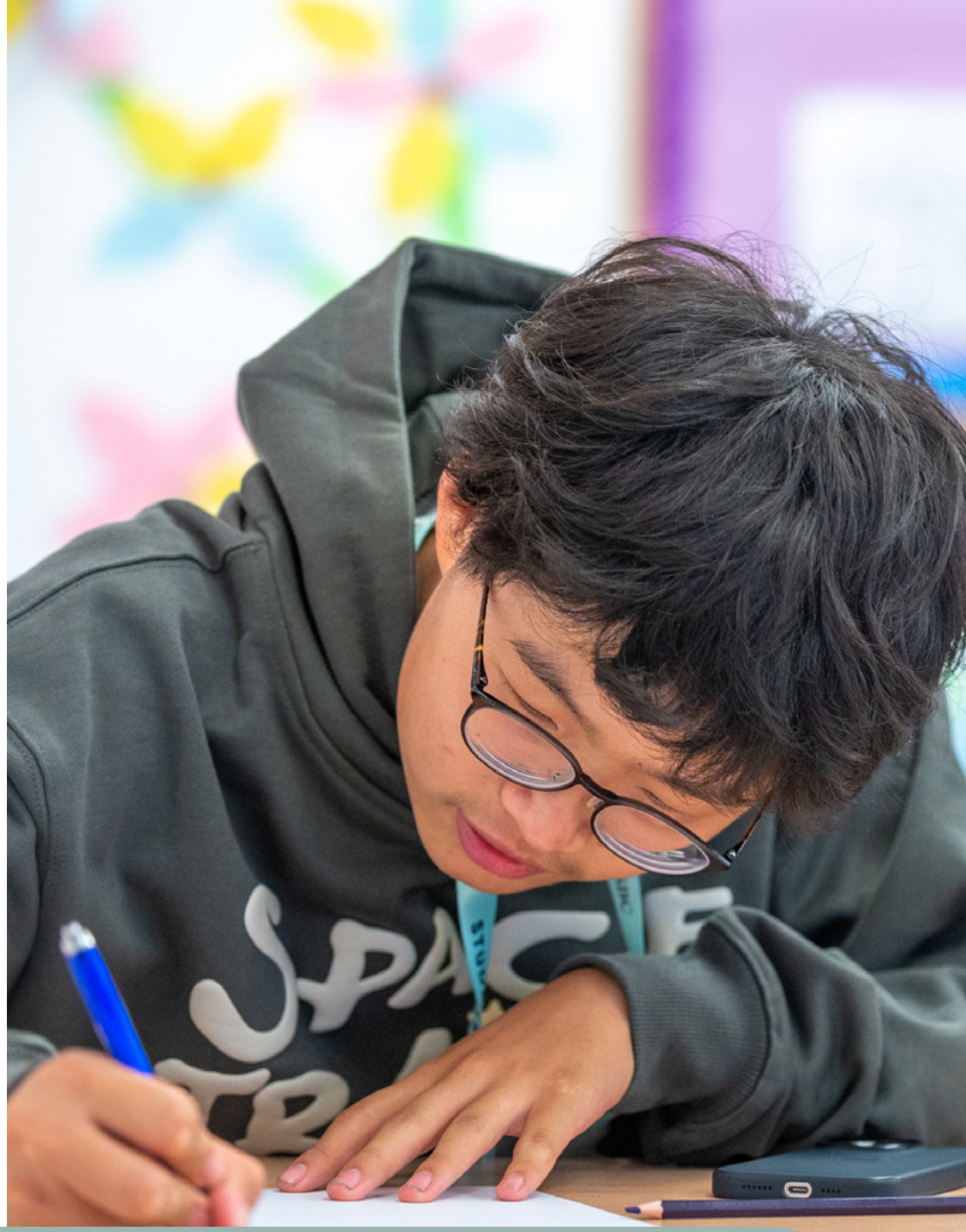
Communicate Scientific Ideas

Practise explaining discoveries and presenting findings with clarity and confidence in group discussions and Time to Shine projects.

Subject Theme

The Future City

The Future City 2050 Festival invites students to imagine a city of tomorrow and bring it vividly to life. Throughout the week, you'll work across subjects to design how the city looks, functions, and grows – from its skyline and transport systems to the science, art, and culture that shape daily life. Each discipline contributes a vital part, whether it's building models, pitching start-up ideas, creating artworks, or reporting live news from the future. The week culminates in a festival where the whole school comes together. Lights go up, exhibits are unveiled, and performances fill the stage, creating an atmosphere that feels like stepping into the city you have collectively imagined. It's a chance to share your vision, show what you've created, and celebrate innovation in a showcase open to the entire community.



Fundamental concepts

Science begins with noticing how things work and testing ideas to see if they hold up. Students will look at energy, food, transport, and the materials that keep a city running. They'll make models, run experiments, and see how small changes can shape bigger systems.

Future Scientist Frameworks

The scientific method is the main tool: observe, predict, test, explain. It gives structure to a project and helps students show evidence for their ideas. They'll use this approach to create practical solutions, linking classroom knowledge with challenges set in the festival.

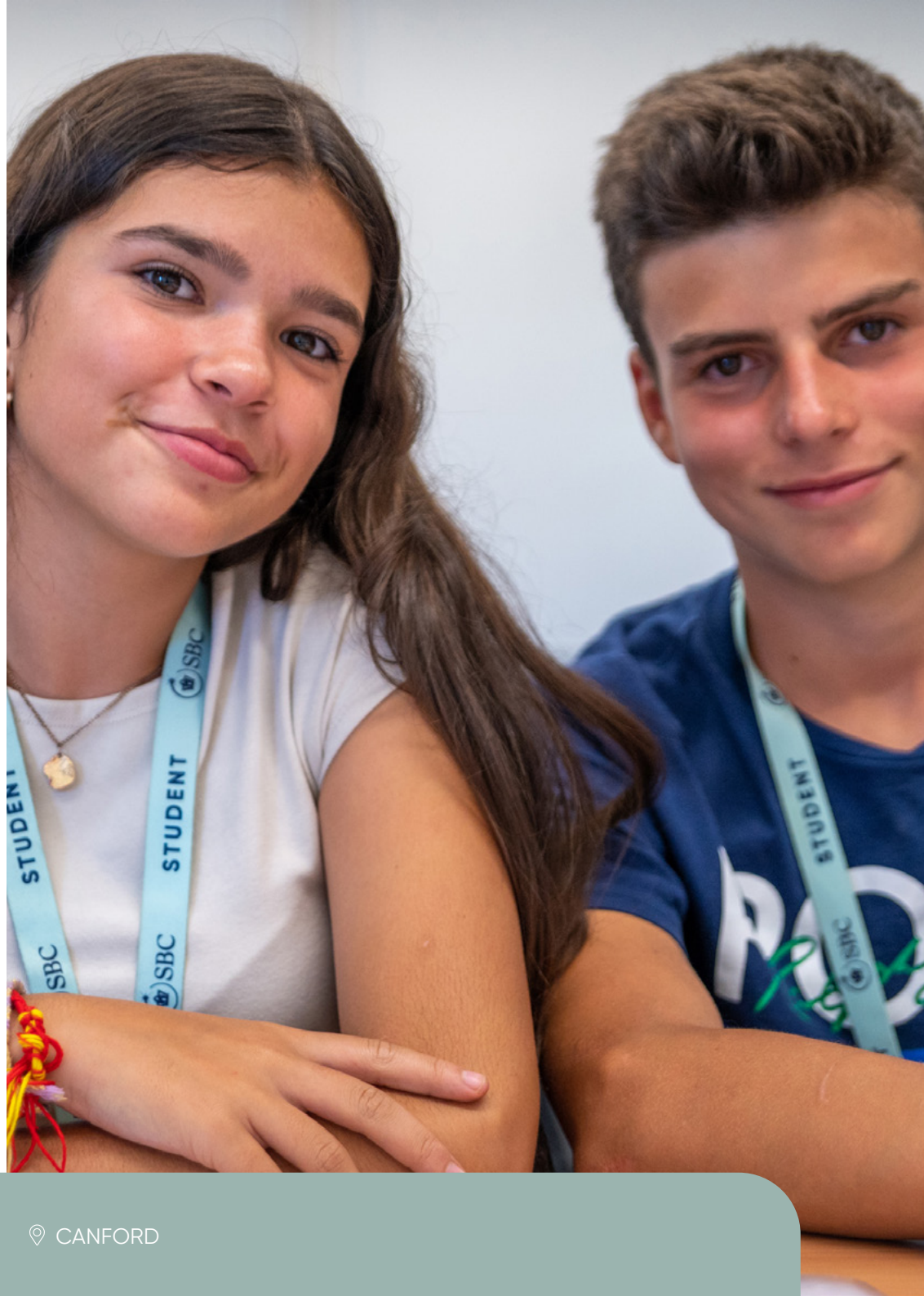
Foundational Vocabulary

Energy, force, matter, reaction, renewable, sustainability, prototype, hypothesis, variable, efficiency, innovation, system, model, observation, data.

Time to Shine

Time to Shine gives every student the chance to practise public speaking in a structured setting. By researching, preparing and delivering a project to an audience, you build confidence in expressing ideas clearly and develop the ability to present with authority. It's an opportunity to refine communication skills that are valuable for academic study, professional life and beyond.

The Future City Festival is a whole-school project. Every subject takes part, and every student has a role in building an imagined city set in the year 2050. For entrepreneurs, the focus is on the ideas and inventions that allow such a place to function. Students step into the role of founders, bringing prototypes, posters, and pitches to the showcase. They stand before an audience of staff, peers, and guests, and make the case for why their product or service deserves investment. It's an exercise in imagination, but also in clear communication, teamwork, and the discipline of turning a loose idea into something that looks and feels real.



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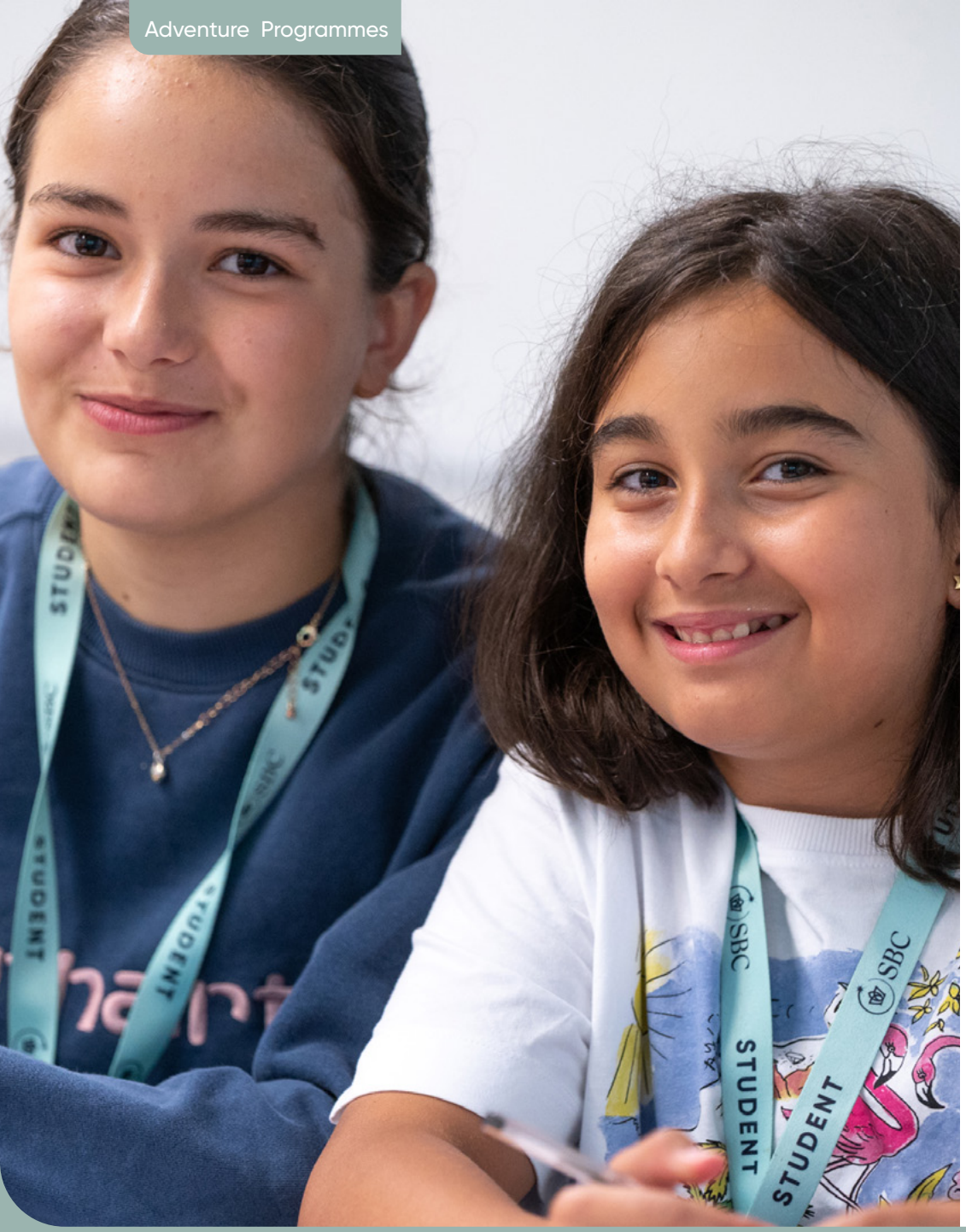

Time to Shine Project: Week One

Students create a product or service that supports daily life in a future city. It might be a new form of energy-efficient housing, a way to manage waste, or technology that keeps people connected. The work must move beyond a sketch: a model, digital mock-up, or physical prototype is expected, with an explanation of how it would be used.

Time to Shine Project: Week Two

The challenge shifts to transport. How do people and goods move in a city where space is limited and resources need careful management? Students might propose shared autonomous vehicles, aerial systems, or rapid transit built into the fabric of the city itself. Each group will explain why their solution is practical for 2050, what problem it solves, and how it improves life for the city's residents.

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Course Objectives

Future Scientists at Canford is a two-week programme for students aged 11–15 who want to explore the workings of the natural world. You'll investigate biology, chemistry and physics through experiments and practical tasks, testing ideas and learning how scientific principles explain everyday phenomena. The course makes science clear and engaging, helping you to build confidence and curiosity as you develop your understanding.

Module 1

Life and Living Systems

Investigate how living things function and interact with their surroundings. You'll study the basics of cells, examine ecosystems and look at the connections between different species. Simple experiments and field observations will help you see how biology explains the world around us.

Module 2

Matter, Motion and Energy

Learn how chemistry and physics shape everyday life. You'll explore what materials are made of, how they change, and how energy moves through systems. From observing reactions to testing forces, each activity brings abstract ideas into practical focus.

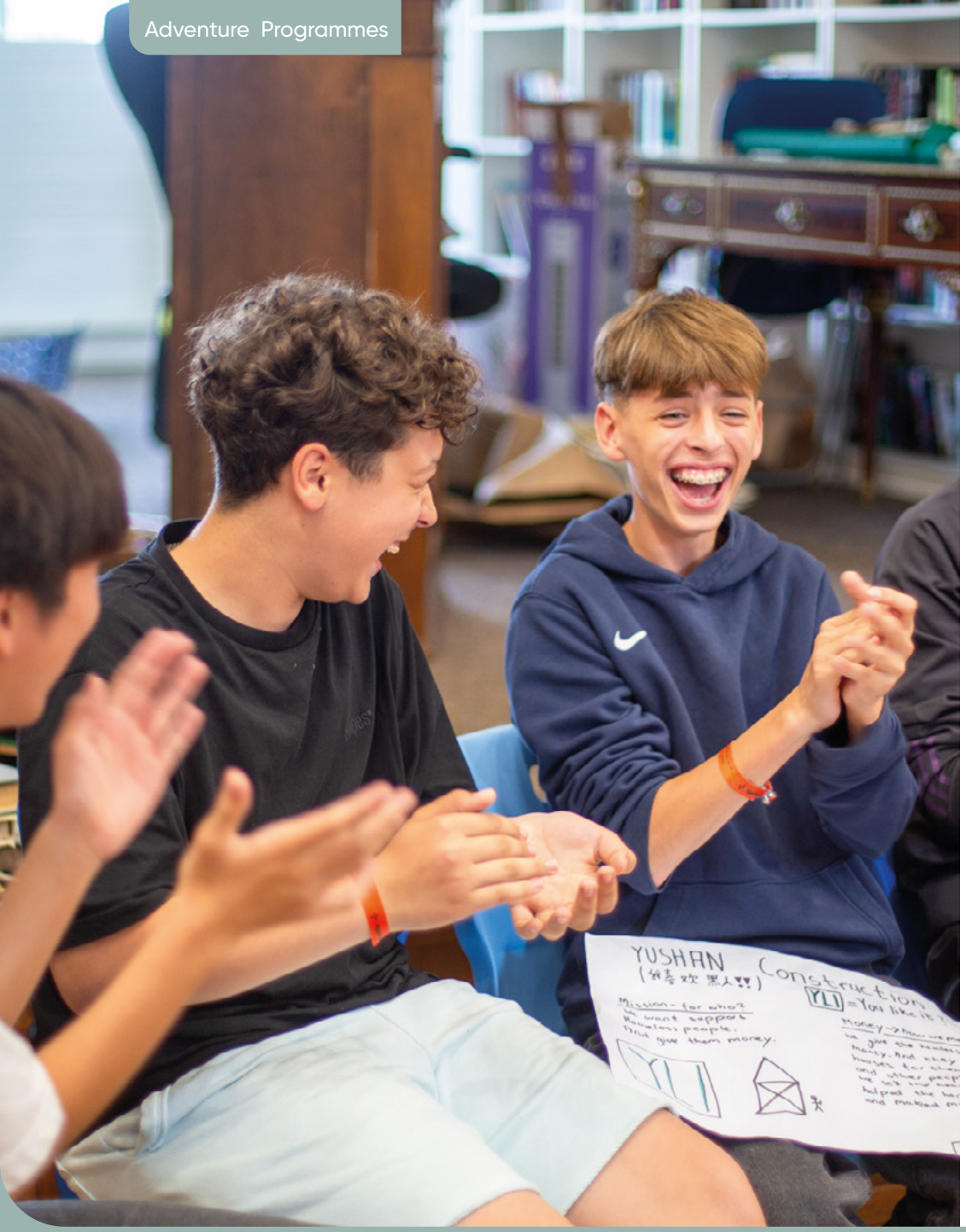
Module 3

The Wonders of Space and Earth

In the final module, you'll embark on a journey through space and time. You'll learn about the solar system, the Earth's structure, and the forces that shape our planet. Through engaging activities, you'll explore the mysteries of space, understand the basics of geology, and discover how science helps us understand the universe.

Academic Difficulty

The work is open to all. Students don't need any background in science to begin, but those who have experience will still be stretched. Projects are designed to be challenging in a practical, hands-on way, without requiring specialist knowledge. The focus is on building, testing, and explaining, so that every student can take part fully and grow their understanding as they go.



Case Study

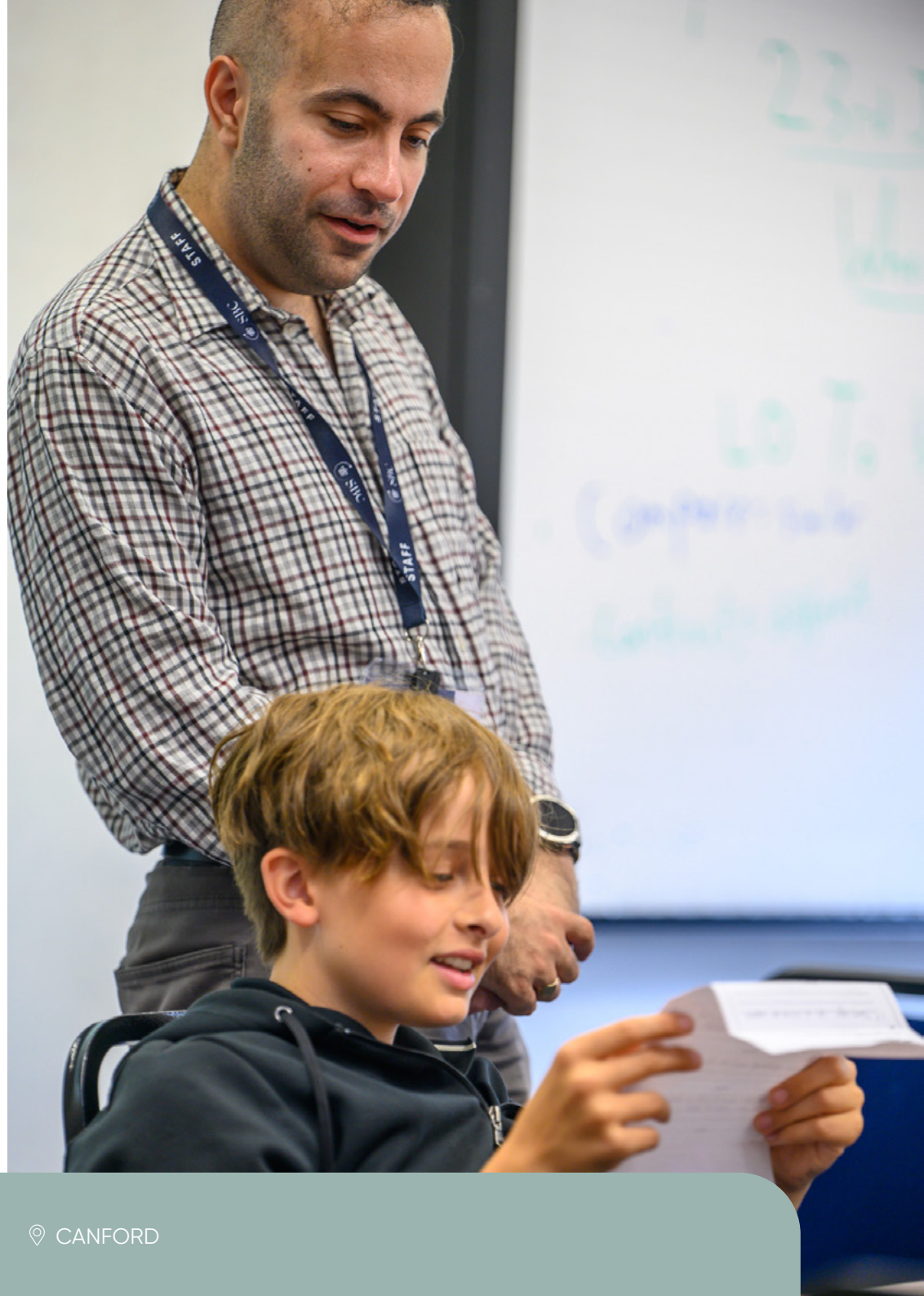
Bridging Theory and Real World Application

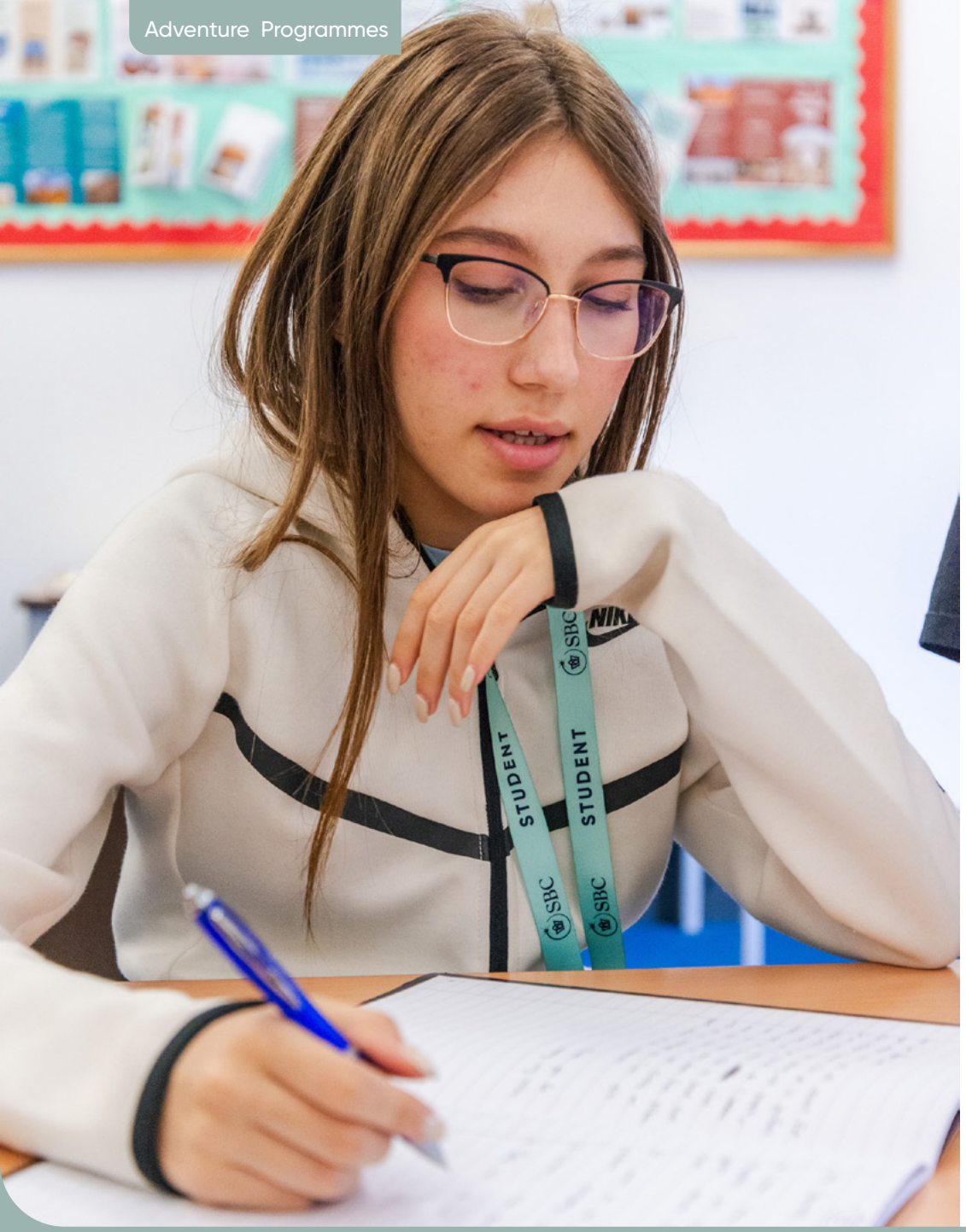
Renewable energy systems are now part of major infrastructure projects across the world. Wind farms, tidal generators, and solar fields are planned with care to balance efficiency, cost, and environmental impact. Students use these examples to see how scientific principles are applied outside the classroom.

In agriculture and food technology, vertical farming and hydroponics are being used in cities where space is limited. These methods rely on careful control of water, light, and nutrients — all grounded in basic scientific concepts. Students draw on these models when developing their own ideas for food production in the city of 2050.

Fieldwork Research

Students carry out fieldwork to support their festival projects. This might include measuring sunlight across different parts of the school grounds, observing how water flows across surfaces, or tracking how people move through shared spaces. These observations help them test assumptions, adjust designs, and build models that respond to real conditions.





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