

**BTEC
INTERNATIONAL
LEVEL 3 IN**

**APPLIED
SCIENCE**

**CIENCIAS
APLICADAS**



**Pearson
Edexcel**

Approved Centre

MONTESSORI BRITISH

Introduction

The Pearson BTEC International Level 3 Applied Science programme is a vocational qualification designed to provide students with a strong foundation in scientific knowledge and practical skills through applied learning. It combines advanced laboratory techniques with a deeper understanding of scientific principles, enabling learners to investigate real-world applications in a structured and supportive environment.

This programme is aimed at students who wish to continue their progression in the science sector. It prepares them for further study in higher education and entry into science-related careers, while equipping them with essential technical and transferable skills relevant to a wide range of pathways.

The qualification follows a learner-centred and project-based approach, where students respond to complex scientific questions through research, experimentation, data analysis, and evaluation. This process encourages confidence, independence, and scientific reasoning, while strengthening problem-solving, analytical thinking, and communication.

Qualification to develop a professional career

The BTEC Level 3 in Applied Science provides a strong foundation for progression into higher education and careers within the science sector, supporting students in developing advanced practical skills and a solid understanding of scientific principles.

This qualification covers key areas including biology, chemistry, and physics, focusing on laboratory practice, data interpretation, and real-world application of scientific knowledge. Through practical investigations and projects, students develop the ability to plan, carry out, and evaluate scientific work.

It is particularly suitable for those considering progression into fields such as biomedical science, healthcare, environmental science, forensic science, or engineering, while also developing transferable skills such as critical thinking, problem solving, and communication.

Montessori British offers this Pearson Edexcel qualification both online and at our in-person centres (UK or Spain), where we provide an Erdkinder or Montessori residential experience with very limited places.

Within our residences, we combine academic learning and scientific training with the development of practical life skills, encouraging independence, responsibility, critical thinking, and personal growth.

Transferable skills

In recent years, higher education institutions and employers have consistently highlighted the need for students to develop a range of transferable skills that will enable them to respond confidently to the demands of university studies and the world of work.

The Organization for Economic Cooperation and Development (OECD) defines skills or competencies as "the set of knowledge, attributes and abilities that can be learned and that allow individuals to successfully and consistently perform an activity or task and that can be developed and expanded through learning."

In the context of Applied Science, students develop cognitive, intrapersonal and interpersonal skills alongside scientific, technical, and analytical communication abilities.

The competencies have been interpreted for this option to ensure that they are appropriate for the subject. All competencies listed are evident or accessible in the teaching, learning and/or assessment of the qualifications.

These transferable skills that we develop together with the technical content are classified as: cognitive, intrapersonal and interpersonal.

Within the COGNITIVE skills, we have:

- Cognitive Strategies and Processes
 - Critical thinking
 - Troubleshooting
 - Analysis
 - Reasoning/Argumentation
 - Interpretation
 - Decision making
 - Adaptive learning
 - Executive function
- Creativity
 - Inventiveness
 - Innovation

On the other hand, we have the INTRAPERSONAL skills:

- Intellectual Openness
 - Adaptability
 - Social and Personal Responsibility
 - Continuous Learning
 - Curiosity
 - Intellectual Interest
- Work Ethic/Self-Awareness
 - Initiative
 - Self-management
 - Responsibility
 - Perseverance
 - Productivity
 - Metacognition
 - Ethics
 - Integrity
- Intrinsic Motivation
 - Self-assessment
 - Self-reinforcement
 - Life Purpose
- And finally, the INTERPERSONAL skills we work on are:
 - Teamwork and Collaboration
 - Communication
 - Collaboration
 - Agile Model
 - Cooperation
 - Interpersonal Skills
 - Empathy/Perspective taking
 - Negotiation
 - Leadership
 - Responsibility
 - Assertive Communication
 - Self-image

Comprehensive education

The study of Applied Science at Level 3 plays a key role in students' academic, scientific, and personal development.

This programme supports learners in developing confidence, autonomy, and advanced practical skills while deepening their understanding of scientific processes. It provides a balanced foundation that combines experimental work with critical and analytical thinking, enabling students to understand how scientific knowledge is developed, validated, and applied in real-world contexts.

1. **Advanced Scientific Investigation:** Students are encouraged to explore complex scientific questions using research, experimentation, and data analysis. They learn to develop and test hypotheses, interpret results critically, and draw evidence-based conclusions, fostering independence and confidence in scientific enquiry.
2. **Understanding of Scientific Methodology:** Learners deepen their understanding of the scientific method, including experimental design, variables, accuracy, reliability, and validity. They develop the ability to evaluate methods and improve investigations through reflection and critical analysis.
3. **Development of Practical Laboratory Expertise:** The programme provides extensive opportunities to develop advanced laboratory skills, including the safe and accurate use of equipment and techniques. Students learn to follow professional procedures and maintain high standards of precision and safety.
4. **Analytical Thinking and Problem Solving:** Students strengthen their ability to analyse complex data, identify patterns, and solve scientific problems. They learn to adapt methods and interpret unexpected results, developing resilience and flexibility in scientific work.
5. **Scientific Communication:** Learners develop the ability to communicate complex scientific information clearly using appropriate terminology, written reports, graphs, and presentations. They build confidence in presenting and justifying their findings in both academic and professional contexts.

6. Planning, Organisation, and Independence: Students enhance their ability to plan and manage extended investigations and projects. They develop time management, organisation, and independent working skills, preparing them for higher education and professional environments.
7. Application of Science in Real-World Contexts: Learners explore how scientific knowledge is applied across industries such as healthcare, environmental management, and technology. This helps them understand the relevance of science and supports informed decision-making about future pathways.

In summary, the study of Applied Science at Level 3 promotes critical thinking, precision, independence, and evidence-based reasoning. These values are essential for students' academic progression and provide a strong foundation for careers in science and related fields.

In our Erdkinder programme, we complement the Pearson curriculum with activities adapted to each student's needs, including creative workshops, project-based learning, practical life skills, cooking, meditation, calisthenics, hiking, and more.

Cultural education is also essential and is fostered through expert talks, film forums, museum visits, and both classical and contemporary artistic activities.

See below the section "Erdkinder"

Professional outings

The BTEC Level 3 in Applied Science provides a direct pathway towards higher education and future careers within the science sector.

Its primary objective is to prepare students for progression to university-level study in areas such as biomedical science, chemistry, biology, environmental science, forensic science, or engineering.

Through extended practical work and applied learning, students gain a clear understanding of professional scientific practice. They also develop essential skills in research, communication, and independent study, which are highly valued in both academic and workplace settings.

This qualification also supports progression into apprenticeships or entry-level roles in laboratory, healthcare, environmental, or technical sectors.

Subjects

Some of the core areas you will study in the Pearson BTEC Level 3 Applied Science include:

- Principles and Applications of Science
- Practical Scientific Procedures and Techniques
- Scientific Investigation Skills
- Laboratory Techniques and Data Analysis
- Applied Science Research Project
- Specialist units such as Biomedical Science, Environmental Science, Forensic Science, and Chemical Analysis

These units allow students to develop in-depth scientific knowledge while building a strong set of practical and analytical skills.

More information

For further insights into the curriculum based on Pearson standards for this program, [click here](https://www.montessoribritish.com).

Equivalences of studies

The BTEC Level 3 is an official British qualification with equivalence to A Levels (British Baccalaureate).

This Level 3 BTEC is divided into different stages that can be extended and continued after secondary education with Level 4.

Assessment is based entirely on coursework, focusing on practical projects, portfolio development, and creative outcomes.

Grade	It is equivalent to	Course
Foundation Diploma	1,5 A Levels	Year 12
Extended Diploma	3 A Levels	Year 13

The equivalences are not cumulative. Upon completion of the Foundation Diploma, students obtain a qualification equivalent to 1.5 A Levels. If they continue to Year 13, they will obtain the Extended Diploma, equivalent to 3 A Levels.

Equivalences can only be combined by taking different BTECs (e.g., two Foundation Diplomas in different subjects).

It is necessary to complete the Foundation Diploma in order to progress to the Extended Diploma.



MONTESSORI BRITISH

Montessori British is a centre that offers various virtual, residential and in-person programmes, with physical locations in Omagh (UK) and Murcia (Spain).

Accredited by Pearson Edexcel, it was founded by Mercedes Gil in 2014 and its Head of Studies is Azucena Caballero, co-founder of Pedagogía Blanca.

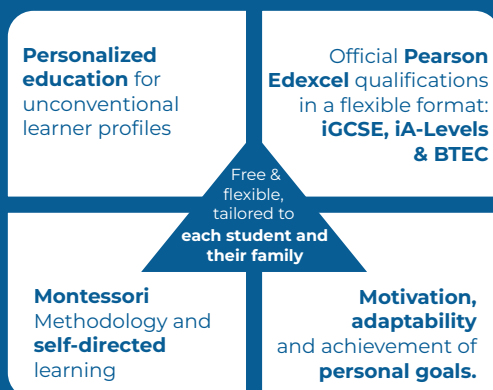
The school's main objectives include offering an alternative, free and flexible system that adapts to the needs of students and their families.

We bring an innovative and personalized programs for students who approach education in an unconventional way. Our typical students are digital nomads, world-traveling families, athletes, artists, gifted students, homeschoolers, and worldschoolers.

We offer the world-renowned Pearson Edexcel qualifications (iGCSE, iA-Levels and BTECS) which can be prepared independently, as private candidates at our official exam centre (in Murcia, Spain), online or in a hybrid mode from one of our Montessori Residences (Erdkinder), and a Montessori Primary programme based on the UK National Curriculum.

Our methodology includes tools from Montessori Pedagogy, the Agile model, self-directed learning, self-education, creativity and a global mindset. We want our students to achieve everything they set out to do: go to university, start their own successful businesses, pursue a professional or artistic career or work for the best companies in the world.

We can help restore confidence and motivation for studies. Geographical relocation, chronological freedom, adaptation to cognitive styles. We know that each student is different and we will adapt as much as possible the elements necessary to obtain a qualification that allows you to achieve everything you set out to do.





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PEARSON EDEXCEL

As a Pearson Edexcel authorized center, we have several levels of studies, which although we consider independent of age, have the equivalence with the Spanish system:

- iGCSE - we prepare subjects for secondary school approval, focusing on the most important content to ensure maximum results in the shortest possible time. Spanish, English, Mathematics, Geography and Science.
- iAlevels - we prepare you to obtain the equivalence to the Baccalaureate and access university courses all over the world. To access Spanish universities, it is necessary to obtain accreditation through Unedassis and, depending on the studies, perhaps take a general entrance exam from the British system (a simplified selectivity) or a specific one from the university of choice.
- iBTEC - we teach Business and Technology Education Council courses across a range of subjects and levels.

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Programa Nomad+ (Online)

Our Nomad+ program allows you to travel and move around the world while maintaining your school relationships and personalized curriculum, without having to change schools, classmates, teachers, etc.

Putting the student at the center, we believe that the curriculum should be personalized and independent of age, sex, location, etc.

We offer online lessons in the morning and afternoon, depending on the program, between 1 and 5 lessons per day (in blocks of about 50 minutes). Our teachers are trained to achieve meaningful learning in students.

Students are involved in interesting and purposeful projects, they can progress independently but do not have homework or exams as a central part of the assessment.

The language of instruction is English in most programs, but we can also integrate Spanish and a multilingual platform.

Classes are held online, daily, and allow students to have the same group of classmates, teachers, progress monitoring, curriculum, etc. wherever they are: traveling, in a residence far from the school, in our Erdkinder...

No problem!



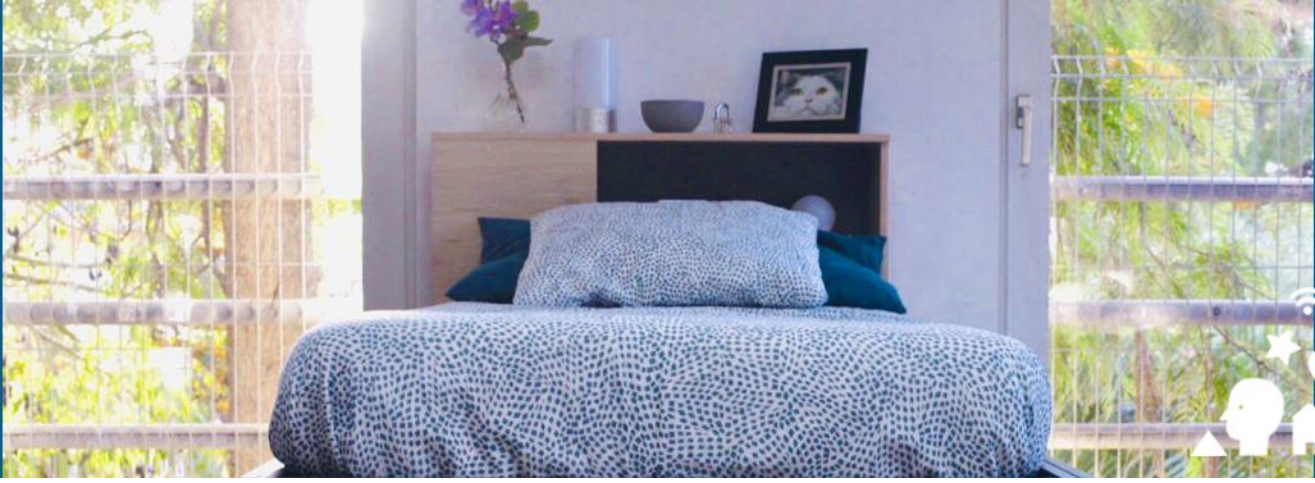
Erdkinder (Montessori Residence)

Erdkinder is a German term that refers to an education based on nature and real life, which focuses on the real needs of adolescents. It means "Children of the Earth" and Montessori chose it for the Secondary School program because of the idea of working productively, with the hands, with effective and real work.

Our Erdkinder is a secondary education programme that focuses on practical education and nature, and takes place in an outdoor environment, at our physical centres in the United Kingdom or Spain.

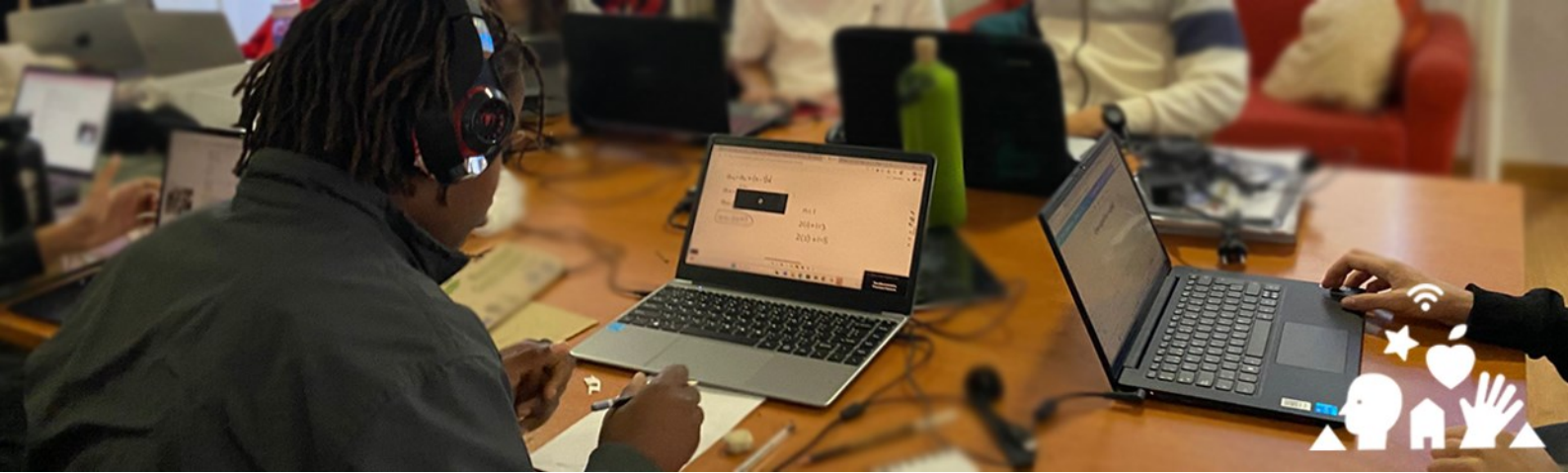
Among the reasons why we know that the Erdkinder program is the perfect complement to the academic and professional training we offer, are:

- **Development of practical skills:** Practical skills are acquired that are important in real life, such as farming, cooking, carpentry, gardening, mechanics, electricity, etc. These skills can help one become more independent and self-sufficient.
- **Fostering Responsibility:** Everything is geared towards being responsible for one's own learning and well-being. The program provides the opportunity to make decisions and assume responsibilities that are essential for one's own growth and development.
- **Social development:** Students work in teams and learn to collaborate with others to carry out projects. They also learn to respect and care for the environment and natural resources, which helps them develop a social and environmental awareness, and to find their purpose in life and to orient themselves at all levels: professional and personal.



Erdkinder (Montessori Residence)

- Practical and meaningful learning: The foundation is learning by doing and experiencing. The program focuses on practical experience and meaningful learning, which means that adolescents learn in a way that makes sense to them and that they can apply to their everyday lives.
- Emotional development: Responsible freedom implies greater self-confidence. Our students also learn to manage stress and anxiety, and develop a greater ability to cope with life's challenges and problems.



Hybrid model

Montessori British's hybrid classroom model combines the best of in-person and online education to provide students with a comprehensive and flexible educational experience. This approach is tailored to students' individual needs and preferences, allowing them to get the most out of their learning.

In the hybrid class model, students have the option to attend in-person classes at the Montessori British educational center or participate in online classes from the comfort of their home. This flexibility allows students to adapt their schedule and learning environment to their personal needs.

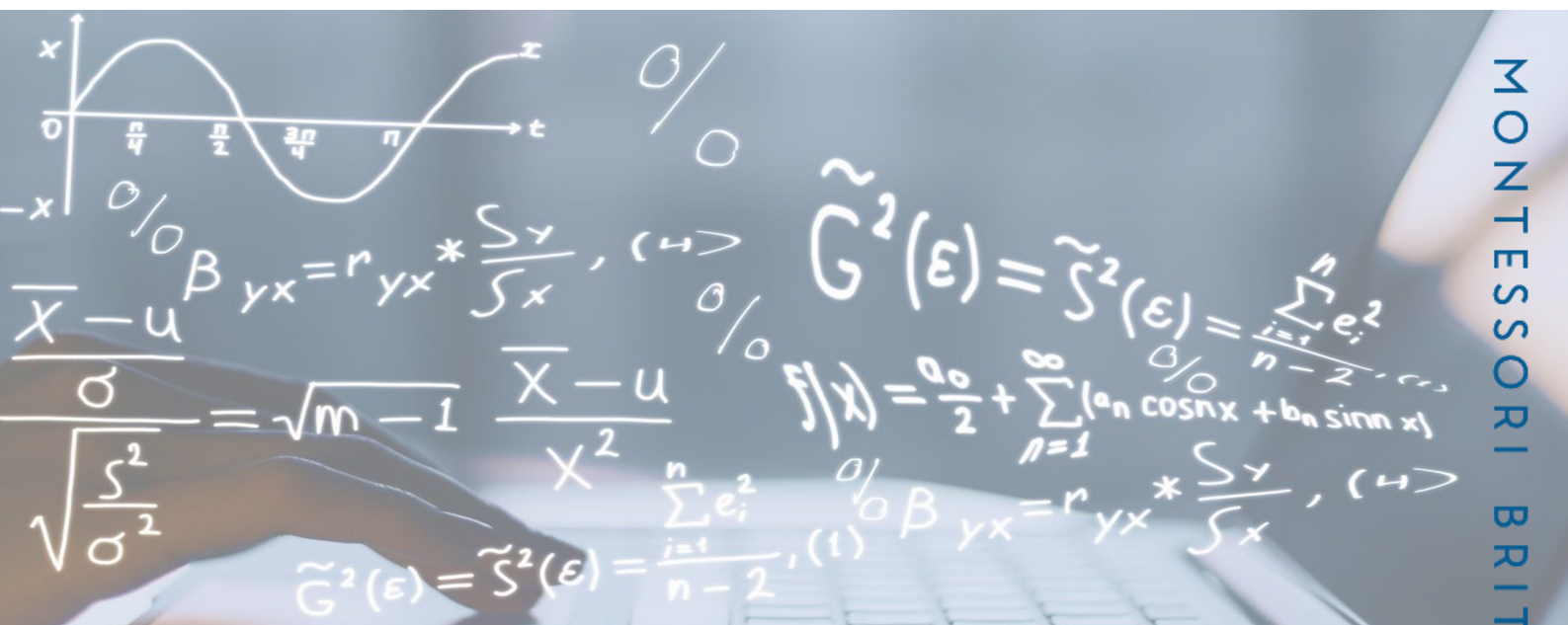
During in-person classes, students have the opportunity to interact directly with their peers and participate in hands-on activities.

Furthermore, the Montessori British hybrid classroom model focuses on the comprehensive development of students, not only in the academic aspect, but also in the development of practical, emotional and social skills. Project-based learning, problem solving and creativity are promoted.

In summary, Montessori British's hybrid classroom model combines the best of in-person and online education to provide students with a flexible and personalized educational experience. This approach is based on the principles of Montessori pedagogy and promotes the holistic development of students, adapting to their individual needs and encouraging their autonomy and collaboration.



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