

РАССМОТРЕНО

Педагогическим советом АНОО  
«Технолицей им. И.В. Долгих»  
Протокол  
от «28» августа 2023 г.

УТВЕРЖДЕНО

приказом директора автономной некоммерческой  
общеобразовательной организации «Технолицей  
им. И.В. Долгих»  
от «28» августа 2023 г.

GENERAL CURRICULUM

Course title: Science.

Grade: 2

2023 – 2024 academic year

Teachers: Anna Mallon, Kyle Daniels, Haydn Crooks

Moscow region, city of Istra,

Pavlovskaya Sloboda village,

st. Academic, d. 1

2023

## EXPLANATORY NOTE

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

## SUBJECT CHARACTERISTICS

The programme of study describes a sequence of knowledge and concepts. While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage. Insecure, superficial understanding will not allow genuine progression: pupils may struggle at key points of transition (such as between primary and secondary school), build up serious misconceptions, and/or have significant difficulties in understanding higher-order content.

Pupils should be able to describe associated processes and key characteristics in English language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. The social and economic implications of science are important but, generally, they are taught most appropriately within the wider school curriculum: teachers will wish to use different contexts to maximise their pupils' engagement with and motivation to study science.

The nature, processes and methods of science 'Working scientifically' specifies the understanding of the nature, processes and methods of science. The notes and guidance give examples of how 'working scientifically' might be embedded within the content of biology, chemistry and physics, focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry should include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils should seek answers to questions through collecting, analysing and presenting data.

## SUBJECT OBJECTIVES.

The principal focus of science teaching in Grade 2 is to enable pupils to experience and observe phenomena, looking more closely at the natural and

humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.

### PERFORMANCE OBJECTIVES.

The Grade 2 science curriculum introduces young learners to the basic concepts and principles of science. The focus is on developing curiosity, critical thinking skills, and investigative abilities. Here is a brief description of the curriculum:

1. Introduction to Science: Students learn about the scientific method, which includes making observations, asking questions, forming hypotheses, and conducting simple investigations.

2. Physical Sciences: Students explore the properties of materials and objects, such as color, texture, shape, and size. They learn about different forms of energy, including light, sound, and heat.

3. Life Sciences: Students discover and classify different plants and animals, learning about their characteristics, habitats, and life cycles. They understand basic needs of living things, such as food, water, and shelter.

4. Earth and Space Sciences: Students study the Earth's features, such as mountains, rivers, and oceans. They learn about weather patterns, seasonal changes, and the importance of conservation.

5. Environmental Awareness: Students gain an understanding of the importance of protecting the environment and learn about recycling, reducing waste, and conserving resources.

6. Scientific Tools: Students are introduced to basic scientific tools, such as magnifying glasses, rulers, thermometers, and balances. They learn how to use these tools for observation and measurement.

7. Inquiry-Based Learning: Students engage in hands-on experiments, investigations, and projects to develop their inquiry skills. They learn to ask questions, make predictions, gather data, and draw conclusions.

8. Cross-Curricular Connections: Science is integrated with other subjects such as language arts, mathematics, and social studies. Students develop literacy skills

through reading and writing about science topics, as well as using math skills to record and analyze data.

Overall, the Grade 2 science curriculum aims to provide students with a solid foundation in scientific thinking and inquiry skills, fostering a sense of curiosity and wonder about the natural world.

### SUBJECT PLACE IN THE CURRICULUM

The academic subject "Science" is one of the compulsory subjects studied at all levels of general primary education. 34 hours are allotted for learning Science in Grade 2, 1 hour per week.

### SUBJECT CONTENTS

The Science curriculum is built on the basis of themes relevant for each educational level. The themes are closely related and designed in a repeatable and expandable pattern over school years at each educational level, in concentric spiral direction in order to consolidate and develops students' communicative competences.

### LIST OF THEMES.

- The Design Process. How do you solve problems. What is technology?
- Living Things and Their Environments. What do plants and animals need? What do living things need?
- Plants and Animals. How are living things alike and different? What are some groups of living things?
- Earth and Sky. What can you say about Earth and sky? What is on Earth?
- Weather. How can you describe weather? What is weather?
- Matter. How can describe matter? What is matter?
- Energy. What can energy do? How do we use energy?
- Movement. How can you describe ways objects move? How objects can move?

### LESSON PLANNING.

Lesson Number	Theme	Topic	Number of hours	Date	Assessment
1	The Design Process.	How do you solve problems. What is technology?	1		

2		How do you solve problems. What is technology?	1		
3		How do you solve problems. What are objects made of?	1		
4		How do you solve problems. What are objects made of?	1		
5		How do you solve problems. What is the design process?	1		
6		How do you solve problems. What is the design process?	1		
7		Review	1		Test
8	Living Things and Their Environments.	What do plants and animals need? What do living things need?	1		
9		What do plants and animals need? How do plants and animals live in land environments?	1		
10		What do plants and animals need? How do plants and	1		

		animals live in water environments?			
11	Plants and Animals.	How are living things alike and different? What are some groups of living things?	1		
12		How are living things alike and different? How are living things like their parents?	1		
13		How are living things alike and different? How are groups of living things different?	1		
14		Review	1		Test
15	Earth and Sky.	What can you say about Earth and sky? What is on Earth?	1		
16		What can you say about Earth and sky? What is on Earth?	1		
17		What can you say about Earth and sky? What is the sun?	1		
18	Weather.	How can you describe weather? What is weather?	1		
19		How can you describe weather? How can you	1		

		measure weather?			
20		How can you describe weather? What are the four seasons?	1		
21		Review	1		Test
22	Matter.	How can describe matter? What is matter?	1		
23		How can describe matter? What are solids, liquids, and gases?	1		
24		How can describe matter? How can matter change?	1		
25	Energy.	What can energy do? How do we use energy?	1		
26		What can energy do? What is light?	1		
27		What can energy do? How is sound?	1		
28		Review.	1		Test.
29	Movement.	How can you describe ways objects move? How objects can move?	1		
30		How can you describe ways objects move? What is a force?	1		

31		How can you describe ways objects move? What is gravity?	1		Test.
32		Revision	1		
33		Revision	1		
34		Revision	1		

#### SUBJECT MATERIALS:

- Big Science 1 Student Book, Mario Herrera, Pearson Press.
- Big Science 1 Workbook, Mario Herrera, Pearson Press.

#### ELECTRONIC TEACHING RESOURCES AND WEBSITES:

- Starfall - <https://www.starfall.com/h/>
- Wordwall - <https://wordwall.net/community>
- British council for kids - <https://learnenglishkids.britishcouncil.org/>
- Live Worksheets - <https://www.liveworksheets.com/>