



ESPLORA EDUCATOR'S PACK

YR3-YR4



GOVERNMENT OF
MALTA

MINISTRY FOR EDUCATION,
SPORT, YOUTH, RESEARCH
AND INNOVATION
PARLIAMENTARY SECRETARIAT
FOR YOUTH, RESEARCH
AND INNOVATION



Main Building Ground floor Exhibition Consists of:

1

In the **Motion gallery**, watch your students get hands-on as they try out a Newton's cradle, explore the effects of friction, check out a hot air balloon, aeroplane wings and much more.



2

In the **Optics gallery**, your students will step into a world of light and explore reflection, refraction, colour, vision, absorption and spectroscopy.

3

The **Electricity and Magnetism** gallery encourages students to explore magnetic fields, static and current electricity through hands-on exhibits!



4

Evaluate your diet, view your heart rate, put together a 3D heart, examine different body cells and trace through the digestive system in the **Human Body** gallery.



5

In the **Eco Life gallery**, learners can take quizzes about product materials and energy use at home, build their dream home, and play a waste sorting game.



6

The **Earth gallery** brings earthquakes, volcanoes and tornadoes to your students' fingertips.



Plan your visit

DISCOVER EVERYTHING YOU NEED TO KNOW BEFORE BOOKING AN EDUCATIONAL VISIT TO ESPLORA INTERACTIVE SCIENCE CENTRE.

WHAT DOES AN EDUCATIONAL VISIT CONSIST OF?

We recommend that you plan a visit of at least 3 hours, typically from 9:30am till 12:30pm.

An educational visit consists of:

- An activity comprising of either an interactive workshop, a live science show, or a planetarium show/film.
- Reserved time slots in the ground floor exhibition galleries (Motion, Optics, Human Body, Eco-life, Earth, Electricity and Magnetism), accompanied by one of our team members.
- A 30-minute lunch break.

We facilitate your visit. When you arrive we will give you a schedule so that you know the timing and location of each session. Our staff member/s assigned with your group will guide you throughout your visit.

FREE TRANSPORT

State schools may avail themselves of the free transport scheme to Esplora. This initiative is supported by the Ministry for Education, Sport, Youth, Research and Innovation. Please contact our bookings office for more information



FREE ENTRANCE FOR EDUCATORS

Experience Esplora first-hand prior to planning your visit! Educators and their immediate family members (one additional adult and up to two children) are entitled to a FREE entrance to Esplora's exhibition galleries all year round. Please visit **Esplora's website** for more information.

Terms & Conditions apply.

BOOK A TOUR FOR A GROUP OF TEACHERS

A group of teachers may book a visit to Esplora and meet one of our team members. Get in touch on bookings@esplora.org.mt or call on 2360 2299 for further details.




Pre-Visit Activities

WE PREPARED A NUMBER OF RESOURCES RELATED TO ESPLORA THAT YOU CAN USE PRIOR TO YOUR VISIT. DOWNLOAD THE PRINTABLE RESOURCES FOR THE PRE-VISIT ACTIVITIES FROM THE FOLLOWING LINK: <https://esplora.org/yr3-yr4-pre-visit-activities/>



Pre-Visit Activity 1 Resource
Trick or Treasure?



Archimedes was an ancient Greek scientist born in Syracuse, Italy over 2000 years ago. He was a man of many talents and invented many useful tools, machines and even came up with some theories of his own, many of which we still use now!

One day, the King asked to speak to Archimedes in the hopes that he would help him solve a problem he had. He explained how he had gone to the local goldsmith to make him a new crown and gave him the exact amount of gold he would need to make it. But when it was done, the King was worried that the goldsmith kept some of the gold for himself and filled the crown with silver instead! How can he know if this is true without breaking his new crown? Archimedes took this problem seriously and thought about it day and night. He was even thinking about it while taking a bath! After he filled up his bathtub to the brim, he started to slowly dip himself into water, making it spill out onto the floor. All of a sudden, Archimedes figured out the solution to his problem! He was so happy about his discovery that he jumped out of the bathtub and ran naked through the streets of Syracuse shouting, "Eureka, Eureka!" which in Greek means "I have found it!".

What did he find exactly? He had realized that the amount of water that overflowed from the bathtub depended on how much of his body he put under water. Therefore, he made the connection that when placing an irregular shaped object into the water, the water that spilled out would be equal to the volume of that object. That's what he needed to solve his problem! He immediately ran to King Hieron to test out his theory by placing his crown into a water tank.

Then, they placed the amount of gold the King had given to the goldsmith into the same water tank. If the change of water level was the same, that meant that the crown was made of pure gold. Was it a trick or treasure? Figure this out during your visit to Esplora.



EXHIBITION AREA: MOTION

Trick or Treasure?

Download the **pre-visit activity 1 resource** and use it either for a storytelling session, for a listening activity or as a comprehension exercise prior to your visit to Esplora. During your visit, encourage students to discover if the crown was actually made of pure gold or not!

Want to learn more about density? Check out the episode on 'What keeps ships afloat?' of Gina u l-Esploraturi by following this link: <https://esplora.org/gina-u-l-esploraturi/>

EXHIBITION AREA: OPTICS

Colour Absorption Animals

The colour absorption room is one of our visitors' favourite exhibits. We often hear comments that they would like to have a similar room at home. Download the **pre-visit activity 2 resource** for the visuals related to this exhibit and use these as visual prompts for students' speaking sessions. What can they see? Which is their favourite animal and why? What interesting facts can you tell me about your favourite animal? Does the visual remind them of anything? Which animals do you see at night/ during the day? Which animals do you think can be found locally?

Bring the animals to life by visiting the colour absorption room at Esplora.




Pre-Visit Activity 2 Resource
Colour Absorption Animals



Pre-Visit Activity 3 Resource

Build your own shadow theatre



YOU WILL NEED:

- shoebox or cardboard
- scissors
- craft knife
- paper
- masking tape
- glue
- skewers
- A light source (torch or a lamp)

Watch this video in order to help you build your shadow theatre out of cardboard. You can also use a shoebox instead of cardboard and follow the same process.



Step 1: Mark a rectangle on your shoebox. The rectangle must be smaller than an A4 paper sheet.

Step 2: Ask an adult to help you cut out the rectangle marked.

Step 3: Attach the A4 paper sheet using the glue.

Step 4: Place a lamp or a torch at the back of the screen.

Step 5: Have fun by creating shadows using your own hands or by creating paper puppets.

How can you make a larger or a smaller shadow?

EXHIBITION AREA: OPTICS

Experimenting with shadows

Download the **pre-visit activity 3 resource** and ask students to build their own shadow theatre using a shoebox or a piece of cardboard. You can also watch this video with your class in order to help them better understand how to build their own shadow theatre.

During your visit at Esplora, make sure to explore the Optics Gallery to play with life-sized shadows! You can also book the Shadow Play Workshop as an activity for your students.

EXHIBITION AREA - ELECTRICITY


Let's build a circuit

Print and disseminate the **pre-visit activity 4 resource**.

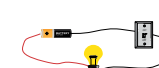
Students are to build their own circuit at home using foil or wires, a small bulb and a battery. Ask the students to think about introducing a switch to the circuit. Students can select some material to try out and predict whether materials are insulators or conductors by testing them out. This will enable students to achieve the primary science broad learning outcomes of making a prediction (3.1.3/4.1.3), carry out a simple practical investigation (3.1.4/4.1.4), record observations (3.1.5/4.1.5) and make simple conclusions (3.1.6/4.1.6). During your visit to Esplora, you will get to visit the Electricity Gallery and experiment with more complex circuits.

You can also use this as a vocabulary resource.

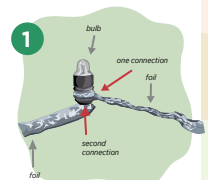
Electricity: Build a circuit



Here is an example of a simple complete circuit. Electric current will flow from the battery to the lamp and back in the battery through the wires. This will make the lamp light up. You can use foil as your wire or you can get hold of some wire.




1



To complete the circuit, one piece of foil needs to be wrapped around the thread and the other piece of foil needs to be touching the bottom of the bulb.


If there is a loose connection anywhere in your circuit, the light bulb is broken, or the switch is open, the current would not flow as it would be an incomplete circuit.

2



When you have a complete circuit the bulb will light up. The foil in this case is acting as the wires in a circuit, it is a good conductor and will allow electricity to flow through.

Pre-Visit Activity 5 Resource



PERIODIC TABLE OF HUMAN EMOTIONS

FE	DR	SS	SH	BO	SA	RB	IT	SU	HO	JO	ST	PL	EC	AN	FR	IC	DC	NO	TR	SM	DI	ME	CT	PE
FEAR	DREAD	SADNESS	SHAME	BORING	SAD	RUDDY	ITCH	SUNNY	HAPPY	JOYFUL	SURPRISE	PLEASED	ECSTASY	ANGRY	FRENZIED	CONFUSED	NOISY	TERRIBLE	SMILING	DIZZY	MELANCHOLIC	COURTEOUS	PATIENT	
LOVE	JOY	SURPRISE	ANGER	SADNESS	FEAR	DISGUST																		

BASIC EMOTIONS

- LOVE
- JOY
- SURPRISE
- ANGER
- SADNESS
- FEAR
- DISGUST

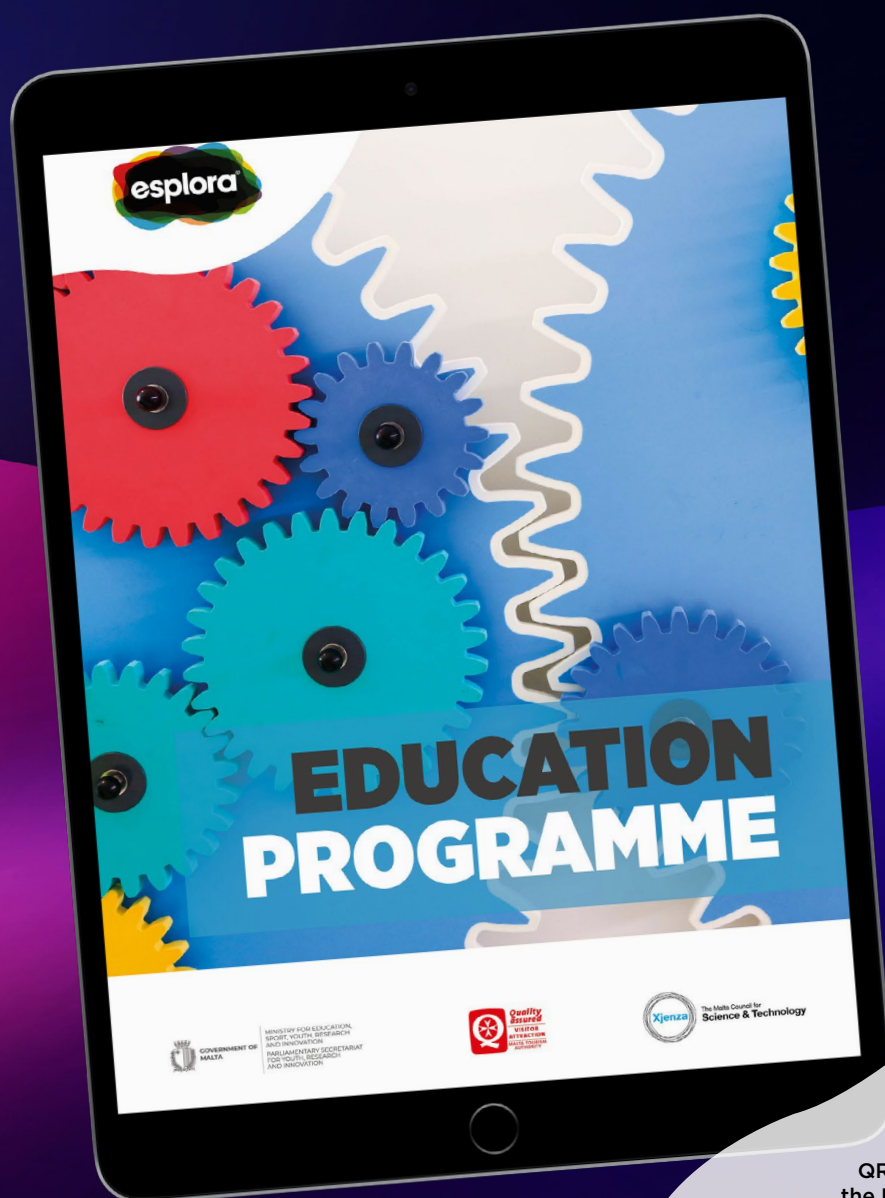
EXHIBITION AREA: HUMAN BODY

Periodic Table of Human Emotions

Emotions make up an important aspect of our life. Being able to express our emotions helps us acknowledge one's feelings, process them and act accordingly. The ability to sense and understand the emotions of others helps us to build and maintain positive relationships with others.

Use the **pre-visit activity 5 resource** as an aid in emotional development. Expand children's vocabulary and empower them to better express their emotions. This is also displayed in our Human Body gallery.

Download our
**EDUCATION
PROGRAMME**
to choose your activity



Please scan the
QR Code below to view
the Education Programme



Post-Visit Activities



FOLLOWING YOUR VISIT TO ESPLORA, WE PREPARED A NUMBER OF ACTIVITIES THAT YOU CAN OPT TO DO IN CLASS OR ASSIGN TO STUDENTS TO DO AT HOME. DOWNLOAD THE PRINTABLE RESOURCES FOR THE POST-VISIT ACTIVITIES FROM THE FOLLOWING LINK: <https://esplora.org.mt/yr3-yr4-post-visit-activities/>



WRITING TASK - A VISIT TO ESPLORA

Following your visit to Esplora, use the **reflective wheel**, forming part of the **post-visit resource**. You may want to print a large copy and utilise it for a class activity on which students can write their collective comments.

Print the **writing task post-visit resource** and ask students to write a report about their visit in order to encourage them to reflect on their learning experience.



ANIMAL WONDERS

Following your visit to the Colour Absorption Room and our colourful wall animals, download the **post-visit resource - Animal Wonders**, Esplora's own book! Use it as a resource for visual prompts, storytelling and other reading/writing activities with your class.

SHADOW PLAY WORKSHOP

Experimenting with shadows

Following the pre-visit activity of building a shadow theatre and the students' visit to the Captured Shadows exhibit, ask students to get creative and design their own puppets such as a hero and a villain.

Use the **post-visit resource** as a writing task for students to create and develop their own story.



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and unique STEM related gift ideas

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Science Centre, Kalkara.

FOR MORE INFORMATION

Call **2360 2301**

