





Lesson plans and activities

produced by participants attending the

Training course for formal and non-formal

ESD educators on Education for

Alternative Water Resources

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Nature Trust – FEE Malta

Education for Sustainable Development Train the Trainer Towards the Green Deal







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Disclaimer:

The lessons/activity plans and accompanying resources are the responsibility of the respective authors/contributors.

Photos showing children are all GDPR compliant.







Title	I am a Little Raindrop (based on the Storytelling Schools Method). The book was written by Joanna Gray and illustrated by Dubravka
	Kolanovic.
Author	Anthea Pisani
Suggested Age	Infants (KG1-KG2)
/Class	
Subject Area	Communication and Language
integrated in the	Personal, Social and Emotional Development
theme/Cross-	Learning through movement
curricular links	Recalling a story with the help of visuals
	Engaging young children during reading aloud experiences
	Understanding the Natural World
Preparation Time	30 mins (go through the script 'The Little Raindrop'),
	1 Flip chart/white board for the KE to draw.
	The Little Raindrop' – pictures for sequencing
Estimated	30 minutes
Duration	
Site	Classroom or a green area in the school grounds
Educational	The students understand the processes of precipitation,
objectives	condensation and evaporation in very simple terms.
Learning Outcome	Early Years:
	2. Children who have a positive self-image:
	2.a. Related Achievements: Children who believe in themselves
	fully aware of their potential and capabilities.
	2.a.2. I show interest in my immediate and wider environment
	3. Children are socially adept:
	3.b. Related Achievements: Children who develop empathy.
	respect and acceptance of different points of view.
	3.b.2. I am caring and show concern towards others
	C C
	4. Children who are effective communicators:
	4.d. Children who are aware of different language systems,
	notably Maltese and English.
	4.d.3. I listen to and understand simple stories in L1.
	4.f. Children who are effective communicators:
	Related Achievements: Children who are versatile with the use of
	numbers, data handling, shapes and measurement and print in
	context as a means of production of knowledge and information
	as well as meaning making and comprehension.
	5.1 Children who nurture positive attitudes towards learning and
	become engaged and confident learners.







	Related Achievements: Children who develop a range of cognitive
	skills to include labelling/identifying, recognition, sorting,
	hypothesising, predicting, comparing, sequencing and grouping.
	5.a.1. I explore associations and cause-and-effect
Link to SDG/S	SDG 7. Affordable and Clean Energy;
	SDG 11. Sustainable Cities and Communities;
	SDG 12. Responsible Consumption and Production;
	SDG 14. Life below Water;
	SDG 15. Life on Land.
Educational	Script for educator ('The Little Raindrop')
resources required	The Little Raindrop – pictures for sequencing + mapping slide
	Flip chart/white board for the KE to draw.
Remote	On a rainy day, the KE would have already drawn the students'
preparation	attention to the weather mainly rain, clouds, possibly wind and
	thunder.
Planning	As Kindergarten students spend some time everyday in the
Considerations	outdoors, they are often interested in gardening, the weather, etc.
	It is important that the KE finds a quiet area so her students can
	listen and take part enthusiastically during the activity.
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Method	Introduction:
	The students are seated comfortably around the teacher. The KE can start the session with a chant that is used in class eg: "It's storytime. It's storytime. Look, listen, wow!" Then the whole class repeats these sentences. Finally these sentences are repeated quietly. This serves to calm the students down.
	If it had rained during that week, the KE can refer to that particular day. Then the KE starts narrating the story and miming some gestures that are easy for the students to follow later on.
	Development:
	Step 1: The KGE uses the script ('The Little Raindrop' – script for KE). The KE asks the students about the story to check for understanding as shown below:
	 a) What happened one dark and stormy day? b) Little Raindrop ended up in a <u>puddle</u>. c) Other raindrops joined him and the puddle started to <u>overflow</u>. d) Where did Little Raindrop end up when he fell from the puddle?







	 e) What did Little Raindrop see as he flowed along the stream? f) The stream ended up joining up with much more water. It joined a <u>river</u>. g) Eventually the river reached the <u>sea</u>. h) What animals did Little Raindrop meet in the sea? i) One day Little Raindrop reached the shore and the sun was very hot. What happened to Little Raindrop? j) Whom did the Little Raindrop meet in the clouds? Step 2: The teacher, with the help of the students, go through the story store by store. The KE draws the overts congrately on the story of the store and the sum and the story of the store and the store a
	flipchart and the students narrate the events scould shown. The KE's drawing will serve as a model especially since they are K1 students. (Refer to 'The Little Raindrop – Mapping').
	This activity helps the students remember the sequence of events and learn the major steps in the water cycle.
	Step 3: The students are given a sequence of pictures to be put in order (Refer to 'The Little Raindrop – Pictures for sequencing'). The KE will go round the group of students and offer any support needed. Students who get the sequence right will be praised accordingly.
	Conclusion:
	Then the KE, together with two students, do the stepping activity. The KE together with the students narrate the story step by step. The main steps are those shown in the pictures. For every event in the story (refer to 'The Little Raindrop – Pictures for sequencing'), the KE and the two students move a step and mime the action represented. This serves as a model for the other students. Afterwards, all the students in the class can work in pairs and do the same while the KE supervises. Alternately, the KE can select other students to do it with her.
Follow-up activities	In a separate session, the KE can show the students the video ('The Little Raindrop') to the students. They can use it to revise the water cycle or to use it as a way to show how precious water is and we should not waste it. The video is shown at the end so the students will not be influenced by the images seen in the video.
Background information for	<u>https://www.youtube.com/watch?v=TD3XSIE4ymo</u> (videos) <u>https://www.twinkl.com.mt/resource/t2-s-243-water-cycle-</u> diagram-powerpoint (diagrams)
Adaptations	Older students can act out the story 'The Little Raindrop' on a stage or during an assembly. Pairs of students can be asked to narrate the story from their point of view.







Extensions	https://www.youtube.com/watch?v=kmmEV4ohSDA -
	evaporation experiment. This experiment also shows
	condensation.
	https://spongykids.com/2021/01/13/evaporating-salt-from-
	saltwater/ - this experiment separates water from salt through
	evaporation. It can be used with older students to imitate what
	happens in salt pans.
	https://www.youtube.com/watch?v=a9tsMNVfU4E - video for
	K1s about ways how to save water.

Script for educator:

The Little	Raindrop
I'm a little raindrop.	Finally we reached the
I live high up in a cloud.	deep blue sea.
One day it got windy and cold	We swam with friendly dolphins
And I fell into a pool.	And lovely colourful fish.
Splish, splash, splash! My friends the raindrops joined me And we joined a stream That drifted through the woods.	One day I landed on the beach The sand was soft and warm. The sun shone hot and I was drawn up into the air.
Soon we joined a river - At times it was neaceful and calm	It was much cooler in the sky
Other times it got	full of other raindrop friends
very noisy and rough.	waiting to come down to Earth again!
,,	······································

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The Little Raindrop - pictures for sequencing















The Little Raindrop - Written by Joanna Gray and illustrated by Dubravka Kolanovic

















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The Little Raindrop – mapping slide









Title	The Water Cycle
Author	Mariella Grech
Suggested Age	Infants (KG1-Year 1)/3-5yrs
/Class	
Subject Area	Human impact (aim to reduce waste of water)
integrated in the	Responsible consumption (To decrease the amount of water)
theme/Cross-	Creating a responsibile community (to reduce the negative effect of
curricular links	wasting water)
Preparation Time	30min.
Estimated	20min.
Duration	
Site	In the class room
Educational	An outing will be organised for visiting ghajn at Xlendi and the
objectives	Marsalforn valley to learn from where water comes, after the rain,
	and were does it go.
Learning Outcome	I can make connections between the experiences and
	understanding to make sense of the world around me.
	I can broaden my knowledge through enquiry and discovery
	I can follow and extend my interest with enthusiasm and
	concentration.
	I can demonstrate interest in the larger world beyond my
	immediate environment.
	I can show a positive a positive disposition towards learning, am
	curious and enthusiastic in my learning.
	I can make connections between experiences, concepts and
	processes.
Link to SDG/S	Clean water and sanitation, responsible consumption and
	production, climate action, good health and well-being and
	partnerships for the goals.
Remote	How will learners be prepared for the activity through
preparation	prerequisite knowledge or preparatory tasks
Considerations	Educational outings are important for hands on activities and for teamwork.
	Consent forms are important to know all about each student
	healthy issue and the permission to go.
	Planning before to arrange everything such as transport, and keep noticing the weather forecast.
Method	• Teacher explains that the Earth has a limited amount of water.
	• Continue to increase knowledge the system of the Earth and hat 97% we surrounded with sea while only 3% is water.
	• Provide flash cards with planet earth and the sun to let them understand better.
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 Liquid water is found in the oceans, river, lakes and even underground.
Water is our source of life.
 Show them flash cards to teach chd. to be aware why we need to take care of any single drop.
 Start short videos on u-tube regarding the water cycle.
 Teacher explains that the water keeps going around and around and we call this water cycle.
 Teacher shows on a magnetic water cycle board how this happens.
 There are 4 main parts evaporation, transpiration, condensation, precipitation(rain, snow and hail)
 The water that we drink today may actually have millions of age years old.
 Since the beginning of time (dinosaurs)
• Life exists wherever there is water.
• Explain that the sun absorbs liquid from the sea, and forms clouds, when they get too heavy to stay suspended, they fall to Earth as rain.
 Invite children. To come out and jot arrows how it goes.
 Make sounds of the sea and water and get them out to show you were the sound comes from.
 The water cycle is the path that all water follows as it moves around the Earth.
 Teacher teaches children to be water warriors from an early age.
 Teacher teaches children that every little bit helps.
Conclude with popular nursery rhymes.
• Itsy bitsy spider.
Water song
Water water everywhere.
Hydrate, water song.







	Learn and play with the hoola hoop activity
	Learn and play with the magnetic board.
	Game on interactive board.
Follow-up activities	Prepare a hoola hoop with A4 laminated colured picture of the water cycle, and hang the sun , the sea, the clouds and the rain to understand that the water cycle keeps going around and around. Organize an outing were we can see the water in a stream and visit the local council and tell him to make more awareness in the village to save water. Around the school premises chd will stick around laminated pictures to close the tap while washing their hands. In the school yard chd will place an empty bucket so when it rains they collect water and reuse it again.
Background information for	Flash cards, water cycle board, You Tube clips, hoola hoop, bucket and games on interactive board.
educators	Learning: Science:
	The water cycle: <u>The Water Cycle The Dr. Binocs Show Learn</u> <u>Videos For Kids - YouTubeThe Water Cycle for Kids Learn all</u> <u>about the water cycle - YouTube</u>
	<u>Water Cycle – digital game on Behance</u>
	<u>Water/H2O song for children - YouTube</u> <u>The Water Song Song for Kids Nursery Rhymes OwlyBird -</u> <u>YouTube</u> <u>Save water - Water water everywhere song - YouTube</u>
	Itsy Bitsy Spider Nursery Rhymes and Kids Song Whoopah
	<u>Loopah - YouTube</u> Action song:
	Hydrate Water Song for Kids Nursery Rhymes for Children The
	<u> Water Song Pevan & Sarah - YouTube</u>







Title	A journey from the past to the future
Author	Mariella Grech
Suggested Age /Class	Infants (KG1-Year 1)/3-5yr
Subject Area	Human impact (aim to reduce waste of water)
integrated in the	Responsible consumption (To decrease the amount of water)
theme/Cross-	Creating a responsible community to save water from an early age
curricular links	and for future generation.
Preparation Time	30min.
Estimated	30min.
Duration	
Site	In the class/ visiting, aqua ducts the way to Ta'Pinu pinu / ta'
	Dbiegi pottery craft centre/ an olive grove/ an old fountain.
Educational	I can make connections between the experiences and
objectives	understanding to make sense of the world around me.
	I can broaden my knowledge through enquiry and discovery.
	I can follow and extend my interest with enthusiasm and
	concentration.
	I can demonstrate interest in the larger world beyond my
	Immediate environment.
	I can show a positive a positive disposition towards learning, am
	curious and enthusiastic in my learning.
	I can make connections between experiences, concepts and processes.
Link to SDG/S	Clean water and sanitation, responsible consumption and
	production, climate action, good health and well-being and
	partnerships for the goals.
Planning Considerations	Educational outings are important for hands on activities and for teamwork.
	Consent forms are to be sent to parents beforehand.
	Planning before to arrange everything such as transport, and keep noticing the weather forecast.
Method	 Introduce the topic Water to the children. Start by showing them black and white pictures such as aqua ducts, wells, pottery, dams etc. From internet show pictures to learn about a dam. From internet show pictures of aqua ducts and pottery objects. Show the nursery rhyme Jack and Jill went up the hill, so they will understand what a well is.







	• Explain that we do not have dams in our country, but larger
	countries have, for example Greece.
	• Show pictures of Marathon dam (in Greece) in the past and the
	dam in the present.
	• Explain that a dam is a huge reservoir for collecting water.
	• Show them now it was built in the past and what tools they
	usea.
	• Show students now a dam looks like, and continue to explain that it is like a big lake
	that it is like a big lake.
	• Explain to children that from the past people were also aware of taking care of water.
	 Because water is a source of everyone's life.
	Taking care of water is vital.
	• Even nowadays we need to take care of water from now, also
	for future generation.
	• In old times people used to save water in pottery jars.
	• Teacher shows pictures of pottery objects.
	• Explain to students that old generation used to reserve water in
	pottery jars, to keep water fresh and to conserve water in them
	from rain.
	 Show a nursery rhyme regarding water and the rain.
	 Prepare the students for an outing to see aqua ducts.
	• Teacher explains how old generation used their pottery objects
	to conserve water.
	Take children to see the
	Aquaducts (on the way to Ta'
	Pinu)
	Take children to visit the pottery
	center (ta' Dbieġi) to show them
	how jars were made.
	Take learners to see an old
	fountain and from were water
	comes from.
	I ake students to an olive grove
	to see a reservoir from were
	trees are having water from
	Irrigation.
	• Make a crait in the school word PE WATED WISE and display a
	• Stick balliers in the school yard BE WATER WISE and display a bucket to fill rain and water the plants with it
Follow-up	Teacher prepare clay and aluminum foils so that kids will make a
activities	iar and bake it in the school oven
	 When ready, student will take them home and when it rains they
	can collect water in them to water the plants.
	····· •··· • • • • • • • • • • • • • •







	 Game snakes and ladders with questions true or false regarding water for example, close the tap while washing your teeth and shall we have short showersetc Craft with crepe papers, sticking with glue to make an olive tree.
Background information for educators	Snakes and ladder board game, clay, aluminum trays, interactive board, internet, crepe papers and pva glue.
	marathon dam Greece - Search (bing.com)
	Water/H2O song for children - YouTube
	<u>Hydrate Water Song for Kids Nursery Rhymes for Children The</u> <u>Water Song Pevan & Sarah - YouTube</u>

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Title	The importance of Water Sustainability – How to avoid wasting
	water by re-using it in different ways
Author	Nicola Vella
Suggested Age	Year 1
/Class	4-6 years old
Subject Area	Science, English and Art
integrated in the	• Knowledge and understanding the elements of visual language
theme/Cross-	• Creating and designing
curricular links	• Observing and reflecting
	Give an appropriate response (verbal and non-verbal) while
	listening and viewing
	 Make logical predictions and simple connections to real life and personal experiences
	• Explore different types of seeds, leaves and plants including
	flowering and non-flowering plants.
	 Grow flowering and non-flowering plants.
	• Convey meaning in multimodal ways (oral and/or visual forms) to
	convey facts, ideas and points of view for different purposes and
	audiences
	• Pass on a message to others
	• Recall details by asking who, what, when, where, why & now
	• Use I see, I think, I wonder approach to predict content.
	• Explore and observe now things change
	• Use practices of good nygiene
	• Understand that Planet Earth is made up of land, water and air
	Promote environmental sustainability by participating in energy
	and other resource-saving strategies
	• Identify practical ways of reducing, reusing, recycling and
	repairing waste as well as refusing items and retninking everyday
Dueu enstiene Time e	practices to saleguard planet Earth.
Preparation Time	Air-condition water needs to be collected beforenand in order to
Estimated Duration	1 hour and 15 minutes
	School garden ward and classroom
Educational	Children learn the importance of water sustainability through re-
objectives	using aircondition water in various activities
Learning Outcome	Empowering individuals to become agents of change to achieve
	the well-being of the human race without compromising that of
	future generations.
	Applying a holistic approach to target the environmental.
	economic and social well being of the human race and the whole
	planet.
Educational	Uses of Water – worksheet
resources required	Watercolours







Remote preparation	Children know that water is needed to water plants, use water
	colours and to clean up
Planning	Make sure that children know that this water is not to be used for
Considerations	drinking.
Method	Outline of the educational activity:
	Introduction:
	Children are asked if they know that air conditions produce a lot of water waste.
	Children are shown a bucket of water collected from the school's air conditioners.
	Children are then asked what they think happens to this water.
	Children are asked if they can think of different ways that we can re-use this water to stop it going to waste.
	Their ideas are then used to fill up the worksheet "Uses of Water".
	Development:
	Children fill up their watering cans with the water from the air conditioner and taken outside to water the plants in the garden.
	Children then use the water from the air conditioner to use with their water colours and to create a water colour painting related to water.
	When they are finished from painting, children use the remaining water to wet their cloths in order to clean up their work stations.
	Conclusion:
	"Circle Time" will be used to conclude the activity by discussing all the different ways we re-used the water from the air conditioning and how this practice can be also done at home.
	Children present their watercolour paintings to the class and explain what water means to them.
Follow-up activities	Children continue to water the plants in the garden using this
	water
	Children continue to use air condition water in their daily activities which require water
Adaptations	The LSE will guide and offer support to any children who struggle
Extensions	Children can create a chart at home showing all the different uses
	we explored for air condition water

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Uses of Water

Fill in each droplet with a different way you use water in your everyday life!









Title	The Water Cycle
Author	Nicola Vella
Suggested Age	Year 1
/Class	Ages 4-6
Subject Area	Science - Planet Earth and its Resources:
integrated in the	• Understand that Planet Earth is made up of land, water and air.
theme/Cross-	• Identify various weather conditions experienced in Malta and
curricular links	relate these to their everyday life experiences.
	• Observe weather changes over a period of time, throughout the year and relate to everyday life experiences.
	• Understand that planet Earth supports life and therefore we
	must take care of Earth's resources.
	• Promote environmental sustainability by participating in energy
	and other resource-saving strategies e.g. switching off lights,
	turning off taps, clean energy such as solar panels etc
Preparation Time	Print and laminate all pictures to be used to create the water cycle
	Prepare the power point and weather flashcards
Estimated Duration	45 minutes
Site	Classroom
Educational	Children understand that there are various types of weather
objectives	Children learn about the water cycle
Educational	Flashcards, hoop, power point, video, boiling water, food
resources required	colouring, stretch and seal, bowl
Method	Outline of the educational activity:
	Introduction:
	Children are asked what type of weather it is today by looking outside of the window.
	Children explain what type of clothing they are wearing because of this weather.
	Children are asked where they think rain comes from and their answers are formed into a web on the whiteboard.
	Development:
	Children are shown a power point presentation showing the different type of weather we can have.
	Children use flashcards to show how today's weather is.
	Children are then shown a video of the weather cycle.







	Using sequencing, children order the various stages of the weather cycle as a group work activity.
	Children present their work and explain what is happening in each picture of the cycle.
	Children stick the photos in the correct order onto a hoop to show how it is a cycle.
	The teacher demonstrates how the water cycle works with an experiment in class – boiling water coloured with food colouring is poured into a bowl, it is quickly covered in stretch and seal and children note the evaporation forming on the stretch and seal (noting that the food colouring was not evaporated). The children can then see how the water will drop back into the bowl after the steam becomes liquid again.
	Conclusion
	The class is asked what they think would happen if something in the water cycle doesn't happen.
	Children present their cycles to the class teacher and explain the process themselves.
Follow-up activities	A lesson on capacity in maths to measure rainfall (a jug is placed outside to measure water) The water is then left outside in the sun so children can see how the sun evaporates the water into the air
Adaptations	The LSE provides support and guidance where students find any difficulty
Extensions	Children can try the experiment at home with their parents and record their investigation



















3







Title	What is the WATER CYCLE?
Author	Gweneth Borg
Suggested Age /Class	Aimed at a student on the ASD, attainment level of Year 2
Subject Area	Science
integrated in the	
theme/Cross-	
curricular links	
Estimated	45 minutes
Duration	
Site	Classroom, school yard and school garden so that the student can visualise the surroundings.
Educational	The objective of this lesson is to understand and learn about
objectives	evaporation, precipitation and run off, thus what water is, from
	where it comes from as in clouds (condensation) and explore how the cycle works.
Learning Outcome	Understand the seasons followed by the daily weather
Link to SDG/S	SDG 6 – Clean Water for everyone
Educational	Game about seasons including seasonal clothing to be sorted.
resources required	Water cycle background including stick on sun, clouds, clouds with
	rain/snow, evaporation and arrows.
	Worksheets about the water cycle and stick on main words.
	A short experiment using a zip lock bag, fill with warm water, zip it
	locked and discuss the process together with the student
Method	Outline of the educational activity:
	Introduction: First we start with the game about seasons and the
	sorting of the clothing per season, leaving winter for last.
	Development: We watch a video clip from DR Binocs about water
	cycle <u>https://www.youtube.com/watch?v=ncORPosDrjl</u>
	ve then use the water cycle background and discuss what is
	happening every time we add an item (sun, evaporation, clouds
	V/a try out the experiment together
	Conclusion: The student will be given the handout of the
	watercycle including the key words ready cut out and he will be
	able to stick these headings on the worksheet in the right places
	with minimal prompting
Follow-up	This lesson will be repeated from time to time including
activities	observation of the weather especially on rainy days.
Background	https://www.youtube.com/watch?v=ncORPosDril
information	Handout

















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Title	Water Sustainability at San Anton Gardens
Author	Ingrid Vella
Suggested Age /Class	Year 3
Subject Area integrated in the theme/Cross- curricular links	Social Studies
Preparation Time	A visit to San Anton Gardens needs to be organised beforehand so as to familiarise oneself with location as well as plan the route that will be followed during the outing. Contact Mr Mario Pace at Ambjent Malta for a guided tour: <u>mario.f.pace@gov.mt</u>
Estimated Duration	1 hour 30 minutes
Site	Outdoors: San Anton Gardens, Attard
Educational objectives	Develop the students' observational skills and respect for the environment. Formulate questions in order to carry out research on the topic of water. Understand the importance of water, and explore ways of harvesting water and reducing water waste.
Learning Outcome	 Education for Sustainable Development: I can use the natural, social and built environment that surrounds me, as a context and source of learning. I can reflect upon the consequences of my actions on present and future generations. Social Studies: G 3.3 - Geografija: Inharsu I-Ambjent ta' Madwarna G 3.3.3 - Kapaċi nifhem għaliex I-ilma huwa prezzjuż u rridu nibżgħu għalih. G 3.1 - Geografija: Inzuru I-Kampanja G3.1.43 - Kapaċi nagħraf u nsemmi xi eżempji tal-flora u I-fawna tal-kampanja Maltija. G 3.1.4 - Kapaċi nifhem u napprezza I-importanza tal-ilma biex il-kampanja tibga' ħajja.
Link to SDG/S	SDG 6 – Clean Water and Sanitation SDG 7 – Affordable and Clean Energy







Educational resources required	Flashcards Clipboard and pencil Checklist Worksheet Quiz powerpoint
Remote preparation (if applicable)	Together with the students who will be attending this outing, a session prior to the outing is held where a discussion is carried out. Students (who had already visited this place with their families) are invited to describe it – a garden, flowers, trees, animals, soil, gardeners, fountains
Planning Considerations	Parents' Consent Form – to grant permission for students to attend the outing A First Aid Kit
Method	• Introduction
	An introductory game is played – the class is divided into two groups. One group is the countryside and the other group is the city. The teacher calls out characteristics and students from each group comes out for the flashcard, according to the environment (rural/urban). Now the teacher explains that they will visit a public garden – San Anton Gardens, whereby they will identify these rural characteristics.
	• Development
	Students arrive at San Anton Gardens and together with the guide, start off with historical information. The Palace and Gardens were built by the Knight De Paule as his summer residence. This was then passed on to the British and is now the Official Residence of the President of Malta.
	Going round the garden, students are asked to identify items that are related to water – aqueducts (built by the knights to carry water around the garden), fountains (the water of which is used to water plants, trees and flowers), and reservoirs (there is one in San Anton Gardens; and more at the Palace)
	Students also identified flora and fauna. Students questioned the difference between male and female peacocks. They also learnt about the difference between terrapins and turtles. They also observed the plants/herbs growing in the greenhouses, such as Widnet il-Baħar (Maltese Rock Centaury)and herbs such as rosemary and thyme.
	As students walk around the garden, they complete the checklist that was prepared by the teacher. They also ask questions to the guide so as to be able to fill in the necessary information.







	• Conclusion
	As a follow-up to the outing, a quiz activity is organized. Students are divided into groups and they elect one of the members as their representative. This representative will be keeping record of the responses of his/her own team. The quiz is in powerpoint format, and after each question is read, the teams' representatives write down the responses and this sheet is then passed on to the teacher. The winning team is announced.
Follow-up activities	A session is held as a follow-up to the outing which consists of a powerpoint quiz, focusing on the information that the students acquired during the guided visit and about the location itself.
Background	Background information for the educator:
information for educators	<u>400 year old San Anton Palace reservoir to be restored</u> (maltatoday.com.mt)
	<u>San Anton Palace becomes a water sustainability example - The</u> <u>Malta Independent</u>
	San Anton Palace - Wikipedia
	Ambjent Malta : <u>environmentcms.gov.mt/en/ambjentmalta/Pages/home.aspx</u>
Adaptations	Students are asked to write a sentence or draw what they observed/ learnt about during the outing.
Extensions	Students write a newspaper article about the outing to San Anton
	orange grove at San Anton Palace and Gardens. The article can then be published by the school.





1







San Anton Palace was originally built Where is San Anton by the Knight De Pauleas his: Gardens located? winter summer autumn Balzan Lija Attard residence residence residence orrect answer incorrect answer correct answer incorrect answer 3 4 Citrus San Anton Palace is now the Official trees Residence of the: produce: bananas, oranges, peaches, Prime President of apples and lemons and grapes Minister Malta pears mandarines and lime correct answer incorrect answer correct answer incorrect answer 5 6 How many cisterns (reservoirs) are at San Anton Palace & Gardens? The oldest citrus trees are about: 200 500 50 years 7 5 10 years old years old old 🔵 correct answer 😑 incorrect answer correct answer incorrect answer 8 7 The San Anton Gardens reservoir was Which of the following is collected in built by : the reservoir? the the the Maltese Knights of rainwater groundwater British St John correct answer incorrect answer correct answer incorrect answer 10 9













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14



16



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Title	Capacity / Graphs – Measuring how much water we use to wash our hands
Author	Gweneth Borg
Suggested Age /Class	Aimed at a student on the ASD, attainment level of Year 3 in Maths
Subject Area integrated in the theme/Cross- curricular links	Maths
Estimated Duration	45 minutes
Site	In the restroom and in the classroom
Educational objectives	To understand how much water is used while washing our hands and to try to improve on the consumption used every time we wash our hands. To learn how to wash own hands
Learning Outcome	To learn to read the beaker, to build a bar graph
Link to SDG/S	SDG 6 – Clean Water for everyone
Educational	Plastic bowl
resources required	Funnel
	1 L beaker
	Work sheets with beaker to be marked and coloured after every
	activity
	Work sheet with bar chart
Remote preparation	Student will be prepared for this activity with step-by-step flash cards.
Method	Outline of the educational activity:
	Introduction: What happens when we wash our hands, where is the water going? Is there a way we can check how much water we are using /wasting? Show the utensils to the student and discuss each one of them and their use, with the help of flash cards.
	Development: When we use the restroom to wash our hands, 1st we put the plastic bowl under the tap, then we wash our hands while water flows in the bowl. 2nd we pour the water into the beaker with the help of the funnel. 3rd we learn to read the beaker.
	Conclusion: Every day we will fill in a chart according to the water readings and at the end of the week we can add and compare on which days we used more / less water.
Follow-up activities	This activity will be followed up during bar graphs lessons.
Background	Flash cards
information for educators	Step-by-Step washing hands









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Title	The Water Cycle	
Author	Yana Abela	
Suggested Age /Class	Year 3	
Subject Area	English, Art and Science	
integrated in the		
theme/Cross-		
curricular links		
Estimated Duration	1 hour	
Site	Classroom and school yard	
Educational	Students will understand the water cycle and its different stages.	
objectives	Students will be able to identify and describe key elements of the	
	water cycle.	
Learning Outcome	• I can explain how the natural, social, cultural and economic	
	systems work and are interrelated.	
	• I can use the natural, social and built environment that surrounds	
	me, as a context and source for learning.	
Link to SDG/S	SDG6: Clean water and sanitation	
Educational	Whiteboard and markers	
resources required	A world map or globe	
	Laptop or computer with internet access	
	Video clip:	
	https://www.youtube.com/watch?v=TD3XSIE4ymo&t=119s	
	Projector and screen	
	• Drawing supplies (coloured pencils, crayons, etc.)	
	Construction paper	
	Plastic bags (zip lock)	
	• Water	
	Story Dewey the Water Droplet	
Remote preparation	Pose open-ended questions that prompt critical thinking about	
	water. For example, ask why water is essential, where it comes	
Diamaina	from, or what happens to water when it rains.	
Planning	water Disappearing: Students might think water disappears	
Considerations	liquid to gos	
	Ilquid to gas. Claude as Salid Objects: Children might see claude as salid abjects	
	rather than collections of tiny water droplets. Clarify that clouds	
	are made up of water vanor	
	Source of Rain: Some students may believe that rain comes from	
	the ground or holes in the sky Reinforce that rain comes from	
	clouds releasing water dronlets	







	Constant Water Cycle: Children might perceive the water cycle as a continuous and immediate process. Stress that the water cycle occurs over time and involves different stages. By addressing these considerations, warnings, and misconceptions, you can enhance the effectiveness of your water cycle lesson and promote a more accurate understanding among your students.
Method	Introduction:
	 Begin with a discussion: Ask students what they know about water and where it comes from. Write down their responses on the whiteboard. Introduce the concept of the water cycle using simple language and visuals. Use the globe or world map to show the different bodies of water.
	Development
	 Show a short video clip explaining the water cycle. Here's a link to a child-friendly video: <u>https://www.youtube.com/watch?v=TD3XSIE4ymo&t=119s</u> Discuss the main stages of the water cycle: evaporation, condensation, precipitation, and collection through the story of 'Dewey the Water Droplet' Use the whiteboard to draw simple illustrations of each stage, involving students in the process.
	Conclusion
	 Give each child a plastic bag and a small amount of water. Have them seal the bags tightly and then place them in a sunny spot. Make some predictions on what will happen. Over the next few days, observe and discuss the changes in the bag (evaporation, condensation).
Background	Online links related to the water cycle:
information for educators	https://www.tinytap.com/activities/g18g7/play/the-water-cycle
educators	https://www.educationsoutheastwater.com.au/resources/natural- water-cycle-game
	https://www.brainpop.com/games/watercyclegame/
	https://www.turtlediary.com/games/water-cycle.html
Adaptations	 For gifted children: Encourage independent research about the water cycle. Provide advanced reading materials or additional resources. Challenge them to create a more detailed and complex representation of the water cycle. For Children with Difficulties: Provide visual aids and simplified language were backed or anti-
-warne rrust-FFF Malta	







	 Offer additional support during hands-on activities.
	 Break down instructions into smaller steps.
Extensions	 Break down instructions into smaller steps. Outdoor Observation (Science/Art - 20 minutes): Take students outside to observe the environment. Ask them to notice signs of the water cycle, such as puddles, dew, or clouds. Encourage them to connect what they see to the stages of the water cycle. They can draw what they see (Ex: puddle, fountain, droplet on a leaf, cloud, etc) Bring the class back together for a group discussion. Ask students to share what they observed during the outdoor activity and
	discuss their illustrations. Use this time to reinforce key vocabulary and concepts related to
	the water cycle.

"The Adventure of Dewey

the Water Droplet"



Once upon a time in a quiet lake, there lived a little water droplet named Dewey. Dewey loved floating on the surface of the lake, enjoying the warmth of the sun and the gentle breezes that ruffled the water.

One sunny day, something magical happened. The sun's rays beamed down on Dewey, and he started feeling lighter and lighter. Before he knew it, he lifted off the surface and began to rise into the sky. Dewey was so excited; he was going on an adventure!

As he floated higher and higher, Dewey joined other water droplets in the sky. They formed fluffy white clouds that sailed across the heavens. Dewey was amazed at the beautiful views from up above.







But, as the clouds moved, they bumped into each other, and Dewey found himself sticking to some of his droplet friends. They clung together and became a larger droplet. The cloud grew heavier and darker, and soon, Dewey and his friends were ready for a new part of their journey.

One day, the cloud couldn't hold onto all the water droplets anymore. It was time for Dewey's group to leave the cloud. They fell from the sky as raindrops, racing down toward the Earth below. Dewey felt a little nervous but also thrilled.

As Dewey descended, he landed on a green leaf. The sun came out again, and Dewey felt warmth. Slowly, he started to change. He turned from a liquid droplet into tiny vapor. The sun's rays made him lighter, and Dewey began to rise once more, now as invisible water vapor.

Dewey joined the other vapor molecules in the air, forming a misty layer. He felt free, dancing in the air currents. Sometimes, he even joined other vapor droplets to create small, fluffy clouds.

And so, Dewey continued his journey, from lake to sky, from cloud to rain, and back up into the air. The water cycle was like a never-ending dance, and Dewey was a part of it, enjoying every step of the way.

And that, my friends, is the story of Dewey the Water Droplet and his incredible adventure through the water cycle.







Title	Water Conservation
Author	Yana Abela
Suggested Age /Class	Year 3
Subject Area integrated in the theme/Cross- curricular links	Science, Drama and Art
Estimated Duration	1 hour
Site	Classroom and school yard
Educational objectives	 To introduce the concept of water conservation to 7-year-old children. To raise awareness about the importance of saving water for the environment and future generations. To encourage simple actions that contribute to water conservation.
Learning Outcome	 I can justify the importance of identifying problems, reflecting critically, thinking creatively and having a wider vision in order to plan the future and become an effective agent of change. I can involve myself and others in real-world issues to bring about a positive difference. I can reflect upon the consequences of my actions on present and future generations. I can actively participate in process and encourage negotiations for alternative sustainable futures.
Link to SDG/S	SDG6: Clean water and sanitation
Educational resources required	 Water Usage log (resource from Twinkl) <u>https://www.twinkl.com.mt/resource/t-sc-118-new-water-use-survey-activity-sheet</u> Sorting card game (resource from Twinkl) <u>https://www.twinkl.com.mt/resource/cfe-p-235-saving-or-wasting-water-sorting-cards</u> Picture books or visuals about water conservation Pictures or diagrams showing water usage (e.g., brushing teeth, watering plants) Drawing materials (paper, crayons, markers) Water-saving devices (optional, for demonstration purposes) Buckets and sponges







	T
	Story "The Water Princess" by Susan Verde
Damata	<u>nttps://www.youtube.com/watcn?v=ND3NV11ty_l&t=2/5s</u>
Remote	or guardians, including:
preparation	Water Usage Log: Ask families to track their water usage for a day
	noting activities like bathing washing dishes, and watering plants
	Discussion Promote: Encourage families to discuss with their
	children why water is important and how they can save water at
	home
Planning	Hands-On Activities: Plan hands-on activities and experiments to
Considerations	engage children's senses and encourage active participation.
Considerations	Short. Interactive Segments: Break the lesson into short segments
	to accommodate children's attention spans, and include interactive
	elements like songs, games, and movement breaks.
	Simple Language: Use age-appropriate language and explanations
	to ensure children understand the concepts being taught.
	Positive Reinforcement: Provide praise and positive reinforcement
	throughout the lesson to encourage participation and reinforce
	desired behaviours.
	Inclusive Environment: Create a supportive and inclusive
	environment where all children feel valued and included,
	regardless of their background or abilities.
Method	Introduction:
	• Start by narrating the story of 'The Water Princess' by Susan
	Verde
	https://www.youtube.com/watch?v=ND3NV1Tty_I&t=275s
	• Continue by asking children what the main theme of the story
	was – water. Ask what they know about water.
	• Discuss the importance of water for living things and everyday
	activities.
	• Introduce the concept of water conservation: using water wisely
	to save it for the future.
	Development
	Step 1:
	• Interactive Activity in school yard - Water Usage Relay (15
	minutes):
	- Divide the class into teams and set up a relay race with
	buckets and sponges.
	- Explain that the objective is to "save" as much water as
	possible by transferring it from one bucket to another using
	sponges.
	- Emphasize the importance of being careful not to spill water
	and using only what is necessary.







	 After the activity, discuss with the children how they felt about saving water and why it's important.
	Step 2:
	 Show pictures or diagrams illustrating different ways we use water (e.g., bathing, washing dishes). Talk about simple actions that can help save water (e.g., turning off the faucet while brushing teeth, taking shorter showers). Encourage children to share their ideas on how they can save water at home and school. Demonstrate water-saving devices or techniques (e.g., aerators on faucets, collecting rainwater for plants). Engage children in a role-playing activity where they pretend to be water detectives, searching for leaks and finding ways to save water. Encourage children to brainstorm and act out different scenarios where they can conserve water.
	Conclusion
	 Recap the key points of the lesson: why water conservation is important and simple actions they can take to save water. Use a sorting game activity. Reinforce the idea that everyone can make a difference in conserving water and protecting the environment. Encourage children to share what they've learned with their families and friends, spreading awareness beyond the classroom.
Follow-up activities	 Distribute drawing materials and ask children to create posters or artworks depicting ways to save water. Display their creations in the classroom or school to raise awareness. Have each child share their poster and explain why water conservation is important to them.
Background information for educators	Online links related to water conservation: <u>https://saveourwater.com/</u> <u>https://wateruseitwisely.com/tip-tank-game/</u>

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Adaptations	Independent Projects for high achievers: Allow high achievers to pursue independent research projects or presentations on specific aspects of water conservation, encouraging creativity and independent inquiry. Individualized Support for children with learning difficulties: Offer one-on-one or small group support sessions as needed, providing additional explanations, repetition, or alternative approaches to help low achievers grasp the material.
Extensions	 Encourage children to create a water conservation pledge where they commit to taking specific actions to save water. Organize a water-saving challenge where children track their daily water usage and try to reduce it over time. Invite a local environmental expert or water conservationist to speak to the class.











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Wasting Water

Place cards here you think describe actions that waste water.



Water in My World

What do we use water for?





visit twinkt core





Water in My World



Drinking, Washing clothes, Cleaning the house, Bathing/showering, Cooking, Generating electricity, Farming, Gardening



Water in My World

What do we use water for?

Water can be used for:





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Water Use Activity Sheet

Activity	Tally	Total
Drinking water or squash		
Flushing the toilet		
Brushing teeth		
Washing hands		
Having a shower		
Having a bath		
Using the washing machine		
Using a dishwasher		
Washing dishes in the sink		
Using a hosepipe or sprinkler		
*		



Science | Year 21 The Environment | Water Use Activity Sheet | Lesson 5







Title	Little Raindrop (based on the book 'Little Raindrop' written by	
	Melanie Joyce and illustrated by Gina Maldonado.	
Author	Anthea Pisani	
Suggested Age	Year 4	
/Class		
Subject Area	English Listening, Reading and Writing linked with Social Studies.	
integrated in the		
theme/Cross-		
curricular links		
Preparation Time	30 mins (go through the script),	
	printing of 'Little Raindrop' Pictures Yr4 to act as pictures for the	
	sequencing activity.	
Estimated Duration	45 mins	
Site	Classroom or a green area in the school grounds	
Educational	The students understand the processes of precipitation,	
objectives	condensation and evaporation in very simple terms. They will	
	appreciate how valuable water is and how we can make the best	
	use of it.	
Learning Outcome	R5.3 I can read and understand a wide range of age-appropriate	
	texts across genres, independently and in groups	
	R5.5 I can use a range of strategies to aid comprehension and find	
	the required information in the text.	
	LS5.2 I can understand audio-visual texts across a range of genres,	
	identifying the main idea and specific information.	
	W5.8A I can participate in writing for a range of purposes and	
	write in some genres.	
	W5.9 I can write a paragraph appropriately for an audience and	
	with a purpose. (instructions)	
Link to SDG/S	SDG 7. Affordable and Clean Energy;	
	SDG 11. Sustainable Cities and Communities;	
	SDG 12. Responsible Consumption and Production;	
	SDG 14. Life below Water;	
	SDG 15. Life on Land	
Educational	Video 'Little Raindrop'	
resources required	Script for the teacher (Little Raindrop Yr4)	
	Pictures on Interactive Flat Screen (IFS) showing key words eg.	
	lightning and thunder, sunbeams, rainbow, worms, mole, dribbled,	
	sucked, mist. (attached ppt Little Raindrop Yr4)	
	Pictures from 'Little Raindrop' Pictures Yr4 for the sequencing	
	activity.	
	Paper and colours for every group	







Remote preparation	During Social Studies students have covered a topic about how seasons affect the Maltese Landscape. Since we have dry summers, it is paramount to save water during Winter and Spring.
Method	Introduction:
	Pictures are shown on the IFS and the students, in groups of 4, discuss the picture shown and write what they are seeing on their mini white boards. After a few minutes, the teacher asks every group to put up the board and as a whole class they will say the word. The teacher can refer to sound related to the word eg. a flash of lightning. This exercise will help the students become familiar with words that will be used in the video.
	Development:
	Step 1: The students listen to and watch the video.
	Using the script (Little Raindrop Yr4), the teacher asks the students about the story to check for understanding as shown below:
	 a) Who lived in the cloud? b) What happened to the water droplets when it got stormy and cold? c) When the sunbeams shone through the water droplets, what was there in the sky? d) Mention some animals the water droplet met when it fell to earth. (worms, mole). e) What happened to the water droplets when they were deep down in the soil? (They were sucked up the roots and stem of a flower). f) When the sun shone bright, how did the water droplets feel and what happened to them? g) What would have happened to the water droplets if they were not sucked up by the flower's roots? (They could have ended up in a puddle under the ground or ended up in the sea). h) Can we keep freshwater from the rain from ending up into the sea?
	Step 2: The teacher, with the help of the students, go through the story step by step. Reference is made to soundwords as well. The teacher gives cards to the students and in pairs they sequence the story (refer to 'Little Raindrop' Pictures Yr4).
	This activity helps the students remember the sequence of events and learn the major steps in the water cycle.
	Step 3: As the water that comes to earth involves a complex process, water is a very valuable resource. Together the teacher and students discuss why is water important and why we should







	take very good care of it eg. by collecting in wells, in valleys, etc. At home we use water used for washing vegetables before cooking to water plants, close taps when washing hands or brushing teeth, etc.
	Conclusion:
	The teacher together with the students discuss how they can write logos to make other students and educators in the school setting save water. The students are given time to write logos that can then be stuck near taps in bathrooms at school or near taps used for irrigation at school.
Follow-up activities	This activity can be followed by a visit to Għajn where the
	students take part in the Chadwick Lakes trail (see video
	https://chadwicklakes.mt/the-valley/). There they can see an
	actual example of now rain water is stored for irrigation purposes.
Background	https://www.youtube.com/watch?v=1D3XSIE4ymo (videos)
information for	https://www.twinkl.com.mt/resource/t2-s-243-water-cycle-
educators	<u>diagram-powerpoint</u> (diagrams)
Adaptations	Older students can act out the story 'Little Raindrop' on a stage or
	during an assembly. Pairs of students can be asked to narrate the
	story from their point of view.
Extensions	https://www.youtube.com/watch?v=kmmEV4ohSDA -
	evaporation experiment. This experiment also shows
	condensation.
	https://spongykids.com/2021/01/13/evaporating-salt-from-
	<u>saltwater/</u> - this experiment separates water from salt through
	evaporation. It can be used with older students to imitate what
	happens in salt pans.
	https://www.youtube.com/watch?v=y5gFI3pMvol water cycle for
	Yr4s. This activity can be followed by the students using the
	Magnetic Water Cycle board.











"Dooh " cried all the raindrops.

"See you later, Cloud. Goodbye!"

"Have fun," said Cloud. "I wish that I could

come along with you!"





























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Pictures





HLUP





2

4





3

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5







Title	Saving Water 1		
Author	Anthony Falzon		
Class	Year 4		
Subject Area	Social Studies – Responsible consumption		
integrated in			
the			
theme/Cross-			
curricular links			
Estimated	45 minutes		
Duration			
Site	Class		
Learning	Children will define conservation of water and will be able to identify		
Outcomes	various strategies for reducing water consumption.		
Educational	Short video Crawford the Cat – handwashing		
resources	(458) Crawford Washes His Hands - YouTube		
required	(458) Water Saving Tips and Tricks - Let's Save the Planet - The		
	Environment for Kids - YouTube		
Method	<u>Plan: Engage:</u>		
	I will ask the children what happens when they open the tap to take a		
	shower or a bath. (cold water comes out first)		
	Ask the children: what do you or your mum does with that cold water?		
	(expect answers like: throws it away or even that mum keeps it to use		
	it for something else).		
	Inquire:		
	Explain to the children that we can use it to either:		
	Wash the floor when the bucket is full;		
	Flush the toilet with it;		
	Water the plants (if you're going to water them);		
	Wash the car (if there is the need to wash it);		
	Fill the kitchen sink to wash the plates.		
	Show them the short video of Crawford. Ask simple questions as a		
	follow up to what they have just watched.		
	Show them the video Let's save the Planet and the children will		
	express themselves about the subject.		
	A short discussion will follow.		
	Assess and Evaluate: Creative Writing:		
	Together we will write about 5 sentences in Maltese titled: L-ilma or		
	Ma naniux ilma. When they finish they draw and colour a picture in		
	relation to what they wrote. (This activity will be done on an A4 paper		
	- re-used, explaining also to the children that even this paper is being		
	re-used, hence before throwing things away we see if they can be re-		
	used in the future.		
Follow-up	A visit to the L-Għajn Water Centre – Rabat will follow.		
activities			







Title	Saving Water 2
Author	Anthony Falzon
Class	Year 4
Subject Area integrated in the theme/Cross-	Social Studies – Responsible consumption
curricular links	
Estimated Duration	45 minutes
Site	Class/Outdoors
Learning Outcomes	Children will define conservation and identify the various uses of fresh water and the importance of water on Earth.
Educational resources required	Utensils / containers eg: small cup, ladle, spoon, teaspoon, measuring jug, medicine spoon, small bucket, spade etc. How much water is on Earth? <u>(458) How Much Water Is on Earth? -</u> <u>YouTube</u>
	The importance of water on Earth (458) Importance of water on earth - Water conservation - save water - Simply E-learn kids - YouTube Video - Save water to help the Earth (458) Save Water to Help the Earth S4 E3 - YouTube
Method	PLAN: ENGAGE This activity can be carried outdoors. In groups, children will stand in a line to explore how water can be transported from one end of the line to the other using different equipment (including everyday utensils). The activity requires team work as it involves children identifying which equipment should be used and in which order and also carefully pouring the water from one utensil to the next. The aim is to minimise water loss along the way thus emphasizing water conservation. INQUIRE
	Discuss with the children: How much water is there on Earth? Where is water found? Then watch the video – How much water is on Earth? Ask the children: Why is it important to save water? Briefly discuss. Then watch the video – The importance of water on Earth. Discuss different ways to conserve / save water. Then watch the video – Save water to help the Earth. <u>ASSESS and EVALUATE</u> Individually or in groups, children will create a poster with a slogan / caption on saving water. They will then present their posters to the class and may also display them in the classroom or in the school.







Title	Water: You may be just a drop but your actions can create ripples.	
Author	Anita Muscat	
Suggested Class	Year 5	
Subject Area	Science and Social Studies	
Preparation Time	2 hours in research and preparation of worksheets	
Estimated	1 hour	
Duration		
Site	Class – based activity in a primary school	
Educational	То	
objectives	 check knowledge and correcting misconceptions about the topic of water from different perspectives (the processes in the water cycle, sources of water, uses of water in everyday life, abundance or scarcity, etc) teach about the importance of water and its role in our lives, check students' awareness re their role in using water wisely and sustainably. help students reflect on the consequences of unsustainable behaviour, encourage students to act responsibly so that this precious commodity is safeguarded for present and future generations. 	
Learning	Learning to know: Students will learn how to identify problems	
Outcomes	reflect critically, think creatively and have a wider vision in order to plan for the future and become an effective agent of change. Students will become more convinces that water is life. Learning to do: Students will identify priorities and evaluate potential consequences of different decisions and actions. Students will use water in a more responsible way and share the message. Learning to be: Students will reflect upon the consequences of their actions on present and future generations. Students are motivated to make a positive contribution to other people and their social and natural environment, locally and globally.	
Link to SDG/S	SDG 3 – Good Health and Well-Being	
	SDG 6 – Clean Water and Sanitation	
	SDG 12 – Responsible Consumption	
	SDG 15 – Life on Land	
Optional educational resources	Suggested reading for educators: <u>Water cycle Definition, Steps, Diagram, & Facts Britannica</u> <u>Water cycle - Wikipedia</u> <u>What is the Water-Energy-Food Nexus? - Water Footprint</u> <u>Calculator (watercalculator.org)</u>	

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Eco-Schools: www.ekoskola.org.mt







	Alter Aqua Pack - <u>About Alteraqua</u> and <u>NCWRM 2014.pdf</u> (medies.net)
	17 Proven Ways to Save Water at Home (wikihow.com)
	13 best ways to save water Friends of the Earth
	Imminent risk of a global water crisis, warns the UN World Water Development Report 2023 UNESCO
	Global water agenda: What to expect in 2022 (economist.com)
	https://greencoast.org/what-is-greywater
	Suggested reading for students:
	What Is the Water Cycle? NASA Climate Kids
Remote	Pre-tasks:
preparation	The previous' week lesson will focus on the water cycle.
	Resource 1 – Video by NASA for educators
	<u>Intips.//www.youtube.com/watch:v=oaDkpii/yQDS</u>
	kids
	Resource 3 – label the stages worksheet – general
	Resource 4- pictorial representation for student with learning difficulties
	Resource 5a and 5 a – fill in the blanks for students with learning difficulties
	Resource 6, 6a and 6b – Word Search for the mainstream
	Resource 6c - Word search for gifted students
Method	Outline of the educational activity:
	Introduction (5mins)
	A brief revision of the basic processes of the water cycle covered previously will start off the session. Video – The hydrologic cycle - <u>https://youtu.be/FzYjPpxP-Cw</u> (Resource 7)
	Development
	A quiz will be given out. Answers can be given on an individual basis or in groups. (Resources 8 and 8a for the teacher's and the student respectively) (15 mins)
	Answers checked and discussed. Any difficulties will be addressed. (15 mins)







	A 2 nd quiz will then be given out.(Resources 9 and 9a for the teacher and the students respectively) (20 mins)
	Students will work in teams. The teacher can then add on, correct or put students on the right track if misconceptions were evident.
	Conclusion by the teacher (5mins)
	Water touches everything in our lives. Without it there would be no life on earth. Collaboration across sectors and borders and sustainable management of freshwater resources—used for multiple life- sustaining purposes including food, energy, environment and
	human health—is crucial.
	Protecting, managing and restoring natural systems, such as forests, wetlands, marine and coastal ecosystems, is essential for healthy water systems and human well-being. (Optional - Resources A and B)
Follow-up	A field visit to a wastewater or desalination plant
activities	
Background	Included in the educational resources and other sections
information for	
educators	
Adaptations	Resources included for students with learning difficulties
Extensions	Resources included for gifted students

Reource 3:

Name

The Water Cycle

Label the steps in the water cycle.



Printable Worksheets @ www.mathworksheets4kids.com







Resource 4:



Resources 5 and 5a:











Resources 6 and 6a:







Date:



Resource 6b:

Name:

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Unit 5: The Water Cycle

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accumulation	aquifer	collection	condensation
conservation	crater lake	evaporation	groundwater
hydropower	inland seas	precipitation	renewable
resource	runoff	spring	sublimation
subsurface	surface	transpiration	water cycle







Resource 6c:

Name :

The Water Cycle

Observe the picture and write the appropriate term and definition.

PICTURE	TERM	DEFINITION
(in)		

Printable Worksheets @ www.mathworksheets4kids.com







Resource 8 (for the teacher):





How much do you know about water?

We use water so much that we sometimes take it for granted. Let's see how much you know about water and its relation with the environment.

1. Water is the most common substance on Earth.

Correct answer is A. - True - Water is actually the most common substance found on Earth. If we combine all the oceans, lakes, rivers, ice caps, and water vapour in the atmosphere, it is estimated that there are 326 trillion gallons or 1234 trillion litres of water on the planet.

A. True B. False







- 2. Water covers more or less than 50% of the Earth's surface?
 - A. More
 - B. Less

Correct Answer is A. - More

3. How much of the Earth's surface is covered by water?

A. 40 %
B. 51%
C. 75%?
Correct Answer is C. - 75%

4. There is more fresh water on earth than saltwater.

- A. True
- B. False

Correct Answer is B. - False – Only 3% of the Earth's water is freshwater. 97% of the water on Earth is salt water.

- 5. Water can only be found on the Earth's surface:
 - A. True
 - B. False

Correct answer is B. – False. Although most of the water is found on the Earth's surface, it is also found in the air as vapour and underground as groundwater.

- 6. Water is used over and over again in a never ending cycle. What is the cycle called?
 - A. Water RingB. Water Recycling Loop





C. Water/Hydrologic Cycle

Correct answer is C.

7. How much of the water on earth is available for people's everyday use?

- A. 10%
- B. More than 25%
- C. Less than 1%

Correct answer is C. Less than 1%

Although 75% of the earth's surface is made of water, less than 1% is usable. The rest is salt water or is inaccessible.

8. Oceans contain all of the Earth's water.

A. TrueB. False

Correct answer is B .: False

Earth's five oceans hold 96.5% of all of water. But that's not all. Water also exists in the vapour in the air, in the lakes and rivers, glaciers and ice caps. Knowing this is also important in understanding the importance of keeping Earth's waters clean and unpolluted.

9. Most of the Earth's water is frozen:

A. True B. False

Correct answer is A .: True

Although there is seemingly an enormous supply of water on Earth, not all of it is usable. In fact, 70% of the Earth's water is frozen and therefore not accessible.

 Most of the world's supply of fresh water is concentrated in one area: Antarctica.

> A. True B. False

Correct answer is A. - True - Most of the world's supply of fresh water is actually concentrated in one area, Antarctica. This freezing continent has less

3






people and thus less percentage of pollution and energy usage than any other. It also contains 90% of the Earth's supply of fresh water

- Water coming out of your tap contains molecules that the dinosaurs drank.
 - A. TrueB. B. False

Correct answer is A. - True - You could be drinking the same water that a Tyrannosaurus Rex did over 65 million years ago. The water cycle involves the continuous circulation of water in the Earth-atmosphere system. Although the total amount of water within the cycle remains essentially constant, its distribution among the various processes is continually changing.

12. Water regulates the Earth's temperature.

A. True B. False

Correct answer is A. - True – Water actually regulates the Earth's temperature through ocean currents. The oceans move heated water from the Earth's equator and the hotter tropic climates to the north and south poles, while the reverse happens from the poles to the tropics. This also helps to regulate the overall climate and combat global warming.

13. Does everyone in the world have access to clean drinking water?

A. Yes B. No

Correct answer: B - Not everyone in the world has access to clean water. In fact, 780 million people on Earth lack access to clean or drinkable water. This leads to hardship, disease and deaths.

14. 2/3 of the world will likely face water scarcity by 2025.

A. True B. False

Correct answer is A. – True - Water is important for the Earth and the human race's survival. According to the United Nations, by 2025 two-thirds of the world's population will face water scarcity. By conserving perhaps our most







precious resource, we can hope to reverse some of the climate change, pollution, and unequal distribution's devastating effects.

15. Our bodies are mostly made of water.

A. True

B. B. False

Correct answer is A. - True

16. Roughly, how much of the human body is water?

A. 20%,

- B. 40%
- C. 60%
- D. 80%
- E. Correct answer is D.

17. We can live without water for:

- A. a day
- B. a week
- C. a month

Correct answer is B. - a week

Humans can only live for a few days to a week without water. This time depends on various factors, which include how well hydrated they were before they became cut off from water, their activity level, and their environment. Someone in a hot, sunny environment will die quicker of dehydration than someone in a cold climate. Similarly, someone in a cold environment will likely die quicker without water than someone in 70-degree weather since they won't use up energy shivering.







- 18. Which of the following uses less water?
 - A. Taking a five minute shower
 - B. Taking a 5 minute bath

Correct answer is A. – A 5-minute shower uses 38 to 95 litres of water. It does not matter how long you spend in the bath. It takes 265 litres to fill a tub.

 60% of household water is used to flush toilets and to take baths or showers.

A. True

B. False

Correct answer is a. True

20. Why do we need to conserve water?

- A. It is expensive.
- B. We need it for travel.
- C. We can swim in it.
- D. It is a limited resource.

Correct answer is D. – Water is a limited resource because there is only a finite amount of fresh water available on Earth. Although water covers about 70% of the planet's surface, only a small percentage of it is freshwater that is suitable for drinking and other essential uses. With an increase in world population and industries, the demand for water is also growing. Therefore it is crucial to conserve water to ensure it is available for future generations and to sustain the ecosystems that depend on it.

Resource 8a (for the students):











How much do you know about water?

We use water so much that we sometimes take it for granted. Let's see how much you know about water and its relation with the environment.

- 1. Water is the most common substance on Earth.
 - A. True B. False
- 2. Water covers more or less than 50% of the Earth's surface?
 - A. More
 - B. Less

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- 3. How much of the Earth's surface is covered by water?
 - A. 40 %
 - B. 51%
 - C. 75%?
- 4. There is more fresh water on earth than saltwater.
 - A. True
 - B. False
- 5. Water can only be found on the Earth's surface:
 - A. True
 - B. False
- 6. Water is used over and over again in a never ending cycle. What is the cycle called?
 - A. Water Ring
 - B. Water Recycling Loop
 - C. Water/Hydrologic Cycle
- 7. How much of the water on earth is available for people's everyday use?
 - A. 10%
 - B. More than 25%
 - C. Less than 1%
- 8. Oceans contain all of the Earth's water.
 - A. True
 - B. False





- 9. Most of the Earth's water is frozen:
 - A. True
 - B. False
- 10. Most of the world's supply of fresh water is concentrated in one area: Antarctica.
 - A. True B. False
- Water coming out of your tap contains molecules that the dinosaurs drank.
 - A. True B. B. False
 - 12. Water regulates the Earth's temperature.
 - A. True B. False
 - 13. Does everyone in the world have access to clean drinking water?
 - A. Yes B. No
 - 14. 2/3 of the world will likely face water scarcity by 2025.
 - A. True B. False
 - 15. Our bodies are mostly made of water.
 - A. True
 - B. B. False







- 16. Roughly, how much of the human body is water?
 - A. 20%,
 - B. 40%
 - C. 60%
 - D. 80%
- 17. We can live without water for:
 - A. a day
 - B. a week
 - C. a month
- 18. Which of the following uses less water?
 - A. Taking a five minute shower
 - B. Taking a 5 minute bath
- 19. 60% of household water is used to flush toilets and to take baths or showers.
 - A. True
 - B. False
- 20. Why do we need to conserve water?
 - A. It is expensive.
 - B. We need it for travel.
 - C. We can swim in it.
 - D. It is a limited resource.

4







Resource 9 (teacher's copy):

More about water: Teacher's copy

1. Where is water found on earth?

Possible answers: Oceans, seas, glaciers, polar ice caps, rivers, streams, lakes, ponds, underground and above ground reservoirs, fountains, the atmosphere or the air as water vapour, stored underground as groundwater.

2. What is groundwater?

Ground water comes from rainwater and snow which has seeped into the soil till it reaches an impermeable layer of rock and is stored there.

3. What do we use our water for? Name at least 5 uses of water.

Possible answers: Drinking, washing ourselves and our possessions, in farming, in industry, putting out fires, watering plants, cooling off, cooking, swimming, traveling, creating energy, flushing our toilets, etc.

4. Mention 4 ways in which we can save and conserve water.

Possible answers: Turn off taps while washing teeth or shaving; take shorter showers; flush toilet only when necessary; don't throw things such as cigarettes in the toilet; switch to water saving – features; use water efficient appliances; run your dishwasher and washing machine only when they are full; fix leaks around the home; occasionally have meat-free meals; water your plants or garden in the early morning so that the water does not evaporate immediately; reduce food waste; catch rainwater etc.

5. Can water be dangerous? How?

Possible answers: Extreme water-related events such as droughts, floods or tsunamis can be dangerous. 90% of climate disasters are water-related. Contaminated water can cause disease or death. In regions where water is scarce, competition for this vital resource can escalate into conflicts.

6. What is grey water?

Greywater is domestic wastewater which is produced from the recycling of laundry, shower, and hand basin water. When treated, this water can be used to







irrigate a garden. Any household wastewater, including water from washing machines, dishwashers, baths, and sinks is greywater provided it doesn't get into contact with sewer.

7. What is black water?

Black water is domestic wastewater that comes from toilets.

8. Where do we get our water from?

Desalinated seawater, harvested rainwater, groundwater and treated wastewater.

9. Do we have/use grey water in Malta?

Yes! There are special plants in Malta and Gozo that treat domestic wastewater and convert it into grey water which is used for irrigating fields.

10. Why is it important to safeguard water?

Possible answers: Without water there is no life on earth. Water is needed for domestic, agricultural and industrial use.

Resource 9a (students' copy):

More about water: Students' copy

- 1. Where is water found on earth?
- 2. What is groundwater?
- 3. What do we use our water for? Name at least 5 uses of water.
- 4. Mention 4 ways in which we can save and conserve water.
- 5. Can water be dangerous? How?
- 6. What is grey water?
- 7. What is black water?
- 8. Where do we get our water from?
- 9. Do we have/use grey water in Malta?
- 10. Why is it important to safeguard water?







Resource A:









Optional Resource B:



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Eco-Schools: www.ekoskola.org.mt







Title	Water Pollution
Author	Elaine Vella
Suggested Age	Year 5
/Class	
Subject Area	Science
integrated in the	Keywords: pollution, species, sewage, biological factors.
theme/Cross-	
curricular links	
Preparation Time	15 minutes
Estimated	60 minutes
Duration	
Site	Classroom
Educational	To know that water can be polluted by waste from human
objectives	activities.
Link to SDG/S	SDG 6 – Clean Water for everyone
Educational	 POLLUTION flashcard.
resources required	 An enlarged copy of Handout A - 'Is there pollution?' and copies
	of it for every student.
	• Handout B
	 Writing Materials
	 Interactive whiteboard
	 An enlarged copy of 'A Frog's guide to ponds'.
Remote	Send an invite an environmental biologist to visit your class.
preparation	
Method	Introduction:
	Ask students to remind you the main points of the previous lesson:
	water is the most essential element in our life and that we need to
	conserve it the best we can.
	Ask students to give one word which describes dirty water i.e.
	POLLUTION. Ask them whether they have seen or know of any
	polluted areas of water. Discuss their
	experiences/observations/knowledge.
	Main teaching activity:
	Show the children an enlarged version of the table on Handout A
	and read through the 'A Frog's guide to ponds' with them. Using
	the information on the 'Frog's guide', show the students how the
	empty cells on Handout A can be filled. For example ask: What did
	the frog say the water looked like in very polluted conditions? (Lots
	of numan litter and waste; liquids and junk from factories.) What is
	iiving in very poliuted areas? (Nothing)







	 Groupwork Task 1: Give each student a copy of the 'Is there pollution?" table – Handout A. Ask them to use the information from the enlarged version of 'A frog's guide to ponds' to complete the table. A whole
	class discussion will follow to compare and contrast their answers vis-à-vis the biological factors mentioned.
	Group Activity 2:
	• Students are asked to write the main causes of pollution on Handout B, then a class discussion is held where children give their ideas on how they would prevent pollution by each of the causes. Lead students to the fact that there are laws to prevent water pollution and that these are gradually updated and enforced.
Follow-up	Whole class activity: Meeting an environmental biologist.
activities	Explain to the students that a guest speaker, an environmental biologist will be visiting the class. Nevertheless, they need to devise
	a set of questions with regards the work of this professional and
	also about the pollution and conservation of water. These will be
	discussed together and prepared for the day of the meeting.







Handout A		
Is there pollution?		Star Good
Clean or polluted?	What the water looks like	What is living in the water
Very polluted		
Polluted with algae		
Polluted with sewage		
A little pollution		
No pollution		

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A frog's guide to ponds.



The worst places for frogs to visit are waters that are full of human litter and waste. They often stink from liquids and junk that has been discarded by factories. Nothing can live in polluted places like that. It's a dead area that needs cleaning up! Croak!

Some ponds and rivers I visit look green and inviting from a distance. However, when you get close to them, they are polluted too. The

colour is caused by green or blue algae that float like scum on the surface of the water. This revolting stuff often grows because farmers have put too much fertiliser on their fields to make crops grow. Some fertiliser gets washed into ponds and streams by rain and makes the algae grow. Algae greedily use up most of the oxygen in the water, so very few creatures can live there. You may find some sludge worms or rat-tailed maggots surviving there. They look horrid. Croak!

Sometimes I come across streams that are polluted with sewage. One creature that seems to enjoy crawling around in this stuff is the water louse. It seems to love feeding on rotting waste. If I see lots of these creatures but very few others, I keep well away. It probably means there's sewage in the water, and that can make you ill. Croak!

I do visit some ponds and streams that are a little polluted. They have lots of wildlife. As well as water lice munching up the waste, there will be the hunchbacked freshwater shrimps eating decaying water plants. Hiding on the bottom, you'll also find caddis fly larvae. These small creatures hide in a tube that they've made out of sticks or sand. They eat tiny water creatures that crawl or get washed into their tube. Croak!

The best and cleanest ponds contain all of these creatures: worms, lice, maggots, shrimps and caddis fly larvae. They also contain the enemies I had as a tadpole. At that time, I had to keep clear of the jaws of the dragonfly nymph. It's a ferocious hunter. Unfortunately, it likes the same clean unpolluted habitats as frogs do. Croak!







Title	Tap Water
Author	Elaine Vella
Suggested Age /Class	Year 5
Subject Area integrated in the theme/Cross- curricular links	English & Science Keywords: Desalination, run off water, water cycle, conservation
Estimated Duration	45 minutes
Site	Classroom
Educational objectives	To know that we use a great amount of water and that water must be conserved.
Link to SDG/S	SDG 4 – Quality Education SDG 11 – Sustainable Cities and Communities SDG 12 – Responsible Consumption and Production
Educational resources required	 2 pictures of the 2 desalination plants in Malta and Gozo a litre bottle a 10 litre bucket pictures of water-consuming activities Handout A and Handout B
Remote preparation	Have the ebook read aloud story ready on the class interactive whiteboard: https://www.youtube.com/watch?v=tIWAjQhClK0
Method	Introduction: Ask students: Where does water from the tap come from? Bring up a discussion with the pupils and lead them to the fact that in Malta, tap water mainly arrives from the sea and that there is a long process to turn salt water into water which is fit for drinking. Show pictures of the desalination plants in Għar Lapsi, Malta and the one in Ħondoq ir-Rummien, Gozo which the one inaugurated 2 years ago. Ask students: If tap water runs out, in what ways do we get water in our homes? What about other countries? Students will probably mention wells and the water tank on top of the roof. Through discussion, lead the children to discuss the water cycle, runoff water and other ways water is stored. Discuss ways water conservation. Main teaching Activity: Students will trute find out her water there use at heres
	Students will try to find out how much water they use at home. Display an empty litre bottle and a 10 litre bucket, both with their capacity clearly marked on each to help them judge quantities. On the board, display pictures of water-consuming activities: A sink to wash up plates, a bath, a shower, washing hands in a sink, a flush of the toilet, a washing machine load. At the bottom of the list,







	write: 10 litres, 70 litres, 30 litres, 3 litres, 10 litres and 90 litres. Ask individual children to guess and write a quantity alongside each activity. Check that the students understand how many full
	buckets of water would be needed in each case.
	Start the ebook read aloud story on the class interactive
	whiteboard: https://www.youtube.com/watch?v=tIWAjQhClK0
	Groupwork Task 1:
	Ask pupils to work in groups and answer the questions on the
	given handout A.
	As a whole class, discuss the answers they wrote during their
	group work task 1 and ask them to elicit the gist of the story: the importance of water and that we need to conserve it. Ask children
	to come up with ideas on how we, as individual may conserve water. Ask them to mention simple everyday activities
	Group Activity 2:
	Students can design a poster that presents three to five good
	Students can design a poster that presents three to five good
	Ideas for saving water (for their Show and tell during the morning
	school assembly).
Follow-up	Handout B
activities	







<u>Handout A</u>	Names:
The Water Princess by Susan Verde ie Gie do during the day?	What do you do during your day?
How do Gie Gie and her mother collect water?	How do you and your family get water?
Describe the water collected by Gie Gie.	Describe the water you use.
Gie Gie spends most of her day collecting water. What type of activities does she misses on?	Do you think you would use water differently if you had to go and fetch it and carry it a long way to your house? Why?







<u>Handout B</u>	Name:	
٦	Top tips for saving water	200
Fill in the missing s	spaces in this table:	
Water usage	How water is wasted	How to save or conserve water:
Cleaning your teeth.	Leaving the tap running while you brush your teeth.	
Washing your hands.	Leaving the tap running while you brush your hands.	
Washing a car.	Using a hosepipe to rinse the car.	
Washing clothes in a washing machine.	Loading the washing machine half full.	
Watering the garden.	Using a sprinkler or a hosepipe.	

Which of these activities do you think would waste most water?







Title	Our hidden water footprint - Freshwater water use and
	Management
Author	Frank Muscat
Suggested Age	Year 8/Form 2
/Class	Year 9/Form 3
	Year 10/Form 4
	Year 11/Form 5
Subject Area	PSCD, English
integrated in the	
theme/Cross-	
curricular links	
Estimated	45 minutes
Duration	
Site	Location where activity it to be held
Educational	1. Make students realise how the products and services we buy
objectives	and use can contribute to our indirect water footprint apart from
	using water directly to have a shower, for example;
	2. Learn how to distinguish between direct and indirect/virtual
	use of water;
	3. Learn that they need to control not only direct use of water
	but particularly the virtual use of water most would not have been
	aware of by changing their drinking habits and consumption of
	goods and services.
	4. Learn that our water footprint includes both direct and
	indirect uses of water.
	This lesson seeks to raise students' awareness of the often
	surprising amount of water used in producing everyday products
	like cola, leather boots, smartphones, and chocolate bars, and what
	students can do to conserve water and how they are also using
	water "virtually" when they buy products and avail themselves of
	services.
Link to SDG/S	SDG 12 – Responsible consumption and production
Educational	(i) infographic for how much water goes into that bottle of
resources required	cola? (Link <u>https://yourwaterfootprint.wordpress.com/wp-</u>
	content/uploads/2014/08/ywf-graphic-ywf-cola.jpg)
	(ii) I eacher's prepared list of mixed up direct and indirect/virtual
	uses of water that is to be distributed to students after they have
	written their list of how they use water, and which they will be
	asked to put under the categories of direct and virtual use of water.
	(III) I erms for Students – towards the end of the lesson students
	Will be given these terms and definitions by the teacher:
	vvater rootprint: the total volume of freshwater consumed and
	polluted for the production of the goods and services that are used
	by a consumer.







	Supply chain: all of the resources, information, and people involved in the production of a good, from growing/harvesting the materials to make it, to selling the product in a store. (iv) Stopwatch (or onscreen -)
Planning Considerations	Most students would know about direct uses of water but may not realise that when we buy a product or a service we could also be consuming much more water than when we use water directly.
Method	Introduction to water footprint – Lead-in (5 minutes)
	In groups, students are allotted 5 minutes in which they produce a list of different ways in which they use water. Make it a competition, complete with stop watch!
	(5 minutes) Rapporteur from each group reads the list. At this point the teacher can see whether students are aware of virtual uses of water. It could be that students might not see right away how buying a product these products relate to their own water consumption.
	(10 minutes) Next phase is for the teacher to distribute his/her own mixed up prepared list that includes not only direct personal water uses, like for bathing, drinking, washing clothes or dishes, etc., but also includes a list of products like clothing, technology, plastic, and processed or raw food. At this point, students are asked to put these various uses of water under two headings: Direct and Other. The word 'indirect' is not used for the time being.
	(5 minutes) Students are not told what indirect/virtual use of water is. Teacher tries to elicit how washing up is one obvious example of water consumption whereas buying a pair of leather shoes is another example of water consumption and equally forms part of a person's water footprint, even if it is not immediately obvious.
	(5 minutes) At this point after students are given the opportunity to reflect about and discuss the difference between direct and virtual use of water, and how they indirectly use water through the products and services they buy or use the students put the various uses of water under the headings direct and virtual/indirect.
	 (15 minutes) In the last part the teacher explains gives out and explains the terms used and what the water footprint comprises. Teacher also checks that students have grasped the concepts of direct and virtual uses of water and in order to prepare students for the next lesson on indirect uses of water, asks a thought-provoking







question to students in order to shock them into realising that one of the most common actions one can think of – drinking a 500 cc bottle of Coke - uses up a shocking amount of water. The teacher asks students a final question after explaining to students that the guestion does not refer only to the amount of liquid that a 500cc Coke bottle physically contains but to the entire amount of water use in the supply chain for a bottle of cola: How much water goes into that bottle of cola? Students are told to guess the amount in a way that makes sense to them. All students can distinguish between a half a litre bottle of water (small bottle of mineral water) and a one litre bottle of water, so they are asked to write down how many small bottles of water are used to produce a small bottle of cola. Students are asked to give the number in terms of small bottles. After listening to all the replies, the teacher writes the number on the WB - 350 small bottles of water for one small bottle of water. The shock effect is what will remain memorable and meaningful to students, as they realise that in drinking cola, they are guilty of exacerbating the water crisis, and can start to think about the best ways to save water by changing their drinking habits. The infographic can also be presented to students as a final thought-provoking image.

DIRECT USE	INDIRECT USE
brushing teeth	producing steel and other automotive
	components for your car
showering	Growing cotton for your jeans
washing a car	the use of water in processing wood to
	make paper
watering a garden	the water used in the production of inputs
	such as raw materials and energy to be used
	in the manufacturing process
flushing the toilet	Water is used to generate electricity
	through hydropower and to cool thermal
	power plants.
washing the floor	Water used to produce crops such as wheat
	and rice
Using water for cooking purposes	Water used to produce coffee
Drinking water	Water used to produce fuel and fertiliser

Teaching material regarding Direct and indirect/virtual use of water



Cola is almost entirely water, so a half-liter (17-fluidounce) bottle effectively contains a half-liter of water. That's the direct water input. But cola is not just water in a bottle. When you include the production of all of the flavoring ingredients (the highest consumptive factor here), the manufacturing and the supply chain, each bottle requires about 175 liters (46 gallons).



Your Water Footprint by Stephen Leahy www.yourwaterfootprint.me







Title	Water footprint of the food we eat
Author	Frank Muscat
Suggested Age	Year 9/Form 3
/Class	
Subject Area	Social Studies
integrated in the	
theme/Cross-	
curricular links	
Preparation Time	35 minutes
Estimated	45 minutes
Duration	
Site	classroom
Educational	To help learners become more responsible for promoting
objectives	environmental sustainability, and eventually become sustainability
5	change-makers.
	To "shock" the learner at become aware of the exorbitant amount
	of water that he/she uses both directly and indirectly
	To urge and empower learners to take immediate measures on a
	personal, family and local level to drastically reduce
	invisible/indirect/virtual water they constantly use
Learning Outcome	The learner will use this new awareness about the exorbitant
	amounts of water we use not only directly but virtually, and start
	taking concrete, day-to-day measures to reduce their water
	water" regarding feed and clethes
Link to SDC/S	SDC 6 Clean Water and sanitation –ensure availability and
	sustainable management of water and sanitation for all
Educational	Worksheets for students: info pack for teachers containing the
resources required	correct answers for the questions students will be asked in the
	worksheets.
	The data for these worksheets was taken from the following links:
	From farm to fork: how much water is needed to produce the
	food we eat? - The Earth Recommends - Su eatable life
	indirect water – Think at the Sink (wordpress.com)
	Link to gallons to litres convertor so that if students google the
	amount of invisible water in virtual uses of water and they get the
	amount in gallons, they can convert it to litres, which is more
	meaningful Volume Conversion Calculator (calculatorsoup.com)
	Link to weight convertor <u>Convert Ibs to Kg (unitconverters.net)</u>
	Definitions needed:
	A water tootprint is the total amount of direct and indirect water
	Used by an individual or manufacturer.
	virtual water is the water embedded in commodities. Producing
	goous and services requires water, the water used to produce







	agricultural or industrial products is called the virtual water of the product. The water footprint measures the amount of water used to produce each of the goods and services we use. It can be measured for a single process, such as growing rice, for a product such as jeans, for the fuel we put in our car, or for an entire multinational company. The water footprint can also tell us how much water is being consumed by a particular country or by an individual person. <u>http://waterfootprint.org/en/resources/interactive- tools/personal-water-footprint-calculator/</u> Other useful links: <u>What is the Water-Energy-Food Nexus? -</u> <u>Water Footprint Calculator (watercalculator.org)</u> useful for a lesson on the following cognitive learning outcome mentioned in UNESCO's SDG 6. The learner understands that water is part of many different complay global intercalculationships and systems.
	Worksheets 1 & 2 provided (Student and teacher's copies)
Remote preparation	Prior to lesson, students are asked to go through the notes given in the previous lesson at home (refer to previous lesson plan) on direct and indirect uses of water.
Planning Considerations	It is anticipated that students' guesses would be at the low end, so the teacher would expect a reaction of surprise and shock among students, which is one of the main objectives of the lesson. The teacher should also show students a one-litre bottle of water so that students can have a concrete picture of what 10000 similar bottles of invisible water used signify, thus helping to startling students into realizing the sheer amount of virtual water use.
Method	Outline of the educational activity:
	Introduction
	 (10 min.) As a lead-in to the lesson, which is a follow-up of the first lesson on direct and indirect use of water or invisible water as it is called, the teacher recapitulates briefly the difference between the two by asking students to give examples. (These 2 lessons should ideally be delivered close to each other to ensure maximum recall and retention.) The interchangeable terms indirect/invisible/virtual are to be given to students. Alternatively, a video featuring direct and virtual use of water is shown to students – url Virtual Water - YouTube (6'27") and then
	teacher recapitulates the learnings from previous lesson by asking







	questions to students, eliciting their responses to check for understanding of the concepts of direct and virtual water.
	Development
	10 minutes Once the teacher has revised the concept of invisible water, the next step is to hand out the worksheet (see Worksheet 1) and ask students to fill in the worksheet by guessing how many litres of water are needed to produce each of the 20 items listed, individually and then in small groups so that they can compare and contrast their individual guesses.
	Students are then given worksheet 2 where the answers to each item are given.
	At this juncture, students are asked to reflect and discuss these figures in small groups and asked to give their initial reactions to the figures provided.
	10 minutes Then students are divided in groups of 4/5 and given worksheet 2. They are asked to discuss one of the four questions and one student in each group is chosen to write the answers in the boxes provided. Teacher has to see that all topics are covered by the groups.
	The 4 questions are
	How can I reduce my water footprint regarding clothes?
	How can I reduce my water footprint regarding meat?
	How can I reduce my water footprint regarding drinks?
	How can I reduce my water footprint regarding food in general?
	Conclusion
	15 minutes Each rapporteur reads out the group's ideas or writes them on the white board, so that by the end of the lesson, there will be a lot of recommendations for each question. Students are encouraged to ask questions to rapporteurs and their groups. At the end students are given Worksheet 4 that has recommendations for each question regarding the reduction and control of water footprint.
Follow-up activities	Students are asked to develop a project on invisible water, using infographics and ways of reducing their water footprint.
Background information for educators	The following links should give teachers a reasonable view of the topic of invisible water (virtual use of water):
	Water and Sanitation - United Nations Sustainable Development
	indirect water – Think at the Sink (wordpress.com)







	Education for Sustainable Development Goals: learning objectives - UNESCO Digital Library From farm to fork: how much water is needed to produce the food we eat? - The Earth Recommends - Su eatable life
Adaptations	Students with learning difficulties can be shown either of these short videos complete with sub-titles, and worksheets are completed on the basis of these videos, so teacher would have to adapt and modify worksheet 1 Proposed URLs for videos: <u>What is Virtual Water? - YouTube</u> (3 minutes) <u>Virtual Water - YouTube</u> (6'27") These videos can also be shown to all the other sts as a lead-in before teacher recapitulates the topics dealt with in previous lesson (see lesson plan 1)
Extensions	Students are asked to develop a project on invisible water, using infographics and ways of reducing their water footprint.

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Worksheet 1 (Student's copy)

Try to guess how many litres of water are needed to produce the following items.

ITEM	LITRES OF WATER REQUIRED TO PRODUCE
1 Kg OF CHOCOLATE	
1 Kg OF BEEF	
1 Kg OF CHICKEN	
1 Kg OF WHEAT	
1 HAMBURGER	
1 Kg OF LAMB	
1 Kg OF PORK	
1 Kg OF CHEESE	
1 Kg OF FISH	
1 Kg OF BREAD	
1 Kg OF PASTA	
1 Kg OF VEGETABLES (AV.)	
1 Kg OF POTATOES	
1 Kg OF MILK	
1 LITRE OF BEER	
1 LITRE OF WINE	
1 LITRE OF COFFEE	
1 LITRE OF TEA	
A PAIR OF JEANS	
A T-SHIRT	

Worksheet 1 (Teacher's copy)

How many litres of water are needed to produce the following items?

ITEM	LITRES OF WATER REQUIRED TO PRODUCE
1 Kg OF CHOCOLATE	7004
1 Kg OF BEEF	15139
1 Kg OF CHICKEN	1040
1 Kg OF WHEAT	298
1 HAMBURGER	10206
1 Kg OF LAMB	10412
1 Kg OF PORK	6299
1 Kg OF CHEESE	5253
1 Kg OF FISH	2314
1 Kg OF BREAD	902
1 Kg OF PASTA	1509
1 Kg OF VEGETABLES (AV.)	336
1 Kg OF POTATOES	287
1 LITRE OF MILK	232
1 LITRE OF BEER	182
1 LITRE OF WINE	266
1 LITRE OF COFFEE	232
1 LITRE OF TEA	40
A PAIR OF JEANS	10,000
A T-SHIRT	2700







Worksheet 2 (student's copy)

Work in small groups by brainstorming the issue and then a rapporteur presents the group's ideas

1. How can I reduce my water footprint regarding clothes?

2. How can I reduce my water footprint regarding eating meat?

3. How can I reduce my water footprint regarding drinks?

4. How can I reduce my water footprint regarding food in general?

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Worksheet 2 (Teacher's copy)

Work in small groups by brainstorming the issue and then a rapporteur presents the group's ideas

1. How can I reduce my water footprint regarding clothes?

By shopping second-hand, buying eco-friendly clothes & donating what we no longer wear, we can reduce the environmental impact of your clothes and protect our planet.

We should buy cloth items made with synthetic materials. Sheets made of 100% cotton requires 300% more water to produce than a 50/50 cotton/polyester blend.

2. How can I reduce my water footprint regarding eating meat?

One obvious way is to reduce out meat consumption if we are not ready to go vegetarian is to eat less meat and eat more fish as fish consumes much less water to produce, and if bought fresh it is much more environmentally friendly in terms of water footprint.

Meat is the most "water-hungry" food. Its water footprint is associated with the water needed to feed livestock, and is influenced by various factors, ranging from the production system used to the composition and origin of the feed used.

3. How can I reduce my water footprint regarding drinks

Tea consumes much less water than coffee to produce – 5 times less. So we should drink les coffee and more tea. Beer and wine production also consumes a lot of water, so we should stick to just drinking water from the tap or bottled water. 1.32 litres of water are used to produce 1

4. How can I reduce my water footprint regarding food in general

Producing **fruit and vegetables** in most cases requires significantly less water than animal-based foods, so a diet that is rich in fruit and vegetables will help significantly reduce our water footprint.

Potatoes and root vegetables have the smallest water footprint of all.

It doesn't take much to reduce your water footprint at the table

For the well-being of the planet it is important to follow a **healthy**, **balanced and sustainable diet**. By balancing food during meals and limiting the frequency of ingredients that are less beneficial to the environment and health, in favour of the more sustainable ones, we can reduce Europe's water footprint by 23% and all be part of a global change.







Title	Every drop of water is precious. So make every drop count.
Author	Anita Muscat – Cub Scout Leader, Victoria Scout Group, Gozo,
	Malta
Suggested Age	Cub Scouts aged between 7 and 11 years old
Subject Area	Creating a better world and Making a Difference
integrated in the	Scouts for SDGs - About World Scouting
theme	World Scout Environment Badge
	World Scout Environment Programme - Activities and Factsheets
	Scout Learning Zone
	https://scouts.com.au/wp-content/uploads/2017/12/WSEP-
	<u>poster_May2018-1280x1811.jpg</u>
	Progressive Training Scheme for Cubs as described in the Scout
	Association of Malta programme
Preparation Time	The leaders will follow the route for this hike ahead of the day and
	take note of what can be pointed out, questioned, explained and
	discussed during the hike.
Estimated	The hike with the Cubs will take 120 minutes.
Duration	
Site	Wied il-Mielaħ Valley – Għarb, Gozo
Educational	The educational programme within Scouting aims
objectives	 to equip young people with the competencies to become active
	global citizens and contribute to peace and sustainable
	development.
	 to actively engage and support young people in their personal
	development, empowering them to make a positive contribution
	to society.
	This is achieved by putting into practice the Scout Method which
	includes learning by doing, enjoying what they are doing, young
	people in partnership with adults, participating in varied and
	progressive activities, taking responsibility for their own actions,
	working in small groups and taking part in outdoor activities.
Learning Outcome	Learning to know: The Cubs will become familiar with how the
	natural, social, cultural and economic systems work and are
	interrelated.
	Cubs will learn more about their role as a citizen within the local,
	national, regional and global context.
	Learning to do:
	Cubs will identify priorities and evaluate potential consequences of
	different decisions and actions.
	Cubs will use the natural, social and built environment that
	surrounds them as a context and source of learning.







	<u>Learning to be:</u> Cubs will reflect upon the consequences of their actions on present
	and future generations.
	Cubs are motivated to make a positive contribution to other people
	and their social and natural environment, locally and globally.
	Cubs will be better informed about the water situation in Malta and
	the existence and importance of non-conventional water resources.
	Cubs will become responsible water users.
	Cubs will share their knowledge with others.
Link to SDG/S	SDG 3 - Good Health and Well-Being
	SDG 6 - Clean Water and Sanitation
	SDG 11 – Sustainable Cities and Communities
	SDG 12 - Responsible Consumption
	SDG 15 – Life on Land https://www.sistement.com/sis/ (240509004227072071)
	nttps://www.pinterest.com/pin/249598004337973971/
	AND SANITATION Ensure availability and sustainable management of water
	and sanitation for all
	The 2016 Q192 of the electric mendation
	is using an improved drinking water source compared to 76% in 1950
	However, 2.5 billion people lack access
	to basic sanitation services, such as to be to be to be the services of the se
	Each day, Approximately Kydropower is an average of of all available water the most important and
	5,000 children die is unet for widely used renewable due to preventable water and irrigation source of energy
	satutation-related diveases and as of 2013 represented LSN of total electricity production workwide
	FLOODS account for
	related to natural disasters
	Scaraz - UK Sustantable Envilopment Goals Tudatheet 2015 DEGORAR CCS 37 WITTED RATIONS Inverse
	and
	The Global Goals: SDGs Infographics :: Behance SDGs posters
Educational	Links provided in explanation
resources required	
Remote	During the weekly meetings, we regularly have discussions about
preparation	how to act responsibly, the importance of biodiversity and how we
	can help to conserve it, local flora and fauna, air, water and land
	pollution, correct separation of waste, bio-degradable materials,
	renewable and non-renewable sources of energy, the 7Rs, single-use







	plastics and alternatives, on-site visits to different sites such as farms, valleys, beaches, cliffs and beaches, clean-ups around the island, watching videos or presentations about topics such as sustainable practices, time taken for objects to decompose, species in danger of extinction and activities leading to the World Scout Environment Badge such as What have I done today?
	All these give the Scouts some background knowledge about
	be addressed and how our every action will have an impact which can be either beneficial or detrimental.
Planning	Safety precautions:
Considerations	 On arriving at the end of the valley and on the cliffs near the natural limestone arch, the Cubs will approach it in small groups accompanied by a leader. The Buddy system will be adopted throughout the hike.
	 There will be leaders at the front and back of the marching body.
Method	Outline of the educational activity: Introduction The Cubs will set off from Għarb. They will be asked to describe what they remember about the Country Code and reminded that they
	need to observe these rules/guidelines during the hike. They need to be on the lookout for trekking signs which will indicate the paths they need to follow or not. They will also be reminded to take nothing but photos and leave nothing but footprints.
	 Development On the way to the rock formation at Wied il-Mielaħ, they will: use their senses to look, listen, smell, touch and even taste, follow the trekking signs and search for hidden messages and riddles to solve,
	• be asked to identify and be given information about endemic, indigenous and alien species, of which various examples could be seen along the way,
	 learn more about the ill-effects of alien species,
	 notice the practice of terracing of fields and learn why this is done, discuss the role of rubble walls which prevent soil erosion, allow the passage of excess rainwater and provide a habitat for different species,
	 see for themselves what happens when rubble walls crumble and fall,







	• observe what irrigation methods are present in the fields,
	• count fossils embedded in the rocks and explain why we now see
	sea-shells on land and what this means.
	• listen to hidden underground water courses and discuss how
	these come to be and their role in harvesting rain water
	• observe where these water courses come to the surface and then
	• Observe where these water courses come to the surface and then
	can be seen,
	• check whether these small rock pools are supporting any life
	forms,
	• pass by mini dams (which unfortunately contain very little water
	since rainfall has been scarce this winter),
	• discuss the role and importance of these dams in a water stressed
	country such as ours,
	• come across a wastewater pumping station, check their
	knowledge about its role and filling in any gaps or misconceptions
	about it
	• learn how previously wastewater/sewage was discharged from
	this valley into the sea and that nowadays thanks to an EU-funded
	project this sewage is sent to and treated in a plant at Ras il-Hobż
	in Gozo
	in 6020
	• admire the window, noting its fissures and the pounding waves
	crashing against it and link this to weathering and erosion
	Through the exposure to all these topics, the participants will
	observe, explore, reflect, debate, grow, act and give back to their
	live in a more environmentally responsible way and thus have the
	power to make a positive impact.
Follow-up	During other indoor and outdoor meetings following the hike, the
activities	subject of water will be further discussed and investigated by:
	• exploring and understanding the terminology linked to the water
	cycle,
	 checking understanding of how the cycle works,
	 sharing videos about the water cycle, <u>The water (hydrologic) cycle</u>
	(youtube.com), and <u>https://youtu.be/rEJ5yuFR3f8</u>
	• Cubs carrying out experiments to simulate the processes of this
	cycle (applicable for the Scientist, Our Environment or the Weather
	Lore Badges) and explaining to their peers what is happening,
	• conducting an interview with personnel (other Scout leaders and
	parents/from the valuer services corporation,
	stage of the water cycle and learn more about this old tradition
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	 Cubs collecting information and interviewing grandparents (part requirement for the <i>Local Historian Badge</i>) about old water storage systems and sources in Malta, both underground and above ground, Cubs then checking whether examples of these are still found in their localities and sharing this information. (part requirement for the <i>Local Historian Badge</i>), visiting the spring near II-Qattara Pond at Dwejra during Easter camp while at camp, investigate the process of evapotranspiration <u>Collect Water from Vegetation World Scouting</u> and construct a water filter<u>Try filtering water using natural materials Activities Scouts</u> and <u>Water wash Activities Scouts</u>. This could also lead to a discussion as to how millions of people live without easy access to water or to clean and safe water. Games, quizzes, activities and presentations to check knowledge and understanding of : where we get our water, if the amount of rainfall is enough to sustain our needs, what is being done to ensure we have an adequate supply of water for household, agricultural and industrial use
	 how alternative or non-conventional water resources in the Maltese Islands are contributing to alleviate the problem of water scarcity
Background information for educators	Alter Aqua Pack-About Alteraqua and NCWRM_2014.pdf(medies.net)The book 8000 Years of Water- A Maltese Story of Sustainabilitypublished by the Water Services Corporation + video 8000 Years ofWater-The Documentary-Water-The Documentary-WaterServices Corporation(wsc.com.mt)Wied il-Mielaħ Window - WikipediaWastewaterTreatment:ProtectingMalta'sWater Com.mt)Supply of Highly Polished Tertiary Treated Water for AgriculturalUse - Water Services Corporation (wsc.com.mt)Water Scarcity UN-Water (unwater.org)Educational Visits - WaterServices Corporation (wsc.com.mt)Exploring Water with the Out of Eden Walk (nationalgeographic.org)- ideas for discussion






Title	Reducing Water Wasted at School
Author	Ingrid Vella
Suggested Age	Eco-Schools Committee – Various Ages
/Class	
Subject Area	Science & Maths
integrated in the	
theme/Cross-	
curricular links	
Estimated	45 minutes
Duration	
Site	School (indoor and outdoor)
Educational	- Students identify water sources and appliances that make use of
objectives	water at school.
	 Students work in a team, to share ideas and carry out
	investigative tasks.
	- Students formulate questions to gain information.
	 Students develop water saving habits in their daily lives and
	spread water saving messages to their peers in the school
Learning Outcome	Community.
Learning Outcome	3.1.4. I can carry out a simple practical investigation with the
	teacher's support
	3.1.5. I can record observations in a simple format
	3.1.6 I can make simple conclusions from my direct observations.
	3.7.2 I can recognise and discuss the importance of saving water.
	Education for Sustainable Development:
	I can reflect upon the consequences of my actions on present and
	future generations.
	I can use the natural, social and built environment that surrounds
	me, as a context and source of learning.
Link to SDG/S	SDG 12: Responsible Consumption and Production
	SDG 6: Clean Water and Sanitation
Educational	water audit checklist
resources required	
	large paper and markers
	the school caretaker (as a source of information)
Planning	The teacher checks the water sources in school;
Considerations	The teacher accompanies the students in certain areas as a safety
Method	
	Introduction
	The lesson starts off with a short clip that explains to the students
	the very small percentage of freshwater available on Earth. Then
	the video clip focuses on ways in which water is being wasted















	After having completed the water audit checklist, students share their findings and think of ways in which our school can help reduce water waste –
	put up water signage to encourage students and staff to not waste water;
	start collecting rainwater, and elect water wardens to go round and check for water leaks in bathrooms;
	organize a water day, where the focus of the school community would be on reducing water waste
	create catchy slogans on using water wisely
	Conclusion
	To further reduce water waste at school, students think of a catchy slogan that is related to this issue. The teacher explains that this slogan will be typed and saved as a screensaver to be distributed to the teachers in our school. This screensaver will then be displayed in all the classrooms in school.
Follow-up activities	An art session – students write the slogans on using water wisely onto bookmarks and then distributed to the students in school.
Background information for educators	Environmental Review: <u>School-audit-grids-english.doc (live.com)</u>
Adaptations	Students can be grouped by mixed-ability and assign tasks to students according to their ability.
Extensions	Design a leaflet with suggestions on how to reduce water waste.

ST ALOYSIUS PRIMARY SCHOOL

EKOSKOLA COMMITTEE

WATER AUDIT 2023 - 2024









GENERAL INFORMATION

School Population:	studen	ts			Staff:
Does the school have a wel	I?	Yes		No	
Does the school have a rese	ervoir?	Yes		No	
Does the school have any w	vater pumps	5? Yes		No	
Is rainwater collected?		Yes		No	
If yes, is the collected rainw	vater used ?				
Are drains kept clear of rub	bish?	Yes			No
How are indoor areas clear	ied?	With a broo	om		With a hose
How are outdoor areas clea	aned?	With a br	oom		With a hose
Appliances that use water:	(Tick what	is found in you	ur school)	
Dishwasher		Sp	rinklers		
Boilers		Hot v	vater dis	penser	
Hose pipes			F	ridge	
Washing machine					







Toilet Location	Number of Toilets	Who uses toilets?	Type of Flush	Source of water for	Water Signage	Hot Water Heaters	Types of Taps
				flushing			
Prep 1 &							
Toilet							
Prep 1 &							
Prep 2 Girls' Toilet							
Prep 3 &							
Prep 4 Boys' Toilet							
Prep 3 & Prep 4 Girls' Toilet							
Prep 5 & Prep 6 Girls' Toilet							
Prep 5 & Prep 6 Boys' Toilet							
Any leaks?							

OUTDOOR WATER USE

Drinking Fountains:	Drinking	Fountains:
---------------------	----------	------------

Num	hor	
num	DEL.	

Location:

Water Tanks:

Number: _____

Tank Size: _____

What is water in the tanks used for:

Location:







Outdoor Taps:			
Number:			
Location:			
Water Meters:			
Number:			
Location:			
<u>Plants:</u>			
Who waters the plants:			
How are plants watered?			
watering can hose			
How often are plants watered?			
everyday once a week more than once a week			

OTHER AREAS (Write the amount)

	ART ROOM	KITCHEN	STAFF ROOM	WORKSHOP
Sink				
Type of taps				
(mixer/ press)				
Boiler				
Water Heater				
Water Meter				







Title	Investigating Water Around the School
Author	Ann Marie Camilleri
Suggested Age /Class	Eco-Schools Committee
Subject Area	• ESD – Environmental awareness and care
integrated in the	 PSCD – Myself and the wider world
theme/Cross-	 English – Oral language, reading and writing
curricular links	 ICT – use of tablet and IWB
Estimated	60 – 120 minutes
Duration	
Site	Location where activity it to be held
Educational	By the end of the activity, the students will be able to:
objectives	 explore the school to find evidence of water use
	 record their observations regarding where and how water is
	being used at school
	share their observations
Link to SDG/S	SDG 6: Clean water and sanitation
Educational	Mini-whiteboard per student
resources required	 'Wondering about Water' wall on EkoSkola noticeboard
	I ablet per student
	• IVVB
Method	
	Introduction
	The students will play a game of hangman in order to discover the term 'Water Use'. Once the term is guessed, it will ignite a discussion and learners will be asked to predict and write on their mini-whiteboards different uses of water. After a while, they will be asked to lift their whiteboards and the teacher will be able to check their answers and level of understanding.
	Development
	The teacher and students go for a walk around the school to observe and note different locations and uses of water around the school. They look for examples of where water is used (garden, classrooms, toilets, kitchen) and how water is accessed (taps, hoses, tanks, irrigation system).
	Teacher locates and shows the students the school water meter. Students use their tablets to take photos of water uses and access
	points to display on the 'Wondering about Water' wall on the
	Later, students are asked, in groups, to record on the Let's Go On A
	Water Walk! Worksheet their observations from the water walk
	The teacher asks students to identify ways in which water is being
Nature Trust-FEE Malta	Eco-Schools: www.ekoskola.org.mt







used responsibly or irresponsibly (wasted). Results are discussed and ways how to improve responsible water usage are explored.
Conclusion
On their tablets or on the IWB, the learners will make a Padlet about all they have learnt about water use during their school water walk and the necessary steps to be taken so that water is not wasted. The teacher will be able to check what knowledge they have gained from this activity.









Title	Dripping Tap Investigation
Author	Ann Marie Camilleri
Suggested Age /Class	Eco-Schools Committee
Subject Area integrated in the theme/Cross- curricular links	 ESD - Environmental awareness and care PSCD - Myself and the wider world English - Oral language, reading and writing Maths - Measurement, Volume, Prediction, Map reading ICT - Dissemination of poster Art - Design and create a poster
Estimated Duration	60 – 120 minutes
Site	Whole school wherever there are taps
Educational objectives	 By the end of the activity, the EkoSkola students will be able to: measure how much water is wasted from a leaking tap understand the importance of conserving water create a poster to spread awareness.
Link to SDG/S	SDG 4: Quality Education SDG 6: Clean Water and Sanitation
Educational resources required	 Stopwatch, watch or clock Measuring container Clipboard and pencil Map of school An A4-sized sheet with a waterdrop shape drawn on it (Worksheet)
Remote preparation	The teacher will identify a nearby tap and sink. She will experiment with her measuring container to work out how long the tap must drip to get a measurable amount of water for that container.
Method	Introduction Students are asked what they think might happen if a tap is not turned off properly and what are the consequences of dripping taps. The teacher will explain that they will investigate what happens when a tap is left dripping for a specified period of time. The drips will be collected in a measuring container so that the volume can be measured and then recycled. Development Students are asked to predict how much water might be collected in the container in the specified time period and to record their prediction. What might this mean if there were many dripping taps? The water lost is measured and compared with their predictions. If there were ten taps around the school with similar leaks, how







	Since the students have already participated in the school water walk activity (Lesson Plan 1), they are asked if they observed any dripping taps during the school water walk and to mark the locations of the dripping taps on the map of the school. A discussion is held regarding what to do when a leaking tap is found and who would be the best person in the school administration to contact about fixing the leaks. Volunteers are invited for the task of contacting the school administration to report and ensure that the leaks are fixed. Through a brainstorming session, students decide where the water in the measuring container can be used in the school grounds. Students' ideas about recycling water and reusing the collected water wisely, are recorded. Conclusion Students write a take-home message about dripping taps and water wastage (Worksheet) to share with their families and above all, to promote the importance of water conservation.
Follow-up	Students are asked to design a poster encouraging others to
activities	conserve water. Posters are distributed to the Local Council,
	shops, restaurants and homes in the local community and shared via the school's social media outlets.

Worksheet:

