Forum for Across the Curriculum Teaching

FACT

ISSN 2367-7546 Issue №21 2020

Journal for the support and development of content and language integrated learning (CLIL)

Contents

TO THE AUTHORS
Submit materials to the following e-mails: keithpkelly@yahoo.co.uk and elicit_bg@abv.bg
Font: Times New Roman, size 10 pt
Text length: 3 pages (about 5000 characters)
Begin with:
Topic
For which grade the material is
For what purpose the material is
How to use the material
Also send opinions, critics, etc.
Write author's name, position, e-mail

Cite sources in alphabetical order
The Editorial Board is not responsible for the authors' material

Editor-in-chief: Keith Kelly
Executive editor: Stefka Kitanova

ISSN 1311-7637; Online ISSN 2367-7546; CD ISSN 2367-7554.

Edited and published by Bulgarian Section of European Association of Teachers

Cover idea: Sun eclipse – Danaya-Maria Dobcheva - Plovdiv
Cover design: Krsto Terziev, Kamelia Bisolnakova

Introduction

Happy FACT 21 from quarantine lockdown, how we will remember these days in times to come. Still, we have put together a collection for you of content and language articles, lessons and materials from volunteer contributors (many thanks to all!).
There is a report on soft CLIL from Georgia where the Ministry of Education is introducing an integrated curriculum and CLIL is offered as means to facilitating this integration. We also have a history lesson contribution from Austria 'Deconstructing/Debunking a historical personality' and we could all do with some practice in deconstructing heroes in the media these days! Following on with the historical content we have a lesson on Bulgarian kings as well as a lesson on paper plane construction and testing from colleagues in Bulgaria. History continues from Italy with an examination of the mediaeval Italian book 'The City of the Sun' and its influence on the Soviets.

Changing content, we have a chemistry experiment within a traditional story 'The Magic Porridge Pot' and moving science, we have a discussion on the different 'Laws of Physics', both from Bulgaria.
We have an Erasmus+ project report from Bulgarian, English, Hungarian, Italian, Latvian and Polish contributors on 'Urban Science'.

Last but not least, we have a second Erasmus+ project report taking us into 'Art and Inclusion' from the Spanish Grammar School, Sofia in Bulgaria.

To top this all off, we have some fabulous artwork from our amazing students (many thanks!) for you to enjoy.
Stay safe and healthy, and keep sending us your contributions, and we'll keep publishing them in FACT

(now in our 21st year!).
Best wishes
Keith Kelly

CLIL for Integrated Curriculum Skills

Keith Kelly (keith@anglia-school.info)

This article describes how the curriculum skills descriptors in the content subject areas can be used to a) provide a syllabus for the language classroom and b) act as a focus for integration and collaboration between subject teachers and language teachers.

1) Curriculum guidelines

Largely maligned as a burdensome chore, referring to curriculum documents can mean getting out the duster and wearing a face mask to avoid the sneezing. I appeal to colleagues to dust them off and get out a bright marker pen, prepare a cup of tea and read on. I've frequently made reference to curriculum guidelines during workshops with CLIL colleagues. My aim has always been that the curriculum guidelines are the go-to for understanding language demands of curriculum subjects.

Scientific Skills	**Thinking skills (Critical and creative)**
Observing	**Critical thinking skills:**
Classifying	Attributing
Measuring and using numbers	Comparing and contrasting
Inferring	Grouping and classifying
Predicting	Sequencing
Communicating	Prioritising
Using space-time relationships	Analysing
Interpreting data	Detecting bias
Defining operationally	Evaluating
Controlling variables	Making conclusions
Hypothesising	**Creative thinking skills:**
Experimenting	Generating ideas
Manipulative skills	Relating
Thinking strategies	Making inferences
Conceptualising	Predicting
Making decisions	Making generalisations
Problem solving	Visualising
Reasoning	Making hypotheses
	Making analogies
	Inventing

Figure 1: Science skills

Figure 1 presents a summary of 'thinking' skills in the Malaysian junior science curriculum. Choosing some of the skills, we can take a look at the descriptors.

Attributing
Identifying criteria such as characteristics, features, qualities and elements of a concept or an object.

Comparing and Contrasting
Finding similarities and differences based on criteria such as characteristics, features, qualities and elements of a concept or event.

Grouping and Classifying
Separating and grouping objects or phenomena into categories based on certain criteria such as common characteristics or features.

Figure 2: Descriptors for science thinking skills

Classifying, and *comparing and contrasting* are two readily accessible skills in this science curriculum and the descriptors will make sense not just to science teachers. From this we can predict what the language is that learners will meet either in input media (text, video or other) or that the learner will be expected to produce either spoken or written.

Seeing this connection encouraged me to produce what I've titled 'The Language Audit' an alphabetical reference of curriculum skills with sample language. It's a substantial document at some 50 pages and growing, with skills such as *classifying, comparing and contrasting* but also *hypothesising, describing cause-effect relationships* and much more. I was recently prompted to add 'evaluating fact v opinion' to this work and frequently add other skills and language as colleagues suggest a need for them.

This is a work in progress which I share with participants in my trainings and conference workshops and

talks. I am encouraging colleagues to contribute, as it makes most sense to involve people at the chalk face who are interpreting their own curriculum descriptors and in doing so identifying language demands and needs of their learners for classroom work.
I recently spent a week in Tbilisi with a group of 24 teacher trainers to offer them a CLIL Trainer CPD (Continuing Professional Development). The context of this meeting is that the government in Georgia is piloting what it has called a 'New Integrated Curriculum' which expects teachers of the same grade learners to prepare and teach using a thematic curriculum. For example, the 'environment' sets teachers in the same grade to prepare all their lessons around this theme in the curriculum (among other themes). The point being that the teachers are expected to cooperate and teach lessons that are 'joined up'. It's a laudable initiative and one which has a secondary goal of offering teachers a 'joined up' in service training in a system which has suffered from a range of challenges over recent years.

2) Soft CLIL trainer training for implementing the integrated curriculum

I prepared a 5-day programme of input on CLIL methods aimed at engaging pairs of teachers (most likely a language plus a subject teacher) in curriculum cooperation and this is something I have done for several years in Austria as part of COOP CLIL teacher development there. In Austria, pairs of teachers come together from the same school, one a subject and the other a language teacher. However, there are factors which are unique to Georgia that meant from the beginning of the trainer training meeting a change of perspective was necessary. Using content themes as a medium for teaching English as a foreign language, identifying curriculum academic language demands, techniques for guiding learners through curriculum input, and supporting learners in content production are some of the characteristics of CLIL seen as attractive potentially useful in improving methodology in schools in Georgia and presenting a clear focus for discussion regarding integrating subjects in the new curriculum. Unfortunately, at the time of writing there is very little opportunity for hard CLIL in Georgia, not having many if any teachers able to function in their subject areas through the medium of English as a foreign language. The new integrated curriculum IS thematic, but discussion with the trainers led us quickly to curriculum 'skills' as a focus for cooperation, as opposed to themes.

3) Overarching curriculum skills

Skills	**Sub-skills**	**Language**	**Curriculum links**
Working autonomously			
Planning	Prioritising Time management Setting goals / targets Breaking down to smaller parts	Saying importance Making suggestions Agreeing and disagreeing Giving advice	
Analysing	Evaluating Interpreting Reflecting Improving	Describing qualities / negatives	
Data handling	Collecting data Describing graphs Interpreting	Describing numbers	
Graphing	Collecting data Presenting data Interpreting results Drawing conclusions	Adjectives (comparative, superlative) … means … … suggests …	Example from Biology on 'data handling'
Surveying	Collecting information	Asking questions 'Wh'	
Observing	Naming Identifying Specifying	… is / has … … isn't / hasn't …	

Describing characteristics	Naming Describing similarity and difference (comparing and contrasting)	This is a … which … More / less Like / Unlike	
Sorting	Classifying Categorising	Belongs to Is part of	
Describing processes	Describing a cycle Sequencing	First, second, third	
Describing change	Describing events over time	Sequencing Cause-effect	

Figure 3: Table of overarching curriculum skills in curriculum guidelines in Georgia

Figure 3 shows a summary of the skill areas we identified during our week together. The column for curriculum links is blank with the example for Biology offering space for specific needs. It's a framework for planning for cooperation. These skills came from the trainers working together in mixed subject groups with the instruction to consider aspects of their subject disciplines appropriate for cooperation in the integrated curriculum.

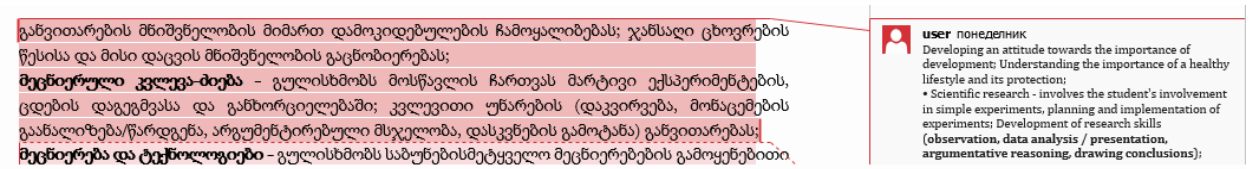


Figure 4: Descriptors from the Georgian Biology Curriculum

A Google translate gives us a useful understanding of one of the descriptors to be found in the Georgian Biology Curriculum: Development of research skills (observation, data analysis / presentation, argumentative reasoning, drawing conclusions).
Truth is that opening up the curriculum document (the more subjects, the better) will provide teachers with a focus for discussion of curriculum cooperation. Frequently, English teachers feel insecure when approaching content concepts, and feel ill-prepared to teach them. A good example in this very group is 'velocity' which was offered in this very question, 'What do I do if I don't feel confident to explain the concepts?' The way I see it is that we need to move away from the expectation that language teachers deal with conceptual content like 'velocity' and much more. More valuable, achievable and effective is to focus on overarching curriculum skills like 'data handling' in the Biology curriculum.
By working on the skill of data handling and the subskills involved (observation, data analysis/presentation, argumentative reasoning, drawing conclusions) a teacher of English can practise the SAME skills needed in several other subjects. Data handling occurs across the content curriculum at many grade levels. What the English teacher needs is accessible conceptual content. A very accessible area of content for the English classroom for practising data handling would be 'Eating and drinking habits' (1-see endnote for a resource describing data handling through the theme 'Eating and drinking habits') where the class surveys (observes) daily habits and behaviour in this area, gathers data, analyses and presents the data, gives argumentative reasoning while interpreting and drawing conclusions. These skills, while practised in a foreign language, are immediately transferable to Biology lessons (Maths, Geography, etc).
What is needed is coordination so that teachers are a) aware of these overarching skills, and b) can see when they are taught in the curriculum so they can plan for integrated lesson teaching involving the English lessons.
Initially, during the CLIL Trainer CPD, the trainers were led by themes they agreed to work on together as shown in Figure 5.

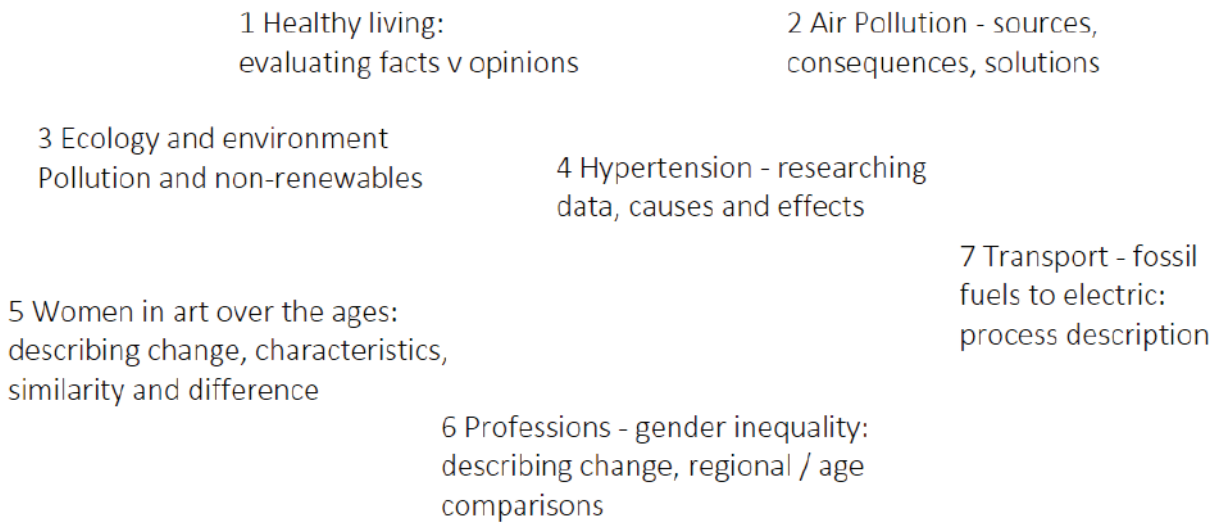


Figure 5: Curriculum themes for cooperation

The subheadings in the curriculum themes reveal skills which occur in the themes and there are clearly skills which are recycled, cause-effect, process description, characteristics, dealing with data and others. Seeing these skills encouraged us to investigate the curriculum guidelines further. Figure 4 includes an excerpt from the Biology curriculum referring to 'data handling' and the subskills this includes (gathering data, graphing data, interpreting and presenting results and conclusions).

4) Skills for cooperation on the integrated curriculum

With the realisation that the overriding curriculum skills should be the focus for cooperation (as opposed to CLIL with the lack of 'hard' CLIL teachers available) discussion focussed intensively on developing sample teaching materials in the theme areas to develop and practice the curriculum skills and making decisions about the role of the language teachers and the role of the subject teacher.

The question did arise as to what the benefit is for the language teachers and the subject teachers. Most obviously, focusing on curriculum skills and adopting a CLIL approach helps language teachers teach their subject more meaningfully. We move away from a lexico-grammatical curriculum loosely embedded within made-up textbook 'real-life' themes to a language curriculum based around curriculum skills which connect with the real lives of the learners' themselves. A focus on the curriculum skills is transparently useful for subject teachers because this can only consolidate what they are trying to teach in their curriculum subject area. Curriculum skills for the integrated curriculum helps both groups of teachers teach their subjects.

5) Three dimensions of CLIL

Language skills, procedural skills and conceptual skills make up the three pillars of the CLIL approach (Ball, Kelly & Clegg, 2015). The Georgian context of curriculum development and educational reform may not be ready for CLIL as yet, but by exploring the 'procedural' dimension (and the thinking they entail) with teachers and facilitating discussion about curriculum descriptors and the meanings attached to the skills listed, this will go some significant way to improving teaching and learning. It also prepares the ground further down the line for forms of CLIL to be tried out (with the proviso that graduates with ever increasing levels of English proficiency are coming out of the universities, and teachers are offered and take opportunities to improve their own levels).

6) Soft CLIL Trainer CPD Follow–Up

The trainers were given homework to do. They will write up and finish their sample integrated curriculum resources and place them within a framework for the first two-day training for 'curriculum skills for cooperation' for meetings with (20 teachers 10 subject and 10 language).

My role will be to offer support and suggestions online, by mail, Skype, Zoom and as the workshops are

delivered and teachers prepare and deliver their integrated lessons, I will receive feedback, observations and hope to contribute to the ongoing growth of Georgia's integrated curriculum approach making the most of what CLIL has to offer.
One last word on this initiative. It is the first time in my 25 years working in CLIL that I've been asked to work with a mixed group of teacher trainers with a specific focus on writing a draft of a Soft CLIL curriculum and which offers sample lessons and materials for English teachers interested in and with the aim of developing cross-curricular skills. I have to congratulate Georgia for their insight, it's a very valuable approach to developing collaboration through the curriculum.

Watch this space!

Endnotes

1 – data handling
There is an article on this area with lots of ideas for both English and subject teachers on the FACTWorld site:
https://www.factworld.info/userfiles/files/191205_Thinking%20skills%20for%20successful%20CLIL%20-%202%20Data%20Handling.pdf
Data handling also appeared in one of the Café CLIL discussions:
https://www.factworld.info/en/Cafe-CLIL-Discussion-12

Katerina Dobcheva, 10, Plovdiv

Deconstructing/Debunking a historical personality

Mag. Thomas Ziegelwagner, MSc., teacher BHAK St. Poelten, Austria
e-mail: thomas.ziegelwagner@gmail.com

Grade: Year 10-13 (15-19-year-old students)
Purpose of the material: Students investigate the difference in the way a historical personality (in this case: Richard the Lionheart) is depicted in popular displays (e.g. a statue, films) and compare these with historic materials about the personality, like texts and documentaries.

How to use the materials
Part 1: Worksheet 1

- As a warming-up exercises, students should individually try to come up with which are typically used to talk about knights (e.g. sword, armour, helmet, horse, tournament, jousting, chivalrous…)
- Students are asked to have a look at and describe a photo of the famous statue of Richard I of England (Richard the Lionheart) which has stood in front of the House of Lords for more than 150 years. They are also asked to imagine which image of the famous king the sculptor Baron Marochetti was trying to convey to the observer and if this image corresponds with their idea of Richard I.

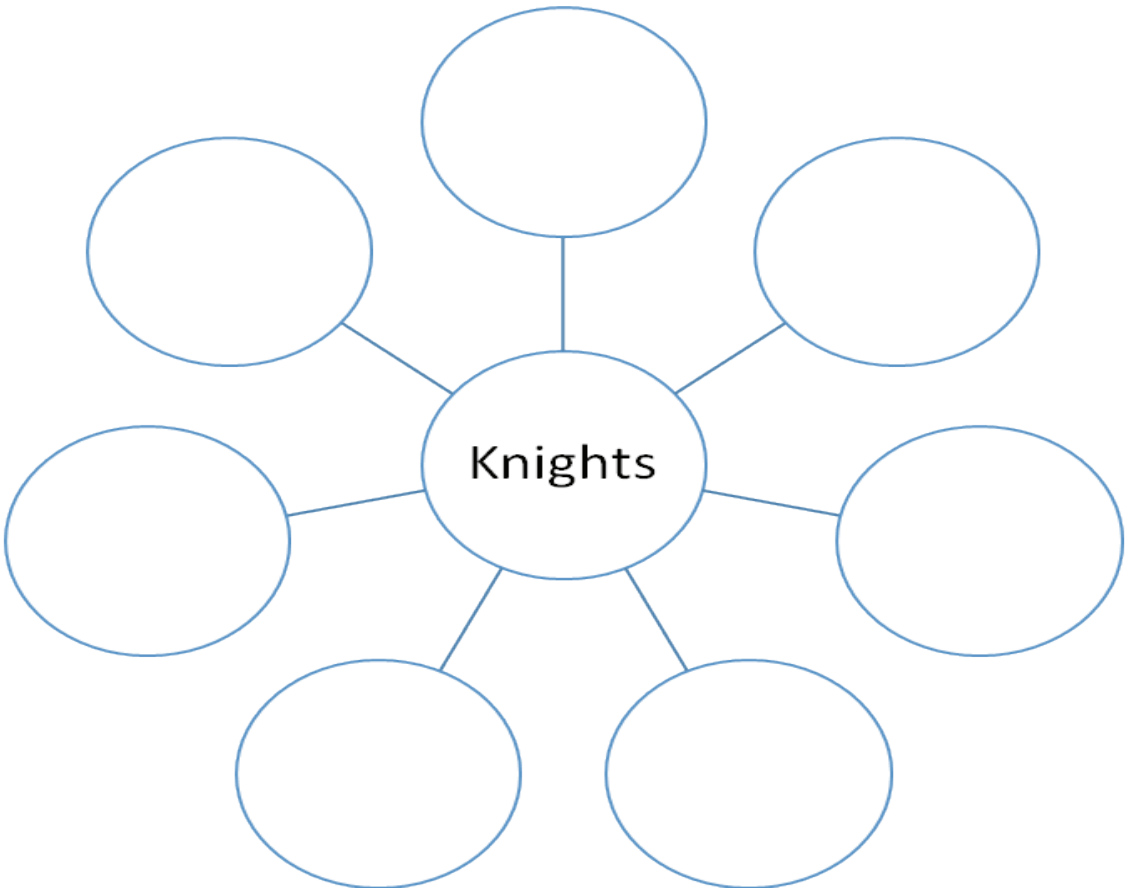
Part 2: Worksheet 2

- Teacher shows students a short (but typical) excerpt from Robin Hood, king of thieves in which Richard the Lionheart appears at the end of the film.
- In pairs, students should then describe how Richard is depicted in this scene.
- Then they should find another pair and compare their results in a little discussion.
- Having chosen a new partner from the opposite pair, the two member of the couple now get different tasks. One of them has to read a short, but historically correct, text about Richard I. The other one should watch a three-minute part of a documentary about Richard I and his Muslim counterpart in the Crusades, Saladin. Their task is to find differences compared to how Richard the Lionheart was depicted as a statue and how Hollywood films often show him in Robin Hood movies.
- As a next step, the two team member should tell each other of their findings. In order to do that, they have to use language of comparison (a set of possible ones is given on the worksheet).
- The final task is to join another couple and to do an exercise where they have to put correct and incorrect (but often used in pop culture) statements about Richard the Lionheart into one of two categories. A list of useful words is given at the bottom of the task and should both help students understand the statements correctly and enlarge their vocabulary.

The tasks of this CLIL lesson give students the chance to practise quite a lot of speaking (e.g. describing pictures, discussing opinions, or exchanging information). Moreover, students also work on their listening skills (with the help of the videos) and reading skills (the text about Richard the Lionheart). On a language level they can improve comparing and contrasting, and the lesson also offers a nice range of new words and phrases in connection with knights, crusades and kings.

Internet sources:
https://creativecommons.org/
https://www.historyextra.com/period/medieval/8-things-you-probably-didnt-know-about-richard-the-lionheart/
https://www.oxfordlearnersdictionaries.com/
https://www.youtube.com/watch?v=jRDwlR4zbEM
https://www.youtube.com/watch?v=XiAmHIqnGXs&list=PLifdB5vcJy_BKuEQO2BtPCoSjtXlEh1F2&index=8

Worksheet 1:
Part 1:
1) On your own: Try to come up with words which are often used to talk about knights:



2) Have a look at the photos of the famous statue of English King Richard I (better known as Richard the Lionheart) which can be found in front of the House of Lords in London. Do the tasks below **in pairs**.

a) Describe the pictures and tell each other what you can see.
b) Speculate which image of Richard the Lionheart the sculptor Baron Marochetti was trying to convey to the observer of the statue.
c) Explain if this image of Richard the Lionheart depicted by the sculptor corresponds with what you connect with him. In addition, discuss how your opinion of Richard the Lionheart was formed, i.e. where and how you came in contact with this famous historical figure.

Worksheet 2:
Our knowledge (or rather: perceived knowledge) of historical figures is these days often influenced by how we see them portrayed in popular culture (on TV, in the cinema, in computer games, in books, or even comic books).
Richard the Lionheart regularly appears in Hollywood films that deal with Robin Hood.
1) Watch the following excerpt from the film Robin Hood, king of thieves from 1991.
https://www.youtube.com/watch?v=jRDwlR4zbEM
2) In pairs, describe how Richard the Lionheart is depicted in this scene.
- What does he look like (young/old; how is he dressed)?
- How does he behave?
- Do you know or can you guess where he has just returned from?
- What is the overall impression viewers get of Richard the Lionheart?

3) Find another pair and tell them about the results of your discussion.
4) Form a new pair with a different member of your group.

- Student 1 has to read the short, but historically correct, text below ('Richard the Lionheart – hero or villain?'). Find out in what way Richard the Lionheart is described differently in the text compared to the film excerpt you have just seen, and also compared to what the statue of Richard (pictures above) is trying to show. (You can find useful words regarding the text after exercise 5 below.)
- Student 2 has to watch the first three minutes of a YouTube video. The video deals with the fate of more than 2,000 Muslim fighters that Richard had taken hostage in the battle of Acre. Find out in which way Richard and his crusaders did not behave like heroic Christian knights.
- Then tell each other what you have found out and compare that with what you have seen in the film excerpt from Robin Hood, king of thieves and the statue in front of the House of Lords, as far as the image of Richard I is concerned. Discuss with your neighbour in what way Richard the Lionheart does not behave like the hero he is often depicted as in films.

Use language of comparison to do that. You can use phrases like the ones below to support you in your efforts.

	Compare	Contrast
1	older than/younger than	on the one hand – on the other hand
2	seems similar to	however
3	both…and	although
4	(not) as...as…	in the film he…whereas in the documentary…
5	by comparing…to…, we learn that…	by contrasting…to…, we see that…
6	one similarity is that…	the most obvious difference between… and… is…
7	less courageous than	seems quite different to

Text for student 1:
Richard the Lionheart – hero or villain?
If people in the streets of any European city today were asked to name one English king, many would probably answer 'Richard the Lionheart'…
Richard I is remembered for being a chivalrous king, battling Saladin (the leader of the Muslims) during the Third Crusade. His name has become an English legend, and there have been numerous portrayals of the king in books and films over the years.
Whether Richard met the legendary outlaw Robin Hood in Sherwood Forest, we do not know, although

film fans call him 'Richard of the Last Reel' because he appears at the end of every Robin Hood film as the heroic, and supposedly victorious, crusader king returning to punish treacherous Prince John and the wicked Sheriff of Nottingham.
The truth is that, being a son of Henry II of the French Plantagenet family, Richard the Lionheart (or: Coer de lion) may not even have spoken English. In addition, he didn´t spend more than six months of his reign (1189-1199) in England. As he was not interested in women, he failed to produce an heir to the throne which caused great political chaos after his death. But could that part of many Robin Hood films be true that he returned a hero from the Crusades? In reality, Richard fought successful battles in Acre and Jaffa but he did not manage to achieve his main goal which was to recapture the holy city of Jerusalem for Christendom. What is more, having insulted and alienated most of his Christian allies while on crusade against Saladin, Richard was unable to return to his kingdom except by sneaking in disguise through the territory of the Duke of Austria, one of the many enemies he had made in the Holy Land. Once caught, he was handed over to the German emperor, who demanded a huge ransom for his liberation.
Then why did he become so popular in the eyes of many English people? The enduring legend of 'Good King Richard' originated as a PR campaign by Queen Eleanor (Richard´s mother) to persuade the citizens of the Plantagenet empire to collect the enormous ransom which came up to 2-3 times the annual income of the English crown under Richard.
Text adapted from: https://www.historyextra.com/period/medieval/8-things-you-probably-didnt-know-about-richard-the-lionheart/

Video for student 2:
Watch the first three minutes of the YouTube video below.
https://www.youtube.com/watch?v=XiAmHIqnGXs&list=PLifdB5vcJy_BKuEQO2BtPCoSjtXlEh1F2&index=8

5) Join another couple and put the statements about Richard the Lionheart below into the correct category:

Richard I – the way he is often shown in pop culture	Richard I – what he was really like

Useful words:
chivalrous – polite and kind
crusade - any of the wars fought in Palestine by European Christian countries against the Muslims in the Middle Ages
treacherous – someone who cannot be trusted; intending to harm you
wicked – bad, evil
an heir to the throne – a son that can become king
to insult – to say or do something that offends somebody or makes them angry
to alienate - to make somebody less friendly towards you
to sneak - to go somewhere secretly, trying to avoid being seen
disguise - to change your appearance so that people cannot recognize you
liberation - the act or process of freeing a country or a person from the control of somebody else
to persuade - to make somebody do something by giving them good reasons for doing it
citizen - a person who has the legal right to belong to a particular country
annual income of the English crown – all the money earned by the English king in a year
noble – having fine personal qualities such as care for others
hostage – a person who is captured and held prisoner and who may be injured or killed if people don´t do what is asked of them
to execute – to kill someone (often as a kind of punishment)
allies – a group of countries that fight together
victorious – to win
to conquer – to take and control of a country or city by force
reign – to lead a country for a period of time as a king or queen
ransom – money that is paid to somebody so that they set free a person who is being kept as a prisoner
PR campaign – planned activities which speak in a very positive way about something or someone
popular – liked or enjoyed by a large number of people

BULGARIAN KINGDOMS

Maria Dobcheva
Maximum Schools - Plovdiv

Language Aims: Speaking
Subject Links: History
Age: 9-14 year-olds
Level: Pre-Intermediate - Intermediate
Time: 30-60 min, depending on students' interest and involvement
Preparation: 1. Prepare a set of cards per every group of 3-5 students. Each set should include:
A. Pictures of Bulgarian rulers
B. Maps
C. Info cards
Procedure: 1. Give each group of students a set of all the cards and ask them to match the columns: *period*, *king*, *facts* looking for clues if necessary in the fact column (years, names, etc.)
3. The winning team is the one who finishes first – they get 1 point/token and if they have matched everything correctly, they get a second point/token.

*Material used during a Summer Camp in Panagurishte, June 2019, organised by Maximum Schools

FIRST BULGARIA KINGDOM		
KHAN ASPARUH 	• establishment of the First Bulgarian Empire • peace treaty with Byzantium • recognition of the new country - Bulgaria	**681-700** 
KHAN TERVEL 	• maintained friendly relationship with Byzantium • 716 defeated the Arabs	**701-721** 
KHAN KRUM 	• Bulgarian territory doubled • defeats Nikephoros in the Varbitsa pass and makes a drinking cup out of the Emperor's skull • first written laws – brought law and order to Bulgaria	**803-814** 
KHAN OMURTAG 	• 30-year peace treaty with Byzantium • built roads, castles and fortresses • made administrative reforms	**814-831** 

TSAR BORIS i 	• Christianization of Bulgaria • 870 – Autonomous Bulgarian Church • 855 – Bulgarian Alphabet – Old Bulgarian language was declared as official	**852-889** 
TSAR SIMEON I THE GREAT 	• Golden Age of Bulgarian Culture • 917 the battle near the river of Acheloos – defeats Byzantium - Bulgaria spread between three seas • accepts the title TSAR = EMPEROR	**893-927** 
TSAR SAMUIL 	• 986 – won the battle at Trajan Gate pass and freed Great Preslav • 1014 – lost the battle at the fortress of Klyuch; his solders were captured and blinded • 1018 – Bulgaria fell under Byzantium rule	**969-1014** 
SECOND BULGARIA KINGDOM		
TSAR ASEN AND PETAR 	• Petar was claimed a TSAR and Asen – commander of the army • declared that they would free Moesia, Thracia and Macedonia • liberation of Bulgaria - Bulgaria appeared on the map again	**1185-1197** 
TSAR KALOYAN 	• 1205 – defeated the crusaders (the 'Latins') at Edirne and captured Baldwin • got back the lands of Thracia and Macedonia • The Pope recognised his title as a TSAR	**1197-1207** 
TSAR IVAN ASEN II 	• Via negotiations Bulgaria spread between 3 seas again • the battle at Klokotnitsa – defeated Teodor Komnin • great development of trade and culture	**1218-1241** 

FLYING PLANES

Kristina Koeva-Shishkova
Maximum Schools - Plovdiv

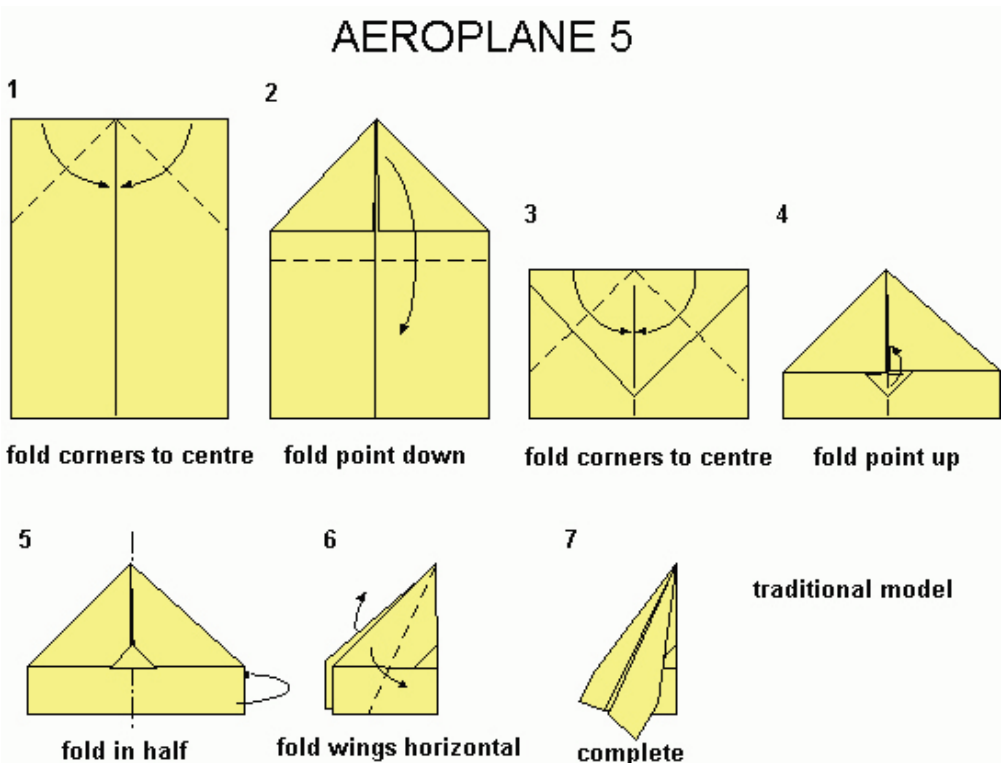
Language Aims: Speaking
Subject Links: **Maths and Physics**: finding average distance of a flying paper plane and looking for ways of improving its aerodynamics
Age: 9-14 year-olds
Level: Elementary – Pre-Intermediate
Time: 30-40 min, depending on students' interest and involvement
Preparation:
1. 20 pcs of instructions how to make a paper plane
2. Sheet of paper per student
3. Data analysis table – one per student (to calculate)
4. A roulette

Procedure:
1. Give each student a sheet of paper and instructions (if necessary).
2. Explain that they are going to have a race with their paper planes and measure and record the length of three flights.
3. When students are ready they fly their planes and put the measures into the date analysis sheet.
4. If necessary explain how they can find the average distance.

	1st flight	2nd flight	3rd flight
Length in meters, centimeters and millimeters			
Length in centimeters and millimeters			
Length in millimeters			

Best distance: _____
Worst distance: _____
Average distance: _____

*Material used during a Summer Camp in Panagurishte, June 2019, organised by Maximum Schools



The City of the Sun

by Tommaso Campanella
(Amazon Fulfilment, Poland, no date), 41 pp, ISBN 9781507823613
and
Life in the Twenty-First Century
edited by M. Vassiliev & S. Gouschev
(Souvenir Press, London 1960), 231pp, £6.45

Reviewed by Frank O'Reilly

The world is a great animal, and we live within it as worms live within us
T. Campanella

The seeds must be selected, the ideas which will really flower tomorrow….This is perhaps why certain science fiction writers are so pathetic.
Prof. G.I. Babat, cited in Vassiliev & Gouschev

In my visits to exhibitions of Soviet architecture and design in London and also general reading I constantly came across references to a mediaeval Italian book, 'The City of the Sun' as being a seminal influence on Soviet artists and urban planners. I managed to get hold of a copy, but, since it lacks references, introduction, annotation and authorial details, it is singularly unhelpful. Many questions remain unanswered. How, when and why was the book first published? What was the context and background of the writer and his work? When and why was it first translated into Russian? Why did it inspire the Soviets and how did this inspiration bear fruit in Soviet reality?

It is described as a poetical dialogue between a Grandmaster of the Knights Hospitallers and a Genoese sea captain. The captain reports his visit to the island of Taprobane (the classical Greek name for Sri Lanka). The main insular city appears to be at one and the same time remote and unknown but also a commercial hub, whose linguistically-gifted merchants trade in goods and ideas with the Far East and continental Europe. However, they seem to acquire little of intellectual merit from China or, for that matter, from the Sanskrit canon, even though they are said to worship Brahma. Rather the classical philosophers of ancient Greece are their main subject of study and discourse. They share the preoccupations and prejudices of the author's homeland, including an antipathy to Islam and Japan (both threats to Catholicism at the time). They also tackle, with apparently more success, similar national problems, such as unemployment, crime and political corruption. As far as climate, environment and agriculture are concerned, they seem more at home in the Mediterranean than the Indian Ocean. Incidentally in real life at that time the Portuguese controlled most of Sri Lanka though there was inland Sinhala Buddhist kingdom of Kandy holding out.

However, the initial Soviet influence was said to be on city planning. Less than three pages are devoted to this. There are no drawings and it is difficult to envisage the city, though it does appear to be based on geometric principles and in some ways to model the solar system. Marble and iron are cited as materials used. With its circles and galleries there is an emphasis on space. Since the structure seems to be a homage to the sun, which is venerated, perhaps space also indicates light. According to Arnitt, 'Space was the key discipline in [Soviet] architectural artistic education.' [1]

A remarkable fact is that the walls of the circuits in the temple are adorned with pictures, which explain knowledge, including astronomy, philosophy, biology and mechanics, as well as geological specimens, whilst live specimens of plants are under the arches. It's a sort of encyclopaedia in stone and these images and read in study and lectures. Was this in any way an inspiration for Soviet social realism pedagogic murals?

All this does tie in with two Soviet concerns: the sun and geometry. Galileo said that geometry was the language of God [2] In atheistic Russia the transcendental gap was filled by veneration of the works of the superfluous deity. However, although the people of the sun city are said to worship Pythagoras (as well as Brahma), precise details are not provided.

However, the bulk of the book is devoted to the system of government, social policy and economics and here there are echoes of Soviet practice and belief. First of all, it seems to be a proto-Communist society: 'all things are common with them.' But power and decision-making lie not with the people but with the magistrates and the supreme omniscient high priest. So it is a theocracy. These élites control human breeding, eugenics, land allocation, child rearing and education, which matches individual talent with specific societal need. 'When we have taken away self-love, there remains only love of the state.' Furthermore 'friendship is worth nothing since they have not the chance of conferring mutual benefit on one another.' There is an emphasis on athleticism and the body beautiful (unembellished). There is an equality of the sexes within the bounds of strict division of labour. In my opinion, the text could also be taken as a proto-fascist recipe book.

Technically, they are the equal of and sometimes superior to the west. They use wagons fitted with sails which are 'borne along by the wind even when it is contrary by the marvellous contrivance of wheels within wheels.' They do not use dung but use 'secret remedies' to maintain soil fertility. They have rafts and triremes 'which go over the water without rowers or the force of wind but by a marvellous contrivance.'

Actually Campanella was not writing for posterity. He was writing a parable to show how contemporary Italian problems might be alleviated. But demonstrating that an alien pagan race did things better was subversive. Perhaps this is why he finishes with a codicil. The Christian law of the Trinity had not been revealed to them and it is Catholicism, 'when its abuses have been removed', that will be 'the future mistress of the world.'

Although it was impossible to find satisfying answers to my queries, some information was forthcoming. Thus he was a Dominican philosopher and wrote his book in 1601, shortly after his imprisonment for sedition and heresy. It was written in Italian and inspired by Plato. Kotkin's book on Magnitogorsk offers some information on the Soviet link. Campanella was first translated into Russian in 1918 but it was the Introduction to the 1934 edition that placed Campanella within the tradition of 'communist utopias.' Many social and political links were delineated but the sun city as a piece of urban planning served as 'the sublime vision from which the real-life microcosm, Magnitogorsk, derived. [3] According to the Belarusian artist, Artur Klinau, Minsk is 'the fulfilment of the Enlightenment dreams of 'The City of the Sun'' This so-called architecture parlante, 'based on Roman and Greek precedents [meant] a close integration of buildings and nature and the constant presence of power.'[4]

Although Jameson surprisingly argues that it was H.G. Wells's visits to Russia that 'made possible the appearance of a wave of Soviet science fiction' [5], it is a little-known book by Jules Verne, 'Paris in the 20th century'[6], that led me to this second Soviet book. This Verne book, written in 1863, shows, with remarkable insight, what that city would be like in 1960. A young artistic man struggles in a technologically oppressive world. However, although the book by Vassiliev and Gouschev, 'both writers on scientific subjects for the layman' is described as 'the fantastic world of the immediate future' and although sci-fi works, including Wells's, are cited, this is not futuristic writing in the Verne sense. It is also certainly not dystopian, as Verne's work was. Rather 29 Soviet scientists are interviewed and present progress reports and projections for the next 50 years or so in their specialist fields. It's all reassuring rather than amazing, though some do have flights of fancy, such as 'an artificial sun which will burn day and night over the capitals of the world' and the manufacture of rare elements from more common ones by changing the structure of the atomic nuclei – a sort of modern day alchemy – as well as diverting ocean currents.

On the whole these 'interviews' are more like lectures. The writers admit this might be 'dry' and liven things up by describing the mannerisms of the speaker, by quoting from sci-fi works, or by narrative vignettes in which the future is brought to life. For me, these vignettes, these fanciful excursions into the future, are the most captivating parts of the book.

The interview approach does have its dangers. First of all, since the scientists are presenting their own personal views, there will be inconsistencies and contradictions between these visions, and no overall holistic view of 21st century life, like the one Verne presented of Paris. Thus, whilst one expert opined that in that century 'all the taxis will be airborne', another considered flying motor cars 'an embarrassing question.' Whilst one sees coal only in a museum in the future, another sees a great future for the underground gasification of coal (actually both views have proven true today, depending on the country.).

Similarly, whilst a vignette describes flying over the landscaped slagheaps of the Kuznetsk coalfield in a conventional aircraft, a 'radio expert' considers aircraft will not use fuel but will 'receive high frequency beams from power stations on the ground – a kind of overhead wireless bus.'

At times the scientists are remarkably prescient, as with the 'bloodless surgery' (using ultrasound), driverless cars and electric cars, though, unlike our present day electric cars, which need recharging, the Soviet ones would use 'beneath the roads electric cables supplying high frequency current.' I particularly liked the vignette on 'bibliotransmission.' In a Ukrainian village pupils sat at booths and scanned words and images relating to any subject of their choice – a sort of early google! Another scientist seems to be foretelling skype, GPS and Alexa without mentioning computers, robots or satellites.

Despite their differences the scientists have a common optimistic mindset. There is no limit to global population growth. We are witnessing 'the dawning age of plenty', largely, it would seem through increased use of synthetic fertilizer and pesticide as well as marine farming. Remember Rachel wrote 'Silent spring' in 1962. [7] They eventually seek mastery over or, at least, improvement of an imperfect earth that 'was planned haphazardly by the Deity.' Yet they are realists: 'For the scientists .....to be able to dream of the future it is necessary that the 21st century arrives.' So the immediate cessation of nuclear tests is imperative. However, the scientists of the 1950s reportedly had already calculated in theory the construction of much new technology. Their successors would have to put the blueprints into practice.

These scientists could not imagine the collapse of the USSR but neither could they envisage what the preoccupations of the 21st century would actually be: the growth of the environmental movement and the almost global consensus on climate change, leading to conservation rather than exploitation of earth resources; the drive towards renewable energy, which they had massively downplayed; the vilification of plastics, when they had glorified the Age of Plastic;
the pervasive digitalization of society and economy; advances in quantum mechanics and DNA.

These two books might be considered as no more than of antiquarian interest. However they were powerful and meaningful in their time. They deserve rigorous analysis.

Frank O'Reilly, the author of this article, read Geography at University College, London and subsequently obtained a Ph.D. at the School of Oriental and African Studies (SOAS). He, lectured in Nigeria at Kano University, becoming Head of the Geography Department.
In London, he was a trustee for the charity Volunteers for Rural India (VRI). Being a true internationalist he had many friends in the UK and across the globe, and on Facebook.
Sadly, he passed away in March this year.

Rod Holmes
European Association of Teachers, UK section

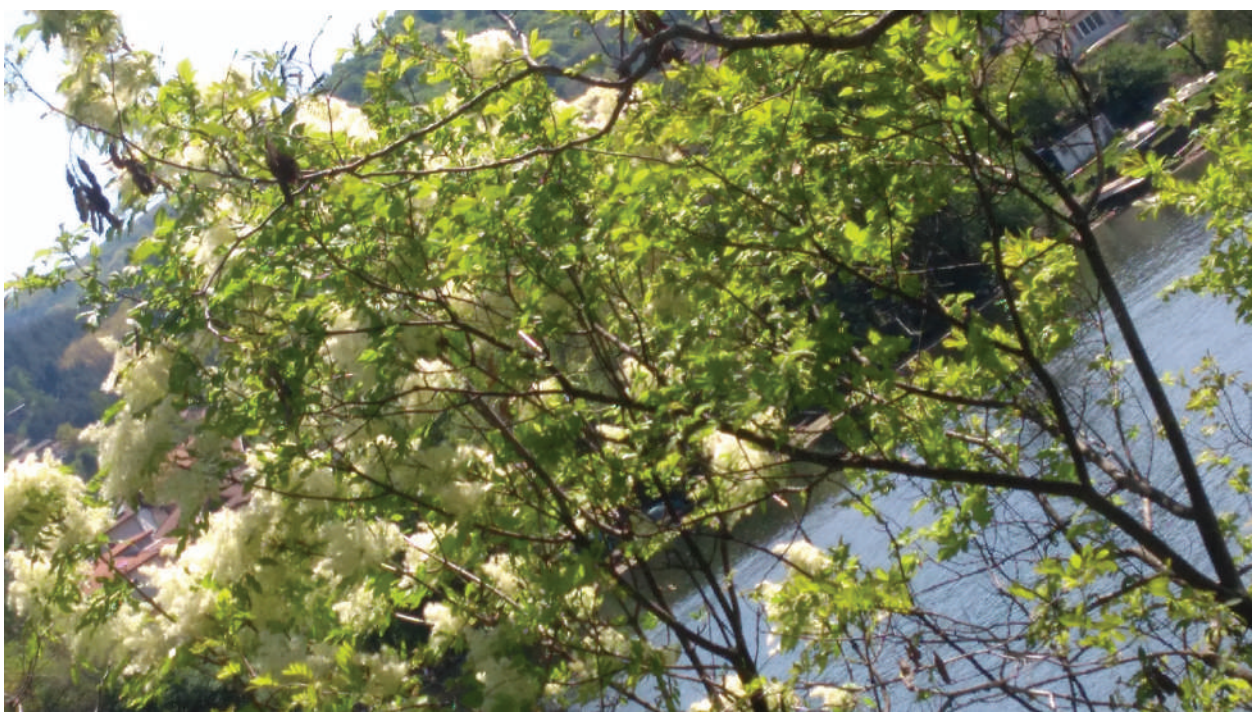
THE MAGIC PORRIDGE POT

Maria Dobcheva
Maximum Schools - Plovdiv

Language Aims: Speaking and Writing
Subject Links: **Literature** (story-telling)
Art (using pictures to tell a story)
Chemistry (demonstrating the chemical processes of mixing acid and base substances – 'colourful volcano')
Age: 9-14 year-olds
Level: Elementary – Pre-Intermediate
Time: 30-60 min, depending on students' interest and involvement
Preparation: 1. Pictures, telling the story of *The Magic Porridge Pot*
(either A4 format or a set of pictures per groups of 4-5)
Younger students can be given black and white pictures to colour
2. Vinegar, baking soda, washing-up liquid, plastic cup – one for each student
Procedure: 1. Show/give students the set of pictures and ask them to discuss as a class or in their groups the best order.
Elicit: *This is/should be the first because…The girl is/might be sad because…In this picture there is only little porridge on the table, while in this one there is more. The porridge here is covering the whole street… The people are swimming in it… They might drawn…They are trying to escape from the flood of porridge.*
2. Agree on the correct order and retell the story, using a sentence or two for each picture.
3. Demonstrate how the *Magic Porridge Pot* works through a chemistry experiment – give each student a plastic cup with some vinegar and washing-up liquid and ask them to stir well. Paints can be used to add to the effect. Give each student a table spoon of baking soda and ask them to put it into the cup.
4. Depending on the age/level of students elicit/provide explanation of the chemical reaction:
$NaHC0_3 + CH_3COOH \rightarrow CH_3COONa + H_20 + CO_2$
($NaHC0_3$ - sodium hydrogen carbonate/bicarbonate, baking soda; CH_3COOH – acetic acid/vinegar; CH_3COONa – sodium acetate; H_20 – water/; CO_2 - carbon dioxide)

*Material used during a Summer Camp in Panagurishte, June 2019, organised by Maximum Schools

photo Albena Nikolova



Laws in Physics

Stefka Kitanova
FACTWorld - Bulgaria

Vasil Chakarov
Forest Reserach Institute
Bulgarian Academy of Sciences

This material aims at revision of Laws in Physics and gives additional info about the scientists who formulated them and/or why are they named after. The first two are presented as definitions and after them there is a table to be cut into cards to match (formulation of the law with the name). With the names short info about the scientist is given. Below there are units of measurements named after scientists with the year of introduction. The material can be used also for Physics quiz during scientific festivals or celebrations.

CONSERVATION OF MASS AND ENERGY

Albert Einstein introduced his famous equation $E = mc^2$ in 1905 as **Zur Elektrodynamik bewegter Körper, in Annalen der Physik (17: 891, 1905**). Or: 'On the Electrodynamics of Moving Bodies'. The paper presented his theory of special relativity, based on two postulates:

- ……..: The laws of physics are the same for all inertial reference frames.
- **……..**: Light always propagates through a vacuum at a definite velocity, which is independent of the state of motion of the emitting body.

(paper: http://hermes.ffn.ub.es/luisnavarro/nuevo_maletin/Einstein_1905_relativity.pdf)

Answer: Principle of relativity; Principle of constancy of the speed of light

ELECTROSTATIC LAWS

Two laws of physics govern the relationship between electrically charged particles and their ability to create electrostatic force and electrostatic fields.

- …… is named for Charles-Augustin de Coulomb, a French researcher working in the 1700s. **Explanation**:
- …… is named for Carl Friedrich Gauss, a German mathematician who worked in the early 19th century. **Explanation**:

Answer: Coulomb - The force between two point charges is directly proportional to the magnitude of each charge and inversely proportional to the square of the distance between their centers. If the objects have the same charge, positive or negative, they will repel each other. If they have opposite charges, they will attract each other.

Gauss - This law states that net flow of an electric field through a closed surface is proportional to the enclosed electric charge. Gauss proposed similar laws relating to magnetism and electromagnetism as a whole.

Katerina Dobcheva, 10, Plovdiv

The line integral of magnetic flux over a closed surface is directly proportional to the algebraic sum of the current flowing through the surface.	Ampere's Law - (Andre-Marie Ampere 1775–1836) - French mathematician and physicist, considered to be the father of electrodynamics
When an X ray beam incident on a crystal lattice in which atoms are periodically arranged, it get reflected. The intensity of the reflected ray is given by **n** λλ **= 2dsin** θθ. Where λλ is the wave length of the X ray, d is the inter planar spacing, θ is the angle of incidence.	Bragg's Law - Sir William Lawrence Bragg Australian-born British physicist and X-ray crystallographer (1890-1971); with his father Sir William Henry Bragg (1862- 1942) both Nobel prize in Physics (1915)
This law tells that the volume of an ideal gas is proportional to the temperature of the given gas at constant pressure.	Charles'Law - Jacques Alexandre César Charles (1746-1823) – French inventor, scientists, mathematician, balloonist
This is defined as the attractive or repulsive force between two charges is directly proportional to the product of the charges and inversely proportional to the square of the distance between them.	Coulomb's Law - Charles-Augustin de Coulomb (1736-1806) – French military engineer and physicist
The waves emitted from a moving object received by an observer, which will be shifted towards the blue region when the object is approaching. If the object is moving away from the observer, it will shift towards the red region.	Doppler Effect - Christian Andreas Doppler (1803-1853) – Austrian physicist and mathematician
The energy of a particle is equal to the product of mass and square of the velocity of light. The mathematical representation is given by: **$E = Mc^2$**	Einstein's Mass-Energy Equation – Albert Einstein (1879-1955) - German-born theoretical physicist
The electric flux over a closed surface is directly proportional to the sum of the charges with in the surface.	Gauss' Law - Johann Carl Friedrich Gauss (1777-1855) – German mathematician and physicist
The ratio between the potential difference and the current through a conductor is a constant which is known as the resistance.	Ohm's Law - Georg Simon Ohm (1789-1854) - German physicist, school teacher
It is impossible to determine the position and momentum of a particle simultaneously and accurately.	Uncertainty Principle – also known as Heisenberg's uncertainty principle - Werner Karl Heisenberg (1901-1976) German theoretical physicist
The force of attraction between two bodies is directly proportional to the product of the masses of the bodies and inversely proportional to the square of the distance between them. **1) Newton's first law of motion** A body continues its state of rest or uniform motion unless it is acted up on by an external force. **2) Newton's second law of motion** The force of any moving body is equal to the product of mass and the acceleration of the body. **3) Newton's third law of motion** Newton's third law tells that, every action there is an equal and opposite reaction.	Newton's Laws - Sir Isaac Newton (1642-1726/27) - mathematician, physicist, astronomer, theologian, and author (natural philosopher)

How many of these scientist's names are now measurement units?

Answer:

ampere – amp – A – for electric current (1881)

coloumb – C - for electric charge (1908)

gauss – G/Gs - for magnetic flux density or magnetic induction (1936)

ohm – Ω - derived unit for electric resistance (1861); it is also known as mho (ohm backwards)

newton – N - derived unit of force (1946)

Mihaela Krivoshieva, 5 years, Sofia

Co-funded by the
Erasmus+ Programme
of the European Union

URBAN SCIENCE - INTEGRATED LEARNING FOR SMART CITIES

Why is Urban Science?

Urban Science is an Erasmus+ co-funded project aimed at students (age 12-16) and their STEM teachers presenting the value of nature in our cities and answering to how science can support us in studying and improving the quality of living conditions in those cities.

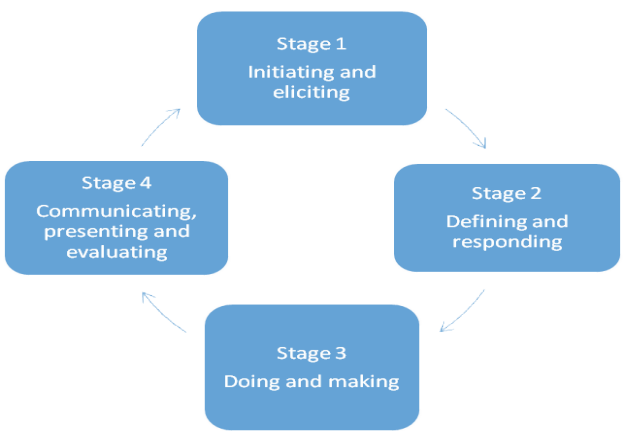
Over two-thirds of the European population live in cities. Enabling those cities to deliver services effectively, efficiently, and sustainably while keeping their citizens safe, healthy, prosperous, and well-informed is amongst the most important challenges in this century. Quality of life is crucial in attracting and retaining a skilled labour force, businesses, students, tourists and, most of all, residents in a city. But cities also account for the biggest share of energy consumption, CO_2 emissions and environmental impact. Cities are where we can make a difference. And the Urban Science European project is an education response.

The preparation of students in Bulgarian school is not matching the needs of our society if we are to develop healthy livelihoods in the 21st century. The focus in school is put on broadening the intellectual capacity of students without linking it to practical applications for finding solutions to the environmental, societal and economic challenges ahead.

What is Urban Science?

The goal of Urban Science is to improve the teaching of scientific inquiry and investigation so that students develop the competences to actively contribute to creating sustainable cities, gain scientific skills for employment, and are more motivated to study science. Urban Science is delivering methodology and content that enables Bulgarian schools to move away from learning per se and into teaching that prepares students for the future.

Urban Science is structured on an Inquiry-Based Science Education (IBSE) circular model, enabling pupils to deepen understanding through progressive engagement. We have adopted the model from Enquiring Minds for shared understanding.



Stage 1: the teacher's role is to help pupils draw on their own lives and experiences to discover things that interest them, make them excited, curious and want to ask questions.

Stage 2: the teacher's role is ensuring pupils can advance their inquiries meaningfully; providing frameworks and learning so that pupils can organise their research.

Stage 3: the teacher's encourage pupils to manage their time, identify clear goals and monitor their progress.

Stage 4: pupils communicate, share and present their new knowledge and understanding with others.

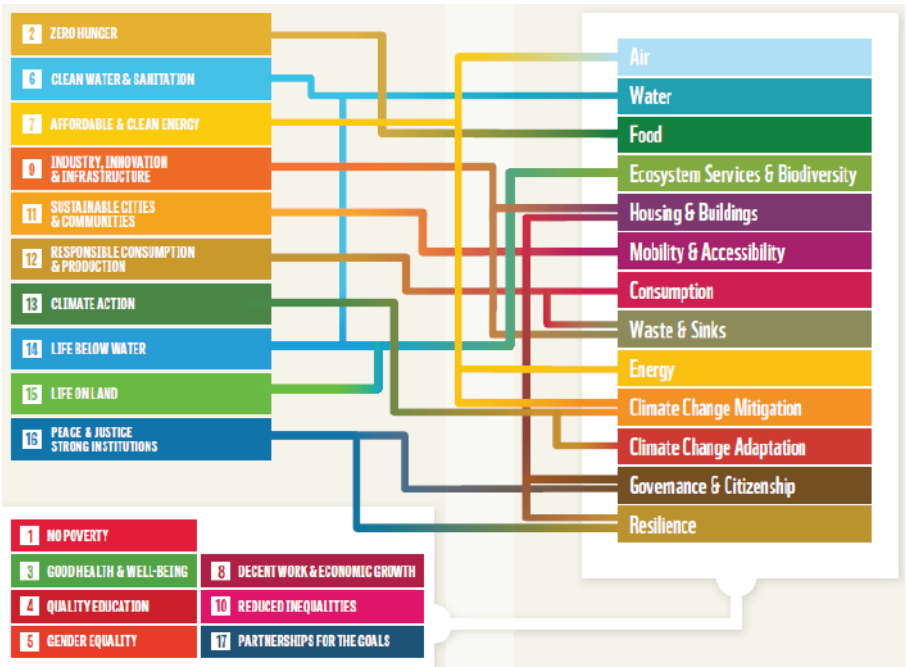
We anticipate inquiry-based learning will provide engaging approaches for teachers to adopt student-centred learning. The challenge of initiating learning with pupil generated questions moves the teacher

from gatekeeper of knowledge to facilitator of learning. Using locally generated content focused on the urban environment makes learning more meaningful and applicable for pupils, thus influencing their motivation to learn.

How is Urban Science achieving its goals?

Urban Science works through outdoor inquiry-based learning where urban areas become living-laboratories that help pupils explore how science can create healthier and sustainable places to live. It is solutions based; placing a strong emphasis on creativity and problem solving to ensure scientific understanding can be applied in a meaningful context. The project draws on several influences in inquiry-based learning and an understanding of how the natural world provides a systems model for sustainability.

For an overall framework of Urban Science content we are referring to the United Nations Sustainable Development Goals. Those were mapped by WWF Urban Solutions for One Planet Living against key themes for a sustainable city, thus providing us with examples of linkages between potential Urban Science themes and the SDGs.



Original image by WWF Urban Solutions for One Planet Living

Where can I find out more?

Project materials are available through the project website and in Bulgarian, English, Hungarian, Italian, Latvian and Polish.

Online training materials for teachers will be available for teachers in Bulgarian from 12 April 2020 on the Ecosystem Europe Association website. For more information please contact us at: info@ecosystemeurope.org.

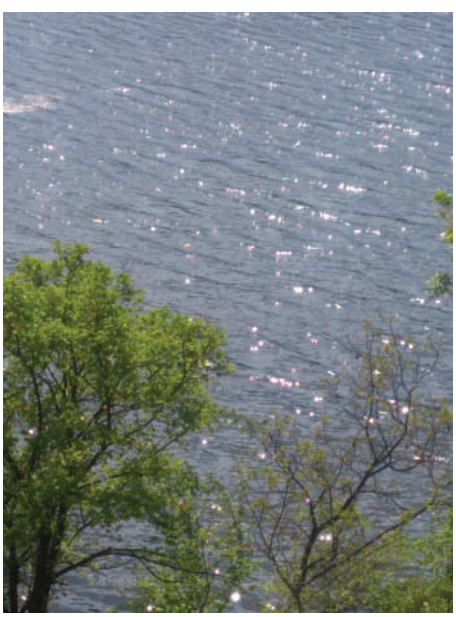


photo Albena Nikolova

+ Arte, + Inclusión, proyecto Erasmus +

Como fruto de una buena relación de trabajo establecida anteriormente, el IES VALMAYOR, como centro novel, apostó por coordinar esta nueva asociación de cuatro miembros; el Lycée Camus de Bois Colombes, el Liceo Capece de Maglie, el Instituto Bilingüe Miguel de Cervantes de Sofia y el propio IES VALMAYOR. Los tres centros extranjeros han participado ya en dos exitosos proyectos Comenius en el pasado y desean mantener el probado vínculo de trabajo entre ellos implicando a su alumnado y ofreciéndoles nuevas oportunidades a partir del trabajo conjunto. Además, los tres centros extranjeros mencionados implementan en sus centros diferentes programas de acción educativa español en el exterior (el Liceo Capece cuenta con una sección internacional española, el Instituto Bilingüe Miguel de Cervantes con una sección bilingüe española y el Lycée Camus oferta el programa Bachibac conducente a la doble titulación Bachillerato español-Baccaláuréat francés

"+Arte, +Inclusión" es un proyecto que quiere fomentar métodos y pedagogías innovadoras y trabajar la competencia digital desde la dimensión artística y con el objetivo de mejorar la inclusión social. Queremos impulsar el pensamiento crítico de nuestro alumnado para luchar contra la discriminación, el racismo, el acoso escolar y la violencia a partir de la creación artística. Buscamos el fomento de actividades de promoción de las TIC, uniendo recursos tecnológicos (videocreación, blogs, flipped classroom, libros digitales) al arte, para conseguir mejorar la inclusión social y la igualdad de oportunidades de nuestros alumnos.

Antes de la primera de las 4 movilidades previstas,los alumnos trabajaron activamente en la elaboración del logo y en las actividades relacionadas con nuestro primer tema, Racismo y Discriminación: realizamos un encuentro con personas con reducidas capacidades físicas, entrevistas con inmigrantes y grabamos un rap contra el racismo y la discriminación. Realizamos una exposición en el instituto de logos, eslogan y carteles relacionados con este tema.

De momento hemos realizado solo la primera movilidad y, además, en parte: solo los búlgaros pudimos hacer el viaje a Valdemorillo, España. Los demás socios participaron virtualmente en algunos de los encuentros y en las reuniones del profesorado. Durante la movilidad presentamos y dinamizamos las actividades nucleares del proyecto que se han llevado a cabo durante los meses previos. Viajamos con 10 alumnos y 2 profesores. El alumnado fue seleccionado a partir de criterios como el grado de implicación y compromiso con las actividades del proyecto, aspectos personales como la capacidad de integración y superación... Las actividades fueron muy variadas y los alumnos aprovecharon al máximo el encuentro con un escritor de origen mixto, el baile y las demás actividades colaborativas, las visitas al pueblo, a Madrid, los días con las familias. Según la evaluación posterior, todos han quedado más que satisfechos, los alumnos siguen en contacto con sus anfitriones.

Queda mucho por hacer. A pesar de la difícil situación y el estado de confinamiento, los alumnos y profesores siguen trabajando, ahora sobre el tema de Igualdad Género. Esperamos cumplir con todas las actividades previstas concursos de cortometrajes, de carteles y

de microrrelatos con concursos de cortometrajes, de carteles y de microrrelatos con diferentes temáticas, para que el alumnado pueda seguir desarrollando su creatividad.

Irina Alamanova,

Co-coordinadora del proyecto

ИНТЕГРИРАНЕ НА ДЕЙНОСТИ В КЛАСНАТА СТАЯ - ПЪТ ЗА УСПЕШНО ОБУЧЕНИЕ В XXI ВЕК

(2018-1-BG01-KA101-047285)

Квалификационният курс „CLIL методология", финансиран по програма Еразъм +, организиран и проведен от обучителната организация „PME +", се проведе в Аликанте, Испания, в периода 11-17 август 2019 г. Участниците в курса бяха от Полша, България и Чехия. Атмосферата беше мотивираща и приятелска.

Темите, представени по време на курса, бяха свързани с методологията на преподаване на предмети на чужд език. Разгледахме теоретичната постановка - видовете „Клил" - „твърд" и „мек", различните нива на познания, съвместими с тази методология и др. Достатъчно време и дейности бяха отделени и на практическото използване на теорията - упражнения, свързани с конкретния предмет на всеки един от нас.

Макар и доста от нещата, с които ни запознаха, да са ни вече познати и използвани в нашата педагогическа практика, смятаме че посещението на курса беше полезно. Задълбахме в теоретичното познание на методологията и открихме някои нови практики, които бихме могли да използваме в часовете по география и икономика, история и цивилизация, и философския цикъл на испански език.

Благодарни сме за възможността да участваме в този квалификационен курс и вярваме, че наученото ще подобри стила ни на преподаване, което ще допринесе учениците да бъдат по-конкурентноспособни в съвременния глобализиран свят, в който връзката наука-чужд език-ключови компетентности е по-силна от всякога.

Виктория Крумова, Васил Лозанов, Росен Ралчев