

Dobrică- Văsi Lavinia- Elena (1) Colegiul Tehnic de Arhitectura si Lucrari Publice "I.N.Socolescu"

Suport Proiect (2, incluzand 14 subactivități)

Fișe activități:

MATEMATICĂ

	Clasa: a IX-a
	Dobrică- Văsi Lavinia- Elena
Disciplina	Matematică
Titlul lecției	Personalități feminine din istoria matematicii
	Tematici abordate:
	Femei: oameni de știință, scriitori, artiști, personalități publice; Facilitarea cunoașterii/conștientizării rolului pe care femeile le au în cadrul diferitelor domenii de activitate.
	Stereotipuri de gen și dezvoltare profesională. Set de prescripții sociale sau culturale ale rolurilor de gen. Stereotipurile cu privire la rolurile și activitățile potrivite pentru femei și bărbați (fete și băieți) întăresc în mare măsură percepțiile greșite cu privire la egalitatea de gen.
Argumentarea alegerii teme	Tema oferă elevilor o altă perspectivă în învățarea matematicii prin cunoașterea biografiei și a contribuției la dezvoltarea științei ale unor personalități feminine marcante. Tema aleasă îi ajută de asemenea, prin dezbateri, să discute despre rolul femeii și aportul ei la dezvoltarea societății, a egalității de șanse de care trebuie să beneficieze orice persoană, indiferent de sex, rasă, etnie, condiție socială sau naționalitate. De-a lungul timpului, accesul femeilor la educație a fost îngrădit, chiar inexistent datorită unor prejudecăți, dogme, convenții sociale; cu atât mai mult, studiul matematicii era privit ca un domeniu rezervat bărbaților. Au existat totuși femei care au îndrăznit și au obținut rezultate notabile în cercetarea matematică și a altor științe; viața și opera lor este mai puțin cunoscută prin programa școlară, deși sunt un exemplu de emancipare și progres prin instruire.

Durata: 50 minute

Resurse: Tabla smart, videoproiector,

- www.descopera.ro/.../9187491-hypatia-din-alexandria-intaia-mare-matematiciana-a
- <https://www.historia.ro/.../marie-sophie-germain-un-geniu-al-matematicii->

Scopul activității este de a-i face pe elevi să conștientizeze că egalitatea de gen este un drept care asigură oricărei persoane libertatea de a-și dezvolta propriile aptitudini și de a-și exprima opțiunile, fără a fi influențate de particularitățile sexului căruia îi aparține. Comportamentele, aspirațiile și nevoile diferite ale femeilor și bărbaților, trebuie să beneficieze de apreciere și promovare egală. De asemenea, se urmărește combaterea stereotipurilor cu privire la rolurile și activitățile potrivite pentru femei și bărbați (fete și băieți).

Competențe: Identificarea situațiilor de discriminare de gen și a stereotipurilor cu privire la rolurile și activitățile potrivite pentru femei și bărbați

Descrierea
activității

Profesorul le cere elevilor să citească două texte biografice pe care le pune acestora la dispoziție: Hypatia din Alexandria și Sophie Germain și să găsească câteva trăsături caracteristice contextului istoric, social, cultural din perioada vieții acestora.

Pe baza textului citit, cere elevilor să efectueze următoarele activități (Pentru ducerea la îndeplinire a sarcinilor, elevii sunt împărțiți în șase grupe):

- Identificarea unor date și informații biografice ale primei femei-matematician, Hypatia din Alexandria și ale lui Sophie Germain
- Identificarea aportului pe care acestea l-au avut în domeniul științei
- Identificarea obstacolelor pe care acestea le-au întâmpinat în afirmarea lor în plan științific (prejudecăți cu privire la egalitatea de gen prezente la nivelul societății) și a modalităților prin care le-au depășit
- identificarea noțiunilor matematice întâlnite în texte și exemplificarea lor prin definiții, formule de calcul, teoreme

Elevii își exprimă părerea (cîte un reprezentant al fiecărei grupe) în legatură cu tema dată și își argumentează opinia.

	Oricare clasă. În funcție de programa școlară
	Support proiect
Disciplina	Matematică
Titlul lecției	Exercitiu. Math to-do-list
Argumentarea alegerii teme	<p>Abordarea subiectelor școlare din perspectiva aplicabilitatii lor practice este un mod de a familiariza in egala masura atat fetele cat si baietii cu aspecte ale vietii cotidiene care, in mod traditional, sunt atribuite doar unui gender sau altul.</p> <p>Perspectiva de gen:</p> <ul style="list-style-type: none"> - Rolurile traditionale ale femeilor si barbatilor - Rolul in societate al femeilor si al barbatilor
Descrierea activității	<p>Sursa: http://www.mathworksheetscenter.com/mathtips/everydaymath.html</p> <p>One of the best ways to effectively manage time is to create detailed to-do lists. The more on your plate, the more complicated and cumbersome these lists can get, so it's important to have a strategy. Writing down to-do lists really puts our lives into perspective, but there needs to be order and clear priorities or you'll find yourself focusing on the trivial while neglecting the most critical.</p> <p>Here's where math comes into play.</p> <p>According to leadership expert, John Maxwell, there's a three-step process to determining the order of priority of our relentless to-do lists. Each task is assigned a number. The higher the number, the more priority it receives. This mathematical to-do list allows you to dedicate yourself to the most important and time-sensitive tasks first. Periodically rethink your to-do list as some items may change, but it's a great tool to teach your students and use at school or running your household.</p> <ol style="list-style-type: none"> 1. Rate tasks in terms of importance. <ul style="list-style-type: none"> • Critical = 5 points

- Necessary = 4 points
 - Important = 3 points
 - Helpful = 2 points
 - Marginal = 1 points
2. Determine its urgency.
- This month = 5 points
 - Next month = 4 points
 - This quarter = 3 points
 - Next quarter = 2 points
 - End of year = 1 point
3. Multiply the rate of importance by the rate of urgency.
- Example: 5 (critical) x 4 (next month) = 20 points

	Oricare clasă. În funcție de programa școlară
	Suport proiect
Disciplina	Matematică
Titlul lecției	Aplicatiile de zi cu zi ale matematicii
Argumentarea alegerii teme	<p>Abordarea subiectelor școlare din perspectiva aplicabilității lor practice este un mod de a familiariza în egală măsură atât fetele cât și băieții cu aspecte ale vieții cotidiene care, în mod tradițional, sunt atribuite doar unui gender sau altul.</p> <p>Perspectiva de gen:</p> <ul style="list-style-type: none"> - Rolurile tradiționale ale femeilor și bărbaților - Rolul în societate al femeilor și al bărbaților <p>Oriunde te duci, orice faci, folosești matematică zilnic fără să-ți dai seama. Sigur că profesorii, părinții și adulții spun elevilor acest lucru frecvent. Prin intermediul acestor activități elevii sunt ajutați să înțeleagă cum matematica este implicată în viața ta de zi cu zi.</p> <p>Matematica este o parte a vieții noastre, fie că ne curățăm casa, pregătim cina, tundem gazonul sau mergem în vacanță. Oriunde te duci, orice faci, folosești matematică zilnic fără să-ți dai seama. Pur și simplu vine în mod natural.</p> <p>When am I ever going to use this? Variations of this question have echoed through the halls of math classrooms everywhere. Struggling students often become frustrated with complex math problems and quickly give in to the notion that they will never use math in “real life” situations. While it may be true that some of the more abstract mathematical concepts rarely come into play, the underlying skills developed in high school math classrooms resonate throughout a student’s lifetime and often resurface to help solve various real world or work-related problems sometimes years down the line.</p> <p>If you look hard enough, you’ll see math emerge from some of the most unlikely places. Fact is, we all use math in everyday applications whether</p>

Descrierea activității

we're aware of it or not. Mathematics is the universal language of our environment, helping mankind explain and create within it for thousands of years. From playing games to playing music, math is vital to helping students fine tune their creativity and turn their dreams into reality.

Sursa: <https://www.thinkthroughmath.com/math-real-life-examples/>

Chatting on the cell phone. Chatting on the cell phone is the way of communicating for most people nowadays. It's easy, accessible and cost effective. Every one has a cell phone and it requires a basic knowledge of skill and math. You need to know numbers and how they work, and with today's technology you can do basically everything on your cell phone, from talking and faxing to surfing the Internet.

In the kitchen. Baking and cooking requires some mathematical skill as well. Every ingredient has to be measured and sometimes you need to multiply or divide to get the exact amount you need. Whatever you do in the kitchen requires math. Even just using the stove is basic math skills in action.

Maths makes baking fun! More math can be found in the kitchen than anywhere else in the house. Cooking and baking are sciences all their own and can be some of the most rewarding (and delicious) ways of introducing children to mathematics. After all, recipes are really just mathematical algorithms or self-contained step-by-step sets of operations to be performed. The proof is in the pudding!

Working in the kitchen requires a wide range of mathematical knowledge, including but not limited to:

- measuring ingredients to follow a recipe
- multiplying / dividing fractions to account for more or less than a single batch
- converting a recipe from Celsius to Fahrenheit
- converting a recipe from metric (mL) to US standard units (teaspoon, tablespoon, cups)
- calculating cooking time per each item and adjusting accordingly
- calculating pounds per hour of required cooking time
- understanding ratios and proportions, particularly in baking (ex. the



recipe calls for 1 egg and 2 cups of flour, then the ratio of eggs to flour is 1:2).

Following a recipe can sometimes be tricky, especially if conversions are necessary. We Americans follow our own set of rules when it comes to most forms of measurement. Conversions make it a bit more difficult to follow recipes from other countries as they most likely use Celsius and the metric system.

Gardening. Even doing something as mundane as gardening requires a basic math skill. If you need to plant or sow new seeds or seedlings you need to make a row or count them out or even make holes. So even without thinking you are doing math. Measuring skills is always needed, and calculations of the essence when doing something new in the garden.

Arts. When doing any form of art you are using math. Whether you're a sculptor, a painter, a dancer or even just doing a collage for fun, you will need to be able to measure, count and apply basic math to it. Every form of art is co-dependant upon math skills.

Keeping a diary. Keeping a diary has become an essential part of our daily lives. We run from place to place and appointment to appointment. Making appointments and having a time schedule that works for you requires math. Without a diary we will crash and burn. Some people even have to make appointments to take some time out. Math is a much needed skill in today's life.





Planning an outing. Every outing you plan needs your math skill. Whether you go to the beach or the zoo is irrelevant. You will plan your way there and you will use your time wisely, math is your guide that will assist you and help you. When driving you need fuel, oil and water, without it your car will break down. All of these require math.

Banking. Can you imagine going to the bank and not having any idea what you need to do or how to manage your finances. This will cause a huge disaster in your life, and you will be bankrupt within hours.

Math helps you save money. Many experts agree that without strong math skills, people tend to invest, save, or spend money based on their emotions. To add to this dilemma, those individuals with poor math fundamentals typically make greater financial mistakes like underestimating how quickly interest accumulates. A student who thoroughly grasps the concepts of exponential growth and compound interest will be more inclined to better manage debt.

Financial knowledge decays over time, so it's important to keep young people involved. By continually showing how specific math lessons apply to real life financial situations and budgeting, kids can learn how to properly spend and save their money without fear or frustration.

Planning dinner parties. How about that inevitable dinner party or cocktail that you have to host. Planning is essential, how many guests are attending, what foods are you serving, the ambience of the place where you want to host it and so many other essentials all requiring multiplication, division and subtraction.





Decorating your home. Whether you are painting, doing the flooring or just acquiring new furniture, you need math to make your sums add up. Everything you do inside or outside of your home needs math skills. From accessories to a new swimming pool and putting in new lighting.

Statistics. Every basic thing we use in life consist of history. That means statistics. Taking into account the past and the future, and keeping record of what has been done. Without statistics we won't know what worked and what didn't. It helps us to find balance and structure.

Math helps you build things. Ask any contractor or construction worker and they'll tell you just how important math is when it comes to building anything. Creating something that will last and add value to your home out of raw materials requires creativity, the right set of tools, and a broad range of mathematics.

Figuring the total amount of bags of concrete needed for a slab, accurately measuring lengths, widths, and angles, and estimating project costs are just a few of the many cases in which math is necessary in real life home improvement projects.

Some students may say they don't plan on working in construction and this may be true, but many will own a home at some point in their life. Having the ability to do minor home improvements will save a lot of money and headache. Armed with math, they will also have the ability to check the work and project estimates, ensuring they're getting the best value.





Maths is in the grocery store. One of the more obvious places to find people using math in everyday life is at your neighborhood grocery store. Grocery shopping requires a broad range of math knowledge from multiplication to estimation and percentages.

Calculating price per unit, weighing produce, figuring percentage discounts, and estimating the final price are all great ways to include the whole family in the shopping experience.

Teacher Tip: Encourage your students to play math challenges at the grocery store with their family by attempting to estimate the total cost of all groceries prior to checkout. The difficulty can be increased by incorporating coupons, sales, and adjusted pricing for bulk items. Your little bargain shoppers will thank you later when they're saving money on their own groceries.

Maths takes the risk out of travel. Math comes in handy when travelling and shows up in various ways from estimating the amount of fuel you'll need to planning out a trip based on miles per hour and distance traveled. Calculating fuel usage is crucial to long distance travel. Without it, you may find yourself stranded without gas or on the road for much longer than anticipated. You may also use math throughout the trip by paying for tolls, counting exit numbers, checking tire pressure, etc.

Math lets you manage time. Time is our most valuable asset. Without proper planning, the day can slip through our fingers and our list of duties and responsibilities can start to accumulate. In our fast-paced, modern world, we can easily fall behind and get overwhelmed with all that we have to do. Keeping on schedule has greater weight in our daily lives than ever in history, but it takes more math skills than simply reading a clock or following a calendar to stay on top of everything.

