

Mobiliteach Sectoral

Hospitality and STEAM Cross disciplinary didactics

Third Teacher Training
Athens 15 -18 November 2021



RVCC - Learning with life experience

Recognising skills and knowledge in STEM

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Insignare

The RVCC process

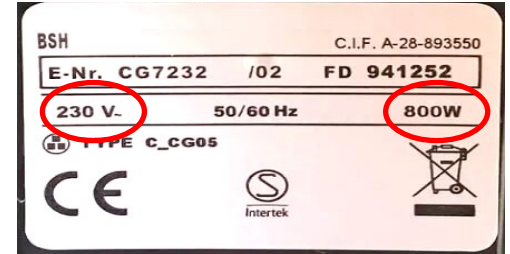
- The Portuguese Recognition, Validation and Certification of Competences' System.
- **RVCC** – **R**econhecimento e **V**alidação de **C**ompetências – **C**have (Recognition and Validation of Key Competences)
- The process has the goal to recognize skills and knowledge that adults acquired during life.
- **How?**
Adults have to write a portfolio where they **describe** and **reflect** on the important moments of their professional and personal life.

The RVCC process

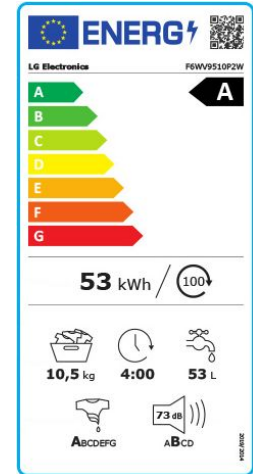
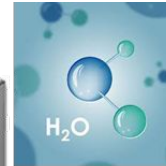
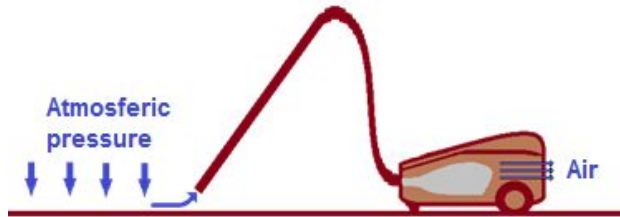
- The portfolio will be analyzed in 3 areas:
 - Citizenship and Employability
 - Culture, Language and Communication
 - **Society, Technology and Science**
- I'm responsible for the last one and it contains 7 topics:
Equipment and Technical Systems; Environment; **Health**; Economy and Management; **ICT**; Mobility and Territory; **Science Fundamental knowledge**
- **How?**
To introduce the topic, I suggest some tasks and ask some questions to guide their work.

Equipment and Technical Systems

- **Analyze labels of an equipment you use and explain what the values mean.**
(electric potential, electric power, sound level...)



- **How does it work?**
(vacuum cleaner, microwave oven,...)



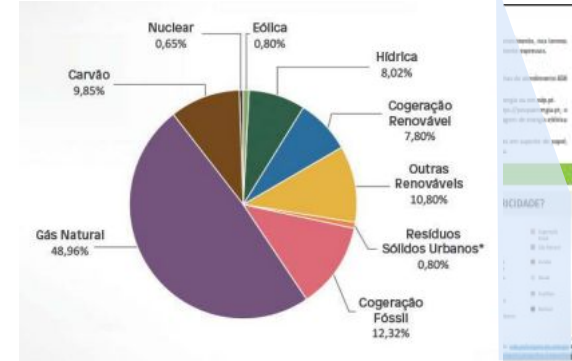
Environment

- **Insert your electric bill and look at the chart.**
- **Reflect why is it important not to waste so much energy.**
(Nonrenewable energy resources: coal, natural gas, nuclear,...)

- **What do you recycle at work?**
(plastic, metal,...)

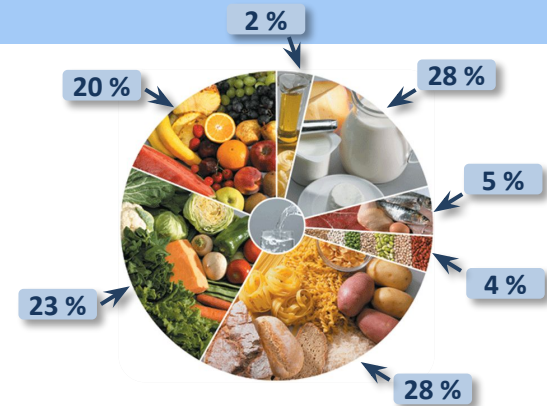


- **Why is recycling important?**



Health

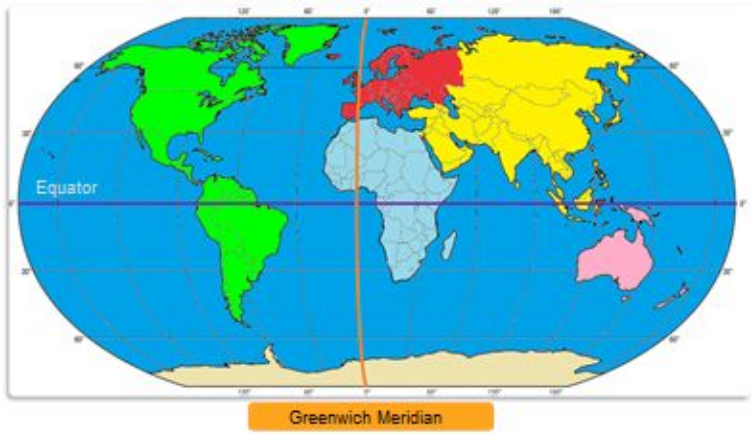
- How do you describe your eating habits?
- Have you ever practiced sports or other physical activity?
- Which health and work safety precautions exist in your workplaces?



Territory

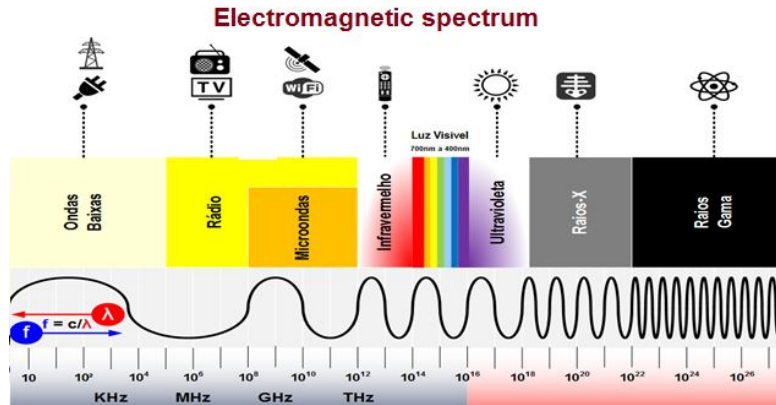
- Find the GPS coordinates of your address and explain what they mean.

39°	8°34'22.9"W
39'21.8"N	



ICT - Information and communications technology

- What are your smartphone specifications and what do they mean?(inches, RAM, OS, MP, ...)
- What kind of waves do smartphones use?



1 kHz = 1 000 Hz
1 MHz = 1 000 kHz
1 GHz = 1 000 MHz

Display
6,4"

Camera
Rear - 48MP / 8MP / 5MP / 5MP
Front - 20MP

Memory
6GB + 128GB
Up to 512GB Expandable

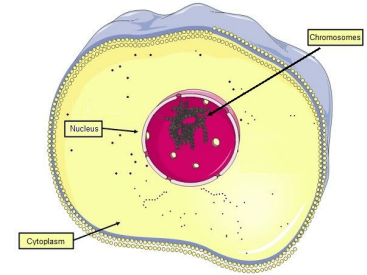
OS
Android 10

- Test the internet speed at home.
(download, upload, Mbps,...)



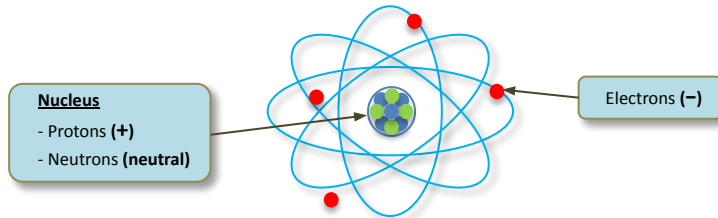
Science Fundamental Knowledge

- What characteristics did you inherit from your parents?
What does DNA mean and where is it?



- Find out what's the main substance in one medicine you took and its chemical formula.
(i.e. paracetamol - $C_8H_9NO_2$)

- What do the letters and the numbers mean?
(atoms, molecules and ions)



The Periodic Table

1 H Hydrogen 1.00794																	2 He Helium 4.002602														
3 Li Lithium 6.941	4 Be Beryllium 9.012182																	10 Ne Neon 20.1797													
11 Na Sodium 22.98976928	12 Mg Magnesium 24.304																	18 Ar Argon 39.948													
19 K Potassium 39.0983	20 Ca Calcium 40.078	21 Sc Scandium 44.955912	22 Ti Titanium 47.88	23 V Vanadium 50.9415	24 Cr Chromium 51.9961	25 Mn Manganese 54.938044	26 Fe Iron 55.845	27 Co Cobalt 58.933195	28 Ni Nickel 58.6934	29 Cu Copper 63.546	30 Zn Zinc 65.38	31 Ga Gallium 69.723	32 Ge Germanium 72.630	33 As Arsenic 74.9216	34 Se Selenium 78.96	35 Br Bromine 79.904	36 Kr Krypton 83.798														
37 Rb Rubidium 85.4678	38 Sr Strontium 87.62	39 Y Yttrium 88.90584	40 Zr Zirconium 91.224	41 Nb Niobium 92.90638	42 Mo Molybdenum 95.94	43 Tc Technetium 98	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.9055	46 Pd Palladium 106.36	47 Ag Silver 107.8682	48 Cd Cadmium 112.411	49 In Indium 114.818	50 Sn Tin 118.710	51 Sb Antimony 121.757	52 Te Tellurium 127.6	53 I Iodine 126.905	54 Xe Xenon 131.29														
55 Cs Cesium 132.90545196	56 Ba Barium 137.327	57 Fr Francium [269]	58 Ra Radium [226]	72 Hf Hafnium 178.49	73 Ta Tantalum 180.94788	74 W Tungsten 183.84	75 Re Rhenium 186.207	76 Os Osmium 190.23	77 Ir Iridium 192.222	78 Pt Platinum 195.084	79 Au Gold 196.966569	80 Hg Mercury 200.59	81 Tl Thallium 204.38	82 Pb Lead 207.2	83 Bi Bismuth 208.9804	84 Po Polonium [209]	85 At Astatine [210]	86 Rn Radon [222]													
87 Fr Francium [269]	88 Ra Radium [226]	104 Rf Rutherfordium [261]	105 Db Dubnium [262]	106 Sg Seaborgium [263]	107 Bh Bohrium [264]	108 Hs Hassium [265]	109 Mt Meitnerium [266]	110 Ds Darmstadtium [267]	111 Rg Roentgenium [268]	112 Cn Copernicium [269]	113 Nh Nihonium [270]	114 Fl Flerovium [271]	115 Mc Moscovium [272]	116 Lv Livermorium [273]	117 Ts Tennessine [274]	118 Og Oganesson [276]															
89 La Lanthanum 138.90547	90 Ce Cerium 140.12	91 Pr Praseodymium 140.90766	92 Nd Neodymium 144.242	93 Pm Promethium [145]	94 Sm Samarium 150.36	95 Eu Europium 151.964	96 Gd Gadolinium 157.25	97 Tb Terbium 158.92532	98 Dy Dysprosium 162.50015	99 Ho Holmium 164.930329	100 Er Erbium 167.259	101 Tm Thulium 168.93032	102 Yb Ytterbium 173.05448	103 Lu Lutetium 174.967	104 Hf Hafnium 178.49	105 Ta Tantalum 180.94788	106 W Tungsten 183.84	107 Re Rhenium 186.207	108 Os Osmium 190.23	109 Ir Iridium 192.222	110 Pt Platinum 195.084	111 Au Gold 196.966569	112 Hg Mercury 200.59	113 Tl Thallium 204.38	114 Pb Lead 207.2	115 Bi Bismuth 208.9804	116 Po Polonium [209]	117 At Astatine [210]	118 Rn Radon [222]	119 Fr Francium [269]	120 Ra Radium [226]
121 Ac Actinium [227]	122 Th Thorium 232.0377	123 Pa Protactinium 231.036888	124 U Uranium 238.02891	125 Np Neptunium 237.048173	126 Pu Plutonium 244.06422	127 Am Americium [243]	128 Cm Curium [247]	129 Bk Berkelium [247]	130 Cf Californium [251]	131 Es Einsteinium [252]	132 Fm Fermium [257]	133 Md Mendelevium [258]	134 No Nobelium [259]	135 Lr Lawrencium [260]																	