



THEME ALLOCATED: Science and Motivation

TITLE OF THE WEBQUEST: Rebooting your Career

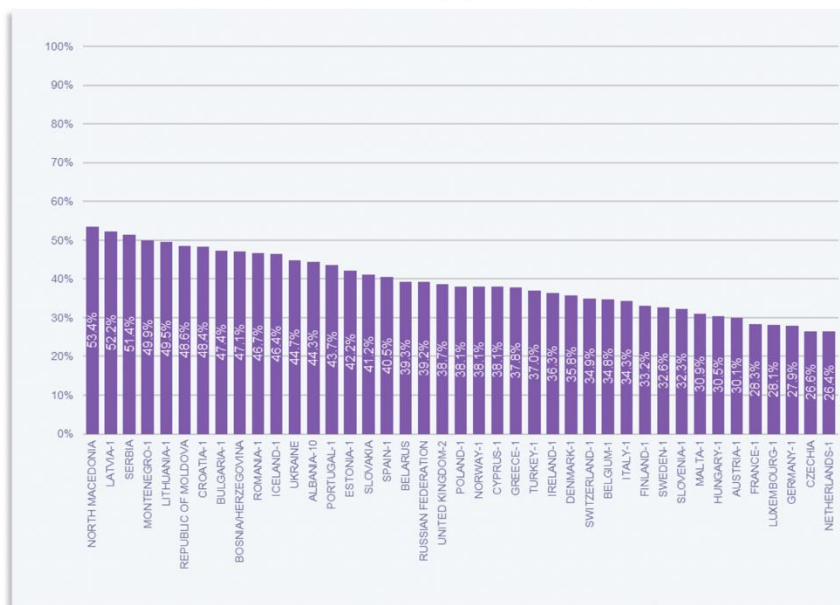
INTRODUCTION

A degree in the science sector opens up multiple career pathways, one of which is a career in scientific research. During the schooling stage to obtain the relevant educational qualifications, you will not only be engaging with theoretical material but also professional and interpersonal skills such as problem-solving, creative thinking and reasoning, logical thinking, investigative, communication, organisation, resilience, patience, technical understanding, and intellectual rigour. The Science sector, especially in regards to research, is growing rapidly and constantly developing new methods to challenge current gaps in the economic market.

The Science sector has often been dominated by male researchers. However, the sector has seen a significant change in the last few years. According to a report by UIS UNESCO (2020), women make up 39% in research positions across the European Union.

Figure 3. Participation of female researchers in Europe

Female researchers as a percentage of total researchers (HC), 2018 or latest year available



Notes: -1 = 2017, -2 = 2016, -10 = 2008.

Source: UNESCO Institute for Statistics, June 2020.

Figure 1 Percentage of Female Researchers (UIS UNESCO, 2020)

Though the statistic in Europe (39%) is higher than the World average (30%), women still remain a minority in the research field. Research is an important field that is involved in



the creation and conception of new knowledge. If women are absent from the development and improvement of concepts, theories, models, operation methods, techniques instrumentation, and software or operational methods, then the perspective of a significant percentage of the world's population will be left out of global decision making and change. This is corroborated by a 2011 Global Gender Gap Report in its opening paragraph:

“Given the complexity of the world today [...] we must commit to a new mindset, one that discards old prejudices and inertia and instead commits to new ideas and new solutions. Empowering and educating girls and women and leveraging their talent and leadership fully in the global economy, politics, and society are fundamental elements of the new models required to succeed in today's challenging landscape.”

Even on a social and moral level, gender equality is “an inalienable, integral, and indivisible part of all human rights and fundamental freedoms” (<https://innovation-entrepreneurship.springeropen.com/articles/10.1186/2192-5372-2-5>). By not providing access to the science fields, women, and the younger generation of girls, will be faced with cultural barriers against entering the sector and will feel less motivated to pursue that career. In economic terms, the involvement of women in the sciences is vital for the dynamic growth of developed and developing nations. The absence of any gender within the sector results in a gap or loss in human resource, hindering economic growth and a sustainable economic future.

Educational choices are becoming more and more determined by future employability potential. Globalisation in situ with the accelerated technological changes has affected the content of work, leading to more interest in entering the scientific field for secure employment options. Nevertheless, although girls perform better during high school statistics reveal that more boys pursue higher education studies in the sciences than their girl counterparts, and even fewer women eventually enter a career in the sciences. In most cases worldwide, this is not because women are explicitly excluded from any form



of education but, more likely, as a consequence of social stereotypes, traditional concepts for women's role not appropriate within the science sector.

Another factor for the decrease of women in the science sector is the lack of motivation. Motivation is invaluable not only for a professional career but also for the overall happiness and wellbeing of a person in general. Activating the body and mind to push forward in pursuit of a goal, maintains the joy and excitement of life and refuses to let it go gently into the night. Motivation for a woman is a muscle that should be constantly exercised and not forgotten for it is the backbone of achieving success and persevering through failure.

TASKS

“The strongest actions for a woman is to love herself, be herself and shine amongst those who never believed she could.” — Unknown

Are you interested in a career in the science sector? Are you after more information on potential career pathways within this STEM sector and what you can personally gain from it? Your perseverance and analytical skills are essential components in developing motivation in the workplace.

Before you begin pulling out your microscope on a career in the Science sector, let us assess your compatibility to work within the sector by considering your abilities, desires, and confidence through a Career Management Tool. For this, we will be using a Career Model Canvas that should guide you through the key elements of a Science career and will help you to decide whether a career in science is suitable!

By following the steps outlined in this WebQuest, you will be provided with the opportunity to evaluate your competences in the sector of Science. These competencies include:

- **Competences of the Self** – Fully aware of your own self-worth and what you can offer a company, organisation, or society.



- **Competences of Strength** – Ability to gain and develop your abilities and strengths that can be applied to your education and professional lives.
- **Horizons Competences** – Assess your career prospects creatively by imagining, planning and acting upon career ambitions.
- **Network Competences** – Building valuable relationships and networks that can offer potential support or opportunities professionally.

(Skills Development Scotland, 2012)

Evaluating your career goals and available options is the ideal first step to take towards pursuing your goals. This WebQuest will provide you with an insight into the various elements of career management and goal setting. Let's get started!

PROCESS

Step 1: Science Enquiry

We can begin by defining the field of science. Science can be described as:

"Science is the pursuit and application of knowledge and understanding of the natural and social world following a systematic methodology based on evidence."

(<https://sciencecouncil.org/about-science/our-definition-of-science/>).

Science has also been defined as:

- both a body of knowledge and the process of acquiring new knowledge (Science AU)
- any system of knowledge that is concerned with the physical world and its phenomena and that entails unbiased observations and systematic experimentation (Britannica)
- consists of observing the world by watching, listening, observing, and recording (NASA)

So, what does that include? What jobs are available to you by studying Science?

Below, you will find a collection of links relating to **different career pathways** you could follow in **the field of science**.

Science Careers: <https://www.sciencebuddies.org/science-engineering-careers>



Science and Research <https://nationalcareers.service.gov.uk/job-categories/science-and-research>

9 Science Careers: <https://www.thebalancecareers.com/science-careers-525645>

Pursuing a career in scientific Career: <https://youtu.be/LhU9PduyZAU>

Why a career in science is for me? <https://youtu.be/Jm2rB29enN4>

For more information on **women in STEM (Science)**, click on the following links:

Women in Science who Changed the World: <https://youtu.be/W53Ks824GTA>

For the Future of Women in Science, Look to the Past: <https://youtu.be/YtdDOOf07hC0>

Making Women in Science Visible: <https://youtu.be/386kmzBH4Co>

Women in Science Encourage Young Girls: <https://youtu.be/ga4Gh36dnfU>

Step 2: Upskill and Fulfil

Now that you are excited about the opportunities waiting for you to jump on and fuelled by the motivating female role models paving the way for future generations, we can begin writing your career management plan. What type of science career peaks your interest? What skills are key to this pathway?

An important step when engaging in career planning is exploring your personal motives pursuing a particular career, as well as exploring what skills you already have and how they can be put to use in future work. Science is a skill-based field that requires determination and perseverance, there is no easy road around it.

Use the following links to learn more about the skills related to the **field of science**:

Would a career in Science suit me? <https://targetcareers.co.uk/career-sectors/science/835-would-a-career-in-science-suit-me>

Skills and Attributes that Contribute to Success in Science or Engineering:
<https://www.nap.edu/read/5129/chapter/10>

Stem skills:

https://skillspanorama.cedefop.europa.eu/sites/default/files/EUSP_AH_STEM_0.pdf



Being aware of your profile and your strengths is key to completing your career management plan. This will allow you to specify what skills you can bring to the table, need, and can develop to follow your dream career.

Identifying your strengths, abilities and competences are a great first step in planning your Career Model Canvas. Being a motivated employee plays a formative role on the whole employee body. Studies have shown that motivated employees are factors in performance, productivity, employee engagement and overall work satisfaction and fulfilment.

For more information on how you can be more motivated at work, click on the following links:

The Science of Improving Motivation at Work:

<https://positivepsychology.com/improving-motivation-at-work/>

What Motivates You at Work:

<https://www.forbes.com/sites/markmurphy/2018/07/29/what-motivates-you-at-work/>

How To Stay Motivated – The Locus Rule

<https://www.youtube.com/watch?v=8ZhoeSaPF-k>

What Motivates Women to be Leaders:

<https://www.forbes.com/sites/joanmichelson2/2020/09/30/brand-new-study-identifies-top-motivations-of-high-achieving-women/?sh=3e939aa1e8c2>

The next step is to build a mind map of good practices that you can help strengthen your motivation in the workplace. Mind maps can be a great visual tool to organise your ideas on paper.

For more information on **how to write effective mind-maps for your career planning**, use the following links:

Online Mind map: <https://www.mindmup.com/>

How to Brainstorm with Mind Maps: <https://www.mindmaps.com/how-to-brainstorm-with-mind-maps/>





What's on your Career Mind Map?: <https://www.cultivatae.com/mind-map-career/>

Step 3: Why me?

In the previous sections, we have discussed the value of becoming self-aware of your strengths and capabilities for the execution of your duties in the workplace. It is now time to dig deeper into the core competencies that will develop motivation in your field of work, and inspire you to take the necessary steps in furthering your career through targeted networking. Being motivated is the initial tool against adversity that may arise in your professional life.

Facing challenges with a curated skill set can help you to be more willing to learn from the errors of your past. The following table will assist you in identifying these skills. We recommend you copy the following table and fill it in accordingly. Use the scale 1-10 to rate each of the competency, 1 being the lowest and 10 the highest where necessary.

Skill/ Competency	Importance to the role	Skill Strength	Strategy to upscale skill	Strategies implemented? (complete at a later stage)
Critical thinking				
Problem Solving				
Interpersonal Skills				
Analytical Skills				
Quantitative reasoning				
Time management				
Teamwork				
Creativity				
Communication				



Attention to Detail				
Leadership				
Educational Commitment				
Entrepreneurial skills				
Working under pressure				

When managing your career, be prepared to:

- 1) Set realistic, reasonable and attainable objectives. Setting unattainable goals will lead to frustration, de-motivation and possible failure. Instead, opt for smaller achievable goals that will ultimately lead to the ultimate objective.
- 2) Ensure your objectives are quantifiable. You can do this by setting deadlines, for instance, so that you have a point of measure.
- 3) Understand your goals may require a flexible approach. This will include adapting to new circumstances, changing the pace as appropriate, and being in tune with the needs of the situation.

Step 4: Analyse the Labour Market

The next step is to analyse the labour market of the career you are pursuing. By understanding the labour market, you will be able to adapt the direction or path you may wish to take towards success.

In order to begin a career in the Science sector, you will need to review the **requirements of the specific job you are moving towards**. Click on the links below for more information:

Research Scientist Job requirements: <https://targetjobs.co.uk/careers-advice/job-descriptions/research-scientist-job-description>



How to get a job in science: <https://gradireland.com/careers-advice/science-and-research/how-get-job-science>

For more information on accounting jobs in Cyprus, check out the following links:

Jobs in Science: <https://www.carierista.com/en/jobs/search/any/scientific-jobs>

Using the links above you can explore the skills and educational qualifications required to apply for a career in science. This will help you complete your Career Model Canvas.

Step 5: Time for Action: *Career Model Canvas*

After determining your strengths, networks, and horizons of your career in Science, it is time to begin drafting your Career Model Canvas. This tool will play a monumental role in your career planning and will help you write a detailed plan of action! Reflecting on your career through a Career Model Canvas will invite you into an interactive process, which shows the benefit of career development (Skills Development Scotland, 2012).

This is the final step! Congratulations! Now it's time to make use of this resource to begin your new career path. This resource will act as a visual aid in your career management and will help you plan the future. Using the document below, you can draw your own Career Model Canvas and fill out the sections with the information you have collected in the previous steps of this WebQuest.

In your own Career Model Canvas you will detail:



CREATE YOUR OWN CAREER MODEL CANVAS



CAREER OR JOB TITLE:

Key Partners (Networks) <i>Include an overview of networks in your region, nationally and across Europe where you can access advice on this potential career.</i>	Key Attributes (Self) <i>List here the key personal attributes that you have, that are particularly useful for your new career. Describe who you are and what you can bring to this role.</i>	Value Proposition (Strengths) <i>List your key strengths, highlighting the skills and experiences that you can bring to this new career. Try to answer the question: 'What sets me apart from other candidates in this role?'</i>	Soft Skills (Strengths) <i>List here the soft skills (communication, teamwork, collaboration, etc.) that you have and identify how they can be used in this new career.</i>
Key Values (Self) <i>List here what is important to you in a career, and in life. List your intrinsic and extrinsic motivations, and state what your personal goals are for this new career.</i>		Transferrable Skills (Strengths) <i>List here the main transferrable skills that you have from other experiences and life roles. Include an example of how these skills can be applied in your new career.</i>	
Revenue (Horizons) <i>Research and summarise the salary potential of this role and estimate the opportunities for advancement in this sector for your own career.</i>		Growth Potential (Horizons) <i>Research and estimate the potential growth in this sector in your country, across Europe and globally.</i>	





Click on the following link to **develop and complete your personal Career Model Canvas**:

Your own Career Model Canvas: <https://careerdesigncanvas.ca/>

EVALUATION

On completion of this WebQuest, you will have achieved the following learning outcomes:

Maths	Knowledge	Skills	Attitude
	<ul style="list-style-type: none">• Theoretical knowledge of potential career pathways into science careers.• Theoretical knowledge of national and European career options in science.• Theoretical knowledge of national and EU programmes for women in science.• Theoretical knowledge of personal traits required for career success in this sector.	<ul style="list-style-type: none">• Discuss career options in the science sector.• Self-evaluate personal compatibility to careers in this sector.• Self-assess skill limitations for a successful career in science.• Develop an education and profession plan for success in the science sector.• Discuss different careers within science.	<ul style="list-style-type: none">• Willingness to self-assess your motivation to pursue a career in science.• Awareness of the important role that women play in science.• Willingness to research career options in science.• Openness to share what has been learned and shared with other female professionals in a network.



		<ul style="list-style-type: none">• Research successful female role models in science.• Solve challenges to build resilience when planning a career in science.	<ul style="list-style-type: none">• Willingness to engage in the wider female networks in the science sector.• Readiness to self-evaluate to identify skills and attributes needed to succeed in the science careers.
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As a self-assessment for this WebQuest, complete the following questions below:

1. According to the Science Council, science is defined as “the pursuit and application of knowledge and understanding of the natural and social world following a systematic methodology based on evidence.” True or False?

Answer: **TRUE**

2. Women make up 67% of research positions across the European Union, as reported by UIS UNESCO (2020). True or False?

Answer: **FALSE**

3. Why is it important women are involved in the research field?
 - a) To gain more publicity for political elections.
 - b) To involve the perspective of a significant percentage of the world’s population will be left out of global decision making and change.
 - c) They are smarter than men.
 - d) They protest too much.



Answer: **(b)**

4. How does the absence of women in science research affect a country's economic growth?
- a) It doesn't
 - b) Less people apply for funding opportunities.
 - c) Loss in human resource
 - d) Loss in possible competition

Answer: **(c)**

5. Which of the following traits are common among scientific researchers?
- a) Problem-solving
 - b) Interest in astronomy
 - c) Interest in the human body
 - d) All of the above

Answer: **(a)**

CONCLUSION

Congratulations! Career planning is a tool to help you identify, plan and succeed in your goals. This begins with defining your objectives which are most likely based on your interests, competences, and skills. It is integral to have coherent and effective objectives and an appropriate plan to achieve them. By writing up your Career Model Canvas, you have ultimately written a career plan with clear reflections on what you plan to achieve. By completing this WebQuest, you have gained the necessary knowledge and experience in how to plan your career in science. This sector is a promising and exciting industry to work in and you have the skills to bring excellence, innovation, creativity and so much more to the table. Female scientific researchers have the understanding and power to revolutionise the science sector and re-imagine the field as a whole. As a scientist, you may have the opportunity to make a difference in the world! What are you waiting for? Get started on your new career move today!



“My mission in life is not merely to survive but to thrive and to do so with some passion, some compassion, some humor, and some style.”

- Maya Angelou





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References

<http://uis.unesco.org/sites/default/files/documents/fs60-women-in-science-2020-en.pdf>

