

# SCIENCE CAFÉ OR CAFÉ SCIENTIFIQUE



**MUSEUM**

## INTRO

The toolkit is a ready-to-use digital collection of modules aimed at teenagers to be used by teachers, informal learning organisations, researchers and industry.

The aim is to engage young people and especially girls in STEM and in the discovery of the variety of STEM related careers in a gender inclusive way. The toolkit includes a wide range of hands-on activities: workshops with a scientific content, informal discussions and meetings with STEM professionals.

Each module is composed of three guidelines:

- Explanatory guidelines specific for each activity
- Guidelines dedicated to the theme of gender inclusion
- Guidelines with suggestions for the facilitation

The guidelines give practical support and guidance for the users, recommendations on how to debate gender approaches and differences with young people, support and guidance for facilitators on how to overcome their own stereotypes and suggestions on how to manage the group dynamics by implementing different facilitation strategies.

The toolkit is produced in the context of the Hypatia project by five science centres and museums (NEMO Science Museum, Museo Nazionale della Scienza e della Tecnologia “Leonardo da Vinci”, Bloomfield Science Museum Jerusalem, Experimentarium, Universcience) in collaboration with gender experts, teachers, research industry institutions and teenagers.

The Vision of Hypatia is of a European society that communicates science to youth in a gender inclusive way in order to realise

the full potential of girls and boys around Europe to follow STEM related careers.

Below is the complete list of modules that compose the Toolkit, divided into the three contexts.

#### Schools

- Find Gender Stereotypes in STEM Representations
- Gender Inclusiveness in your Science Teaching
- Inquire: Shape and Action
- Play Decide Game & Debate
- Science Ambassadors and Ambassadors
- STEM Women Cooperative Card Game
- Test Yourself
- What's your Opinion?

#### Science Centres & Museums

- Find gender stereotypes in STEM Representations
- Science Café or *Café Scientifique*
- STEM Women Cooperative Card Game
- Test Yourself
- Wearable Technology
- Your Role in Research: Inquiry into Chemical Reactions

#### Industry & Research Institutions

- Gender optimizing software programming
- Science Ambassadors and Ambassadors
- Skill Game
- Speed Dating
- Your Role in Research: Inquiry into Chemical Reactions

## **SCIENCE CAFÉ OR CAFÉ SCIENTIFIQUE**

### **AT A GLANCE**

Age Group	13 – 15 or 15 – 18
Format	Meet a STEM professional
Duration	2 hours

### **OVERVIEW**

The Science Café focuses on broadening the scope when it comes to choosing a future career. Many girls find it difficult to see themselves within the field of science and technology and specifically within the field of technology. Some of this is due to boundaries often associated with gender.

This activity is a facilitated discussion following the principles of *Café Scientifique*. Facilitators educated in these principles will create a dialogue meeting between a couple of female scientists from various fields and a group of teenagers. The topics to be discussed will be chosen by the researchers, and facilitators will create the discourse for the meeting. Researchers should be asked to also focus on their career and touch on the challenges they have met and how they managed to overcome them.

Following the opportunity to meet with real life scientists, participants are given the chance to reflect on what role gender plays when choosing a future education and career, and in what way gender has affected the professional lives of the female scientists.

## OBJECTIVES

The objective is to enhance awareness about the possibilities in the world of science and break down possible (un)conscious biases people might have about scientists with a specific focus on female scientists. Many teenagers lack a variety of real life role-models they can relate to, and the Science Café gives them the opportunity to meet up with researchers that can tell about their personal motivations and choices – and the challenges and opportunities they have met along the way. The participants may even be inspired to choose a career within STEM.

## SUGGESTED SCENARIO

The scenario is well-placed in an informal science learning setting such as a science center or museum. It can also be placed in other settings, where a group can be gathered in a relaxed, egalitarian and informal way. It is important that the setting creates an atmosphere, where you are not expected to take notes, rather the participants should be inspired to enjoy themselves and engage in discussions. It is a place where anyone can come to explore the latest ideas in science and technology and can also take place in cafes, bars, restaurants and even theatres, but always outside a traditional academic context.

## TARGET AUDIENCE

Age	13 – 15 or 15 – 18
N. participants	20 – 50
N. facilitators	2
Type of audience	Teenagers and their teachers

## FORMAT

Presentations by role models in science and moderated plenary discussions.

## TOPICS COVERED BY THE ACTIVITY

This activity aims towards giving career guidance targeted to teenagers in regards to the education and career paths they might choose or aspire to choose and specifically focusing on STEM careers.

## DURATION OF THE ACTIVITY

Suggested duration: 2 hours.

## RESOURCES

This moderated discussion uses a mix of presentations and Q&A-sessions.

The following table with recommended materials will cover any needs for running the workshop.

## MATERIALS

Video projector and screen		1
Coffee/tea and cake or biscuits		Enough for all participants
Poster post-it or flipchart		1

## USEFUL LINKS, VIDEOS, ARTICLES

- [cafescientifique.org](http://cafescientifique.org)
- [sciencecafes.org](http://sciencecafes.org)
- [the-twist-project.eu](http://the-twist-project.eu)
- [Hypatia project](#)

## SETTING

The venue needs to strike a balance between being large enough to accommodate the audience and small enough to allow them to hear each other and interact successfully. We recommend that the size is 20–40 persons. Above this number it can be hard to have a lively discussion, where everyone feels addressed.

Set time aside to let the teenagers engage in activities or exhibits after or during the Science Café if it is held in an institution that has such activities. These can range from engaging in a science exhibition on water to engaging in an activity that focuses on health for example. This will also give an opportunity to further inspire and engage.

Sometimes teenagers see science as difficult, boring and ‘a closed world of its own’. By putting science back into culture and everyday life – and doing it in a setting, where everyone is feeling comfortable – it hopefully becomes relevant and intriguing.

## DESCRIPTION AND TIME SCALE

### GROUP MANAGEMENT

Science Café will usually be held in plenum, yet it is optional for the researchers to suggest small group discussions during the café in order to engage all of the participants.

## INTRODUCTION

The Café Scientific starts with an introduction to the researchers and the aim of the day – to broaden and inspire towards the scope of possible education and career paths for the participants. Facilitators will encourage participants to ask questions, participate in discussions and otherwise contribute from the very beginning.

### DEVELOPMENT OF THE ACTIVITY

It is important here to mention that the following is merely meant as examples and can be seen as inspiration to the organisers and researchers. The different parts included in the examples will also vary from country to country and from institution to institution.

The number of speakers is one of the first things to consider. Is a single speaker enough if combined with a well-facilitated discussion? It can be. Yet, often two scientists will cover a broader spectrum of science and give different perspectives on STEM and also on gender-related issues. Three or more is also an option, but it requires that the facilitators can balance the different parts of the café in order to make room enough for each scientist, yet keeping an eye on the overall timeframe. This risk if you have a 'panel' of speakers is that the audience becomes viewers of, rather than participants, in a debate. It is crucial that the visiting scientists are good at addressing and relating to the participants.

It can also be a good option to mix different kinds of speakers, so that different perspectives are given and discussed. Scientists are one kind of group (that can easily be divided into several subgroups), yet also people from other parts of

society can be inspiring, when it comes to discussing STEM and gender, e.g. philosophers and sociologists – maybe even politicians.

In order to get the right persons as speakers, take contact to different groups and organisations. It can be outreach departments of your nearest university, scientists that are used to work with education and teenagers, the local council, NGO's. It all depends on what works in your local circumstances.

At the beginning of the café suggest introducing gender and why it is important to reflect on and even challenge gender stereotypes when considering a future career path.

#### **Suggested program and time schedule:**

- **12 minutes welcome and introduction** to Science Café, the topic is briefly introduced, welcome to participants and researchers and welcome to the 'set-up' – which is briefly explained.
- **2 x 20 minutes talks.** Each scientist (or other speaker) presents themselves, their fields, personal choices and considerations and challenges they have met along the way. Q&A sessions after each presentation.
- **15 minutes break** after either the first or second presentation. (Remember there may only be one presenter).
- **40 minutes discussion.** It might be a good idea to prepare the overall discussion question with participating teenagers before the Science Café. This would also add to a sense of ownership. It might even be a possibility that one of the participating teenagers presents the discussion question in the beginning and why they have chosen it. The following question is simply an example of

what a question might look like: "Is it a problem that fewer girls than boys choose to follow a career in science and technology?". The discussion is facilitated by the organisers.

- **Conclusion, 10 – 20 minutes.** What do we take home from the café?

#### **CONCLUSION**

To conclude the Science Café we end with an evaluation and reflective feedback. Participants are asked to discuss in small groups (or two and two) if this has made them reconsider the options they have in regards to choosing a future career path and study. Equally important is whether their view upon gender and the career stereotypes often associated with these has either changed or been challenged.

After the groups or pair discussions there will be a short plenum discussion. The organisers thank the researchers and teenagers (and teachers) for showing up and taking part in the café.

#### **GENDER INCLUSION CRITERIA**

The "gender inclusion criteria" developed in the Hypatia project are relevant for the adaption of software programming classes and should be reflected on and discussed with the people who are offering such a class or activity. Even more they might lay the ground for the success criteria in which to measure the results of the adapted activity. The following are some examples of how this workshop addresses gender inclusivity on the different criteria levels.

## INDIVIDUAL LEVEL

- Includes presentations or talks by scientists, who are asked beforehand to reflect on their own experiences as women (or men) in science. They bring their experiences to the participants, who are about to choose their own careers.
- Introduces participants to the concept of gender and the role it plays when choosing what to study.

## INTERACTIONAL LEVEL

- Will alternate between different types of discussion formats such as group discussions, plenum debates and for example short discussions in small groups.

## INSTITUTIONAL LEVEL

- Can take place in a physical learning environment where participants can come together in plenum. It might be supportive if the setting is informal and could be followed by a chance to try out hands-on activities or other exhibits related to science – in other words perhaps in a science center or museum.
- Might bring up how an institution might influence the teenagers' feeling of being included and discuss and reflect on what gender representations are found and used in their school or workplace.

## SOCIETAL/CULTURAL LEVEL

- Will touch on the way gender is implicitly or explicitly conceptualized in society in general and how this concept is created and maintained through media, politicians and other powerful groups. Depending on the time participants can reflect and discuss more on this.

## LEARNING OUTCOMES:

- At the end of the Science Café the participants should be able to:
  - Reflect on different career options in STEM and how gender biases may influence their own understandings of possible study and career paths.
- At the end of the workshop participants should have acquired some of the following:
  - Knowledge of certain career possibilities within STEM.
  - A clearer understanding of what being a scientist might encompass.
  - Understanding of everyday life and/or careers of scientists.
  - Some knowledge on gender issues in science
  - Knowledge and ideas that can inspire them when choosing a future career path.

## PARTNER DETAILS

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Cover image: the Danish Science Center Experimentarium, Hellerup, Denmark.

## **GUIDELINES ON GENDER BALANCE**

### **WHY IS IT IMPORTANT FOR PEOPLE OF ALL GENDERS TO STUDY AND WORK IN STEM AREAS?**

In the coming years, with Europe's knowledge economy developing and new technologies on the rise, skills in science, technology, engineering and mathematics (STEM) are becoming increasingly necessary in order to guarantee an adequate & professional workforce in a broad range of careers. It is therefore imperative to attract and recruit more youth to STEM study programs and ensure the diversity of STEM-trained professionals. The Vision of Hypatia is of a European society that communicates science to youth in a gender inclusive way in order to realize the full potential of girls and boys around Europe to follow STEM related careers.

Institutions and facilitators responsible for implementing science education activities, such as schools, museums and industries have a key role in this. They may influence the ways in which learners construct and negotiate their gender and their attitude towards STEM. This is why it is important to reflect on the gender and science biases we have, to acknowledge the stereotypes and make sure we do not perpetuate them in our interactions with the participants.

### **FACILITATING GENDER INCLUSION**

In facilitating gender inclusive activities it is important to be aware of a few significant concepts.

## **GENDER AND SEX**

Sex refers to biological characteristics and functions which distinguish between males and females: chromosomal sex, gonadal sex, morphological sex.

Gender refers to the social construction of men and women, of masculinity and femininity, which differs across time and space, and across cultures. It is a hierarchical and hierarchizing system of masculine and feminine norms.

## **GENDER STEREOTYPES AND SKILLS**

A gender stereotype is our social perception regarding the attributes of males and females (character, abilities, tendencies, preferences, external appearance, types of behavior, roles, career paths etc.) and our tendency to relate such attributes to individuals of each sex, prior to meeting them (example of stereotype: male are more rational and female more emotional).

When we talk about gender stereotypes and science we refer to roles and abilities that are supposed to be "suitable" for males and for females in science (for example engineering and building are associated more with males than with females).

## **GENDER AND SCIENCE**

STEM are fields of inquiry and knowledge. Like other forms of knowledge, they may include gendered dimensions. When the gender variable is not taken into account by researchers, this can influence the results: for example when medicines are not tested on both male and female. Furthermore, there is a persistent gender gap in the production system of scientific and technological knowledge and in many European countries women are over represented in biology and medical sciences while they are

under-represented in mathematics or informatics. Besides, women are less likely to reach a high level of responsibilities in sciences.

They are depicted as rational, intellectual and independent, and these characteristics are often associated with masculinity. This means that boys or girls who do not identify with such characteristics will think that STEM studies and occupations are “not for them” and avoid STEM completely. This is why it is important to present a complex and diverse image of science.

### **SUGGESTIONS FOR THE IMPLEMENTATION OF THE ACTIVITY**

Defining, recognizing and implementing gender inclusive activities is complex and challenging and requires a constant auto reflexivity of the facilitator about his/her own gender stereotype and bias. Here are some practical indications and reflection questions to assist the facilitator in being inclusive.

### **INTERACTING WITH THE GROUP**

- **Neutrality in assigning tasks and roles**

*How will I assign tasks? What responsibilities will I assign and to whom?*

Avoid assigning stereotypical gendered roles to participants that may contribute to the internalization of ‘female’ or ‘male’ identities, for example asking boys to build things and girls to take notes. Ensure that the different roles required by the activity are rotated between participants.

- **Attribution of success and failure, overcoming stereotypical responses**

*Do male students who have failed link their failure to themselves or to external factors?*

*Do female students who have succeeded link their success to themselves or to external factors?*

Set a high level of expectations for both sexes. Avoid over indulging with the girls (this leads to dependency rather than independence). Encourage both girls and boys to take risks.

- **Adopt a “Wait Time” to encourage girls to speak in an environment of risk-taking boys who might respond faster than they do**

*How attentive was I to the students’ responses? How long did I let them speak for?*

Wait 4–5 second before calling on a student to answer a question. Delaying the answer enables all the students to respond, thus giving everyone the opportunity to come up with it.

- **Interaction with the sexes to overcome the tendency to engage with male students more than with females:**

*Did I direct questions to boys more than to girls?*

Be aware whether the questions are directed more to boys or to girls.

- **Unaware expression of stereotypes**

*Did I pay attention to the students’ behaviour in relation to their expression of gender stereotypes?*



Teenagers often reproduce gender stereotypes unconsciously or in a subtle way. This might be taken as the chance to underline it and use it as a point of reflection.

#### **DURING A DISCUSSION**

- *Are boys more interested in building things and girls in decorating the things produced? Can you switch these roles in the activities?*

Challenge learners to depart from their preferred interests and widen their engagement in science (many children have gender stereotypic interests that might be challenged).

- *Do you think it could be useful to introduce and discuss the concept of gender or stereotype before or after the activity?*

Consider if a forgoing explanation of the main concepts about gender and about the terminology/concept connected could enrich the discussion.

- **While facilitating a discussion**

Acknowledge that different learners have different kinds of prior knowledge that may be relevant in different ways. Discussion can take its point of departure in what learners already know about the subject matter.

#### **MEETING A STEM PROFESSIONAL**

Role models are effective in stimulating girls' and boys' interest in STEM. Many activities have STEM professionals as protagonist or give examples of STEM professionals. It is important that these role models do not reinforce gender stereotypes.

- *How many men and how many women appear in the example of STEM professionals I give in the activity? Are they stereotypical?*

Keep a balance between the number of females and males as speakers or examples. Where possible ask them to talk not just about the scientific content but also about their personal life.

Ensure that the involved science educators and scientists reflect a broad variety of personalities. Girls and boys are most inspired by role models they feel psychologically similar to themselves (as regards to origin, culture, age, etc.). Otherwise, the standards set by the other person can be seen as contrasting, and girls and boys may react against them.

- *In the activities, do I present the variety of STEM – from computer games to engineering?*

While choosing STEM professionals and examples involved in the activity, ensure that the diversity of science is represented to the largest extent possible.

## **FACILITATING AN EXPERIMENTAL SITUATION**

While dealing with a specific scientific content participants might not see clearly how this is related with gender balance in STEM. Hypatia activities aim to propose unexpected ways to approach science and scientific content (like chemistry, robotics or making), breaking the stereotypical perception of STEM. This serves to introduce and disseminate a different view of the world of science, unveiling different aspects with which more people – girls and boys – can identify. You can emphasize this aspect while facilitating an activity focused on scientific content rather than on gender.

- For example, an activity framing technology such as the one on wearable technologies could attract more girls than one on transport or missiles.
- Many girls feel more comfortable in a situation based on cooperation, and others even avoid competitive activities. The facilitator could present a challenge with a “story” behind and not just as a competition, or pay attention in balancing competition and cooperation in the same activity.
- Many studies show that girls learn better in an environment that is esthetically pleasing. This is why it is important to create a pleasant and esthetic environment for the activities.

## **USEFUL LINKS ABOUT GENDER INCLUSION IN THE CLASSROOM**

### **HYPATIA’S THEORETICAL FRAMEWORK**

The present document proposes a framework to address gender inclusion in STEM activities. It gives rise to a set of criteria for the analysis of the gender inclusiveness of existing STEM education activities, or for the design of new, gender-inclusive activities.

[Theoretical Framework](#)

### **GENDER EQUALITY IN THE CLASSROOM**

We are frequently unaware of the manner in which we relate to boys and girls. School classrooms are no exceptions. Here is a list of points of attention and suggestions aimed at improving the degree of equality in the class in order to encourage girls and boys to pursue the fields of STEM.

[Gender Equality in the Classroom](#)

## **GUIDELINES ON FACILITATION**

### **A BIT OF ADVICE FOR GOOD FACILITATION**

A key element for good facilitation is the active involvement of the participants every time a concept or content is presented.

Involvement means for example:

- Considering participants' personal experience as a starting point of the engagement.
- Building on their own point of view or prior knowledge.
- Embedding continuously the contributions of the participants in the process.

Facilitation is not easy; it takes practice, time and reflection! In order to transfer these concepts into practical situations – and thus to foster engagement, interaction and discussion – you can find a brief list of suggestions below. They can be helpful in developing good facilitation.

### **INTERACTING WITH THE GROUP**

- Prepare the environment where the activity will take place in advance, organize the space according to the needs of the activity, even changing its usual structure if needed (i.e. you can move tables and chairs around).
- Make sure that all participants can see and hear well.
- Keep eye contact with the participants.
- Address participants as peers rather than as passive spectators or ignorant individuals.
- Listen to people and use their own terms.
- Use questions as much as possible – they can be a useful tool to encourage interaction among the group.
- Stimulate reflections among participants.

- If possible, ask and build on information or elements that can be discovered through direct observation.
- Engage people by linking to their personal experience.
- Encourage participants to express their opinion and elaborate their own considerations.
- During an activity, you might want to organise different group settings – work in smaller groups or in pairs, create plenary moments – to help engagement and better interaction with the experience.
- Before interacting with the participants in plenary, you might want to ask participants to discuss in small groups as a “warm up”. This helps involving the shiest people or helps everybody to feel more comfortable about the topic before sharing any consideration in plenary.
- When the discussion is set in small groups, move around the groups checking on work and discussion, and intervene – only in case of difficulties!
- In plenary, try to address everyone as much as possible, encouraging everybody to participate and engage.

### **FACILITATING AN EXPERIMENTAL SITUATION**

- Try to make the activity as participatory as possible: every participant should have the possibility to engage directly with the experiment; avoid demonstrations.
- Do not reveal the results of the experience before the participants' own discoveries and considerations.
- Encourage participants to make initial hypotheses/descriptions/comments about what they think would happen.
- Keep the experiment at the centre of attention and of the discussion.

- Engage learners through an alternation of manual activity, questions and discussion.

### **DURING A DISCUSSION**

- Engage learners through a balance of open-ended questions, closed questions, discussion and exchange of opinions, etc.
- You might want to use provocative dilemmas as tools for debate. Disagreements can be valuable for analysing notions and negotiating views, use them constructively.
- Stimulate and build not only on participants' already-acquired knowledge but also on emotions and imagination.
- Challenge the participants at a suitable level.
- Avoid:
  - A didactic approach and the assessment of participants' knowledge.
  - Monologue.
  - Specialized terms with no reference to real objects.
  - Seeking and dealing only with the correct answers or, even worse, with the correct questions.
  - Not listening.

### **HOSTING A STEM PROFESSIONAL**

- You might suggest to the speaker to alternate between questions and speech allowing participants to take up a more active role and prevent long talks.
- Before introducing a STEM professional, you can ask participants to share their perception about the particular profession, and then discuss it with the speaker.

- Young participants, when they have the possibility to ask free questions, often seem to be interested in the speaker's daily personal lives, in their career path and about what they were like when they were students. You can suggest that speakers use these topics as "hooks" during speeches and conversations.

It helps if speakers bring tools or objects from their daily work with them as examples from their daily practice.

### **QUESTIONS: A FUNDAMENTAL TOOL FOR LEARNING**

Building a relationship with an object is like 'getting to know a new person'. Indeed, this kind of comparison can help understand a possible way of developing questions to be used in learning experiences. In the process of getting to know a person or starting a conversation we move from the basic and concrete to the abstract and more complex. Using questions in a learning situation involves similar steps: starting from basic information (usually elements that could be discovered through observation) working at levels where there is compatibility (i.e. levels where the pupils can become involved and engage through their knowledge, experiences and views), in order to proceed to the discovery of more complex information and concepts. Such an approach invites learners to search within their own repertoire of knowledge and experience for the necessary elements that would help them discover new insights, while at the same time it can operate as the foundation for the development of questions by the learners themselves.

In fact, we are not arguing here for a linear process of 'facilitator-asks – learners-answer'; rather, we argue for a two-way-contribution process, in which both facilitator and

learners are in the position to ask and answer questions. In this sense, questions are the stimulus for initiating dialogue, the tool and *not* the objective. They help new knowledge to be elicited and information to be added within a free flow of ideas, leading to the broadening of understanding.

What are the types of questions that would operate as the method for eliciting information and interpretation, for initiating constructive dialogue, for developing skills and self-confidence in learners – and facilitators themselves?

First of all the basic categories:

- Closed questions – the ones that have only one correct answer.
- Open questions – those that accept more than one correct answer.

Closed questions are usually used when we seek specific information about the phenomenon/topic/exhibit/object etc. and can be further divided to:

- Questions for examination: Answering those questions requires careful examination. The answers offer the first information on the basis of which we construct more detailed knowledge.
- Questions for explanation: The answers offer an explanation – how something works, how it was created, etc. and are closely related to the information derived from the examination questions.
- Questions for comparison: These stimulate comparisons with other situations of the same type, materials, dimensions, etc. and encourage the identification of similarities, differences and connections with the learners' personal knowledge and experience.

On the other hand, open questions encourage the expression of personal views, the employment of pre-existing knowledge of the learners, and the search for personal meanings. Discussion and open-ended questions offer learners the opportunity to pool ideas and share insights in the group followed by opportunities to develop understandings further through deploying and defending insights and opinions.

Open questions can be divided into the following categories:

- Questions for problem-solving: Those demand the use of critical thinking, imaginative thinking, hypothesis and analysis skills and ability for using knowledge for problem solving.
- Questions for prediction: The answers to those questions offer predictions in instances of changes of parameters.
- Judgement questions: Answers to those can be very personal and unique. They demand choices, evaluation of a situation, justification, etc.

You should be seeking a balance between closed and open questions. Asking only closed questions might create a feeling of ignorance among those learners who find it difficult to answer them, since they require relatively minor use of skills and more of specialised knowledge. Closed questions should be used for exploring the object and the new knowledge around it, and, in addition, offer the basis on which to ask the open questions. For any learner, answering open questions implies using their personal context to find the new information. It also enables them to use their own personal experiences, emotion, imagination and skills for meaning-making and personal interpretations.

In the philosophy of an interactive, constructivist approach to learning, the asking-answering of questions means not only the acceptance of more than one correct answer (through open questions), but also 'allowing learners to get things wrong', that is, not allowing a learning situation to be limited by seeking only 'correct' answers, or by the expectation of pre-determined outcomes. It is important that the facilitator does not jump in too quickly to correct learners, but rather uses the conflicts that arise between their different perspectives helping them to see that there are standards and that their own interpretations are not necessarily the same or as good as those held by other learners. Learning results from reference to, and drawing from, learners' own understanding of situations, and opportunities for exploration through trial and error.

# Hypatia PROJECT

Hypatia is an EU Horizon 2020 funded project that addresses the challenge of gathering different societal actors around bringing more teenagers, especially girls, into STEM careers both in school and as a choice of learning and career in the future. It aims at changing the ways sciences are communicated to young people in and out of school to make them more gender inclusive.

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