社會進步

解開女性在 STEM 領域困境之密碼

設計者

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國際教育課程主題

全球議題—正義與人權—
教育與性別平等

永續發展目標

學習階段

二年級

融入領域/類科

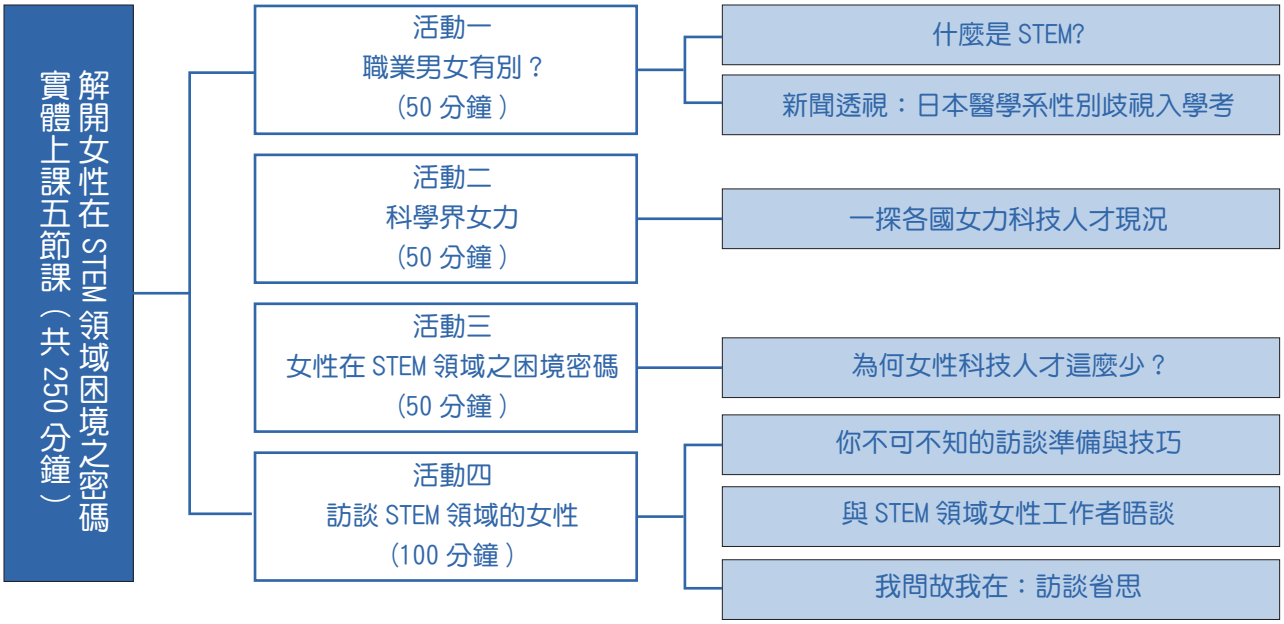
英文

教學時數

5 節課
共 250 分鐘

SDGs 目標	**目標 (Goals)：SDG1 消除貧窮** 4.a. 建立及提升適合孩童、身心障礙者以及兩性的教育設施，並為所有的人提供安全的、非暴力的、有教無類的、以及有效的學習環境。 5.1 消除所有地方對婦女的各種形式的歧視。
設計理念	STEM 領域涵蓋科學 (science)、科技 (technology)、工程 (engineering) 與數學 (mathematics)。STEM 教育精神在於培養 21 世紀關鍵能力與全球競爭力的人才，與其相關的工作事實上也多與 SDGs 目標息息相關。然 2017 年 8 月 28-30 日聯合國教科文組織 (UNESCO) 在泰國曼谷針對女性在全球接受 STEM 教育與職業生涯報告，並發表 Cracking the code：Girls' and women’s education in science, technology, engineering, and mathematics (STEM) 報告書。女性在因個人、家庭、學校、同儕與社會因素影響，於 STEM 教育進修的決定遠比男性低，即使在 STEM 領域工作，人數也遠低於男性人數，工作表現也無法與男性一般得到同等的實質報酬。 本課程設計盼學習者明白目前全球女性在 STEM 教育或工作職場的事實與數據，同時瞭解如何鼓勵女性投入 STEM 教育、參與相關職業，最後與目前正在 STEM 領域工作的女性訪談，讓學習者更能體會在這領域的女性工作者的學習歷程與工作甘苦。本課程學習過程仰賴合作學習，透過圖片、數據、影片等媒介學習，最後透過訪談，讓學生結合其真實生活與前面學習過程，已達成深刻學習。此課程同時也在協助學生探索自我，為其未來職涯規劃作準備。
國際教育能力指標	2-3-1 具備探究全球議題之關聯性的能力 4-1-2 瞭解並體會國際弱勢者的現象與處境
學習目標	1. 學生瞭解教育對每個人的重要性 (正規和非正規學習) ，是永續發展的主要動力，可改善人們的生活和實現永續發展目標。 2. 學生瞭解教育是對民眾及全球都有益處的事，是基本人權，是實現其他權利的基礎。 3. 學生瞭解性別、性別平等和性別歧視的概念，且瞭解各種形式的性別歧視、暴力和不平等 (例如，種種有害作法，包括：割掉女性生殖器官，榮譽處決 (honour killings) ，童婚，不平等的就業機會和工資，語言結構，傳統的性別角色，自然災害的性別影響) ，以及過去及目前性別不平等的原因。
探究或行動	學生與小組同儕一同規劃訪談，除了熟習訪談流程及須注意的事項，經由與從事 STEM 領域工作的女性受訪者互動，一同探究女性投入 STEM 領域之景況，進而省思自己如何鼓勵更多女孩修讀 STEM 教育，或從事 STEM 領域工作。

壹、教學活動架構



貳、教學活動

活動一：職業男女有別？（50 分鐘）

一、什麼是 STEM?（10 分鐘）教學步驟：

（一）班上分成小組競賽，4-5 人一組。

（二）教師利用附件一：「活動 1：STEM 是什麼？」投影片，讓學生利用投影片上面的圖式，與英文字數的提示，分別找出 S, T, E, M 所代表的意思。

（三）待 STEM 學生找出各代表的意思之後，教師在和學生說明 STEM 是本次課程之主題。

二、 新聞透視：日本醫學系性別歧視入學考（40 分鐘）

教學步驟：

（一）小組進行活動，4 人一組。

（二）閱讀兩篇關於 2018 年夏天日本醫學系性別歧視入學考新聞

（三）與同組成員討論學習單上的問題（參看附件二：「活動 1：新聞閱讀：日本醫學系性別歧視入學考」）

（四）回答附件六：「3-2-1 自我省思表」。

註記：

「3-2-1 自我省思表」於每堂課結束或每一活動結束前使用，教師可藉此理解學生階段學習狀況。

活動二：科學界女力（50 分鐘）

教學步驟：

1. 班上分成小組，4 人一組。
2. 從網站「Women in Science」找出各國女性科學家相關的數據：
   (1) 以地域分類，選出 4 個地域，查詢該地域女性科學家比例，
   (2) 以國家分類，從各大洲各挑選 1 個國家，查詢該地域女性科學家比例，並將相關訊息填入附件三：「活動二：科學界女力」。
4. 與同組成員分享自己的發現。
5. 回答附件六：「3-2-1 自我省思表」。

註記：

必要時，教師可示先示範如何操作網站「Women in Science」(http://uis.unesco.org/apps/visualisations/women-in-science/#overview!lang=en)。

活動三：女性在 STEM 領域之困境密碼（50 分鐘）

階段 1 教學步驟：

1. 班上分成小組，4 人一組。同組負責同一文本，每組負責的文本不一樣。參閱附件四：「活動三：影響女性修讀 STEM 教育之原因」

2. 閱讀各組所分配到的文本
3. 小組討論影響女性修讀 STEM 教育的原因，並回答學習單上的問題

階段 2 教學步驟：

1. 形成新的 4 人小組，此次小組成員不得與階段 1 成員重複
2. 每人輪流分享自己在第一階段閱讀活動

活動四：訪談 STEM 領域的女性（100 分鐘）

一、你不可不知的訪談準備與技巧（50 分鐘）

註記：

1. 教師須先調查學生是否受過訪談訓練。若學生未受過相關訓練，可以參考下列教學步驟帶領學生學習。若學生之前已有訪談經歷，教師只要學生提醒注意地方，即可請學生就訪談一事準備。
2. 本活動可視訪談對象決定使用英文或中文訪談。
3. 本課程設計時數僅計算學生之實體授課時數，以此訪談活動為例，分成三階段進行：籌備、正式訪談、籌備後省思。當中正式訪談並未列入實體授課時數，學生須於課外時間進行，此部分的時間教師可與學生討論，彈性調整。
4. 教師帶領訪談問題設計時，須提醒學生倫理議題部分，要尊重受訪者隱私。學生進行訪談之前，教師要先檢閱設定的訪談題目。
5. 訪談方式不限面對面實體訪談，也可以進行線上訪談。
6. 訪談對象可以包含學校任教科學領域教師，或是校外相關領域人士。建議教師事前掌握願意接受訪談的科學領域相關人士的名單，以提供學生進行訪談。若尋找訪談對象有困難，可以網路找尋 STEM 領域女性受訪的影片，供學生觀賞。

教學步驟：

1. 學生 4 人成一小組。
2. 教師說明本次活動目的：學習 STEM 領域女性職場上的表現並知悉其就學歷程。
3. 教師帶領學生閱讀訪談活動之評量規準。
4. 學生分配工作，完成「工作分配表 (Work Distribution Chart)」。
5. 建議學生使用「訪談問題 (Interview Questions)」學習單，準備要訪談的問題。
6. 完成問題後，繳交「訪談問題 (Interview Questions)」學習單給教師。
7. 回答附件六：「3-2-1 自我省思表」。

*「工作分配表 (Work Distribution Chart)」

學習步驟：

1. 4 人成一小組。
2. 利用「工作分配表 (Work Distribution Chart)」分配每個人之工作。

*「訪談問題 (Interview Questions)」學習單

學習步驟：

1. 閱讀「Meet the real STEM girls: Women in STEM share their stories and inspiration」網站 (https://www.stemgirlsbooks.com/women-in-stem-interviews) 所使用 7 個訪談問題。
2. 與同學討論你們想從這 7 個訪談問題挑出哪 5 個問題當作此次的訪談問題。請將你們最後的決定寫在學習單上。

二、與 STEM 領域女性工作者晤談（此部分為課外時間進行）

(一) 建議學生使用「訪談準備檢核表 (Checklist for Preparing an Interview)」來檢視自己組的訪談進度。

(二) 正式訪談之前，各組須跟教師說明攸關訪談之相關訊息，如受訪者、訪談之時間與地點等。

(三) 提醒學生訪談結束時，記得全組和受訪者一起拍合照。

(四) 訪談結束之後，記得在下一回上課之前，完成小組的「訪談記錄表 (Interview Record)」。

*「訪談準備檢核表 (Checklist for Preparing an Interview)」

學習步驟：

使用此檢核表確保小組訪談可以順利進行。

*「訪談記錄表 (Interview Record)」

學習步驟：

利用此表單記錄小組訪談過程。訪談之前就已知道的訊息可以先行書寫。

三、我問故我在：訪談省思（50 分鐘）教學步驟：

(一) 每位學生須根據小組訪談完成自己的「訪談省思 (Afterthought)」學習單。

(二) 各組的報告者須上台分享 2 分鐘的小組訪談歷程。

(三) 邀請每位學生起身找不同組別的同學，兩兩一對，根據自己的「訪談省思 (Afterthought)」學習單，彼此分享自己就這次訪談得到的收穫與感想。

(四) 下課時學生須繳交下列文件：

1. 整組之「工作分配表 (Work

Distribution Chart)」、「訪談記錄表 (Interview Record)」、與受訪者之團體照，

2. 學生個人之「訪談省思 (Afterthought)」學習單。

(五) 回答附件七：「3-2-1 我的學思歷程」。

*「訪談省思 (Afterthought)」學習單

學習步驟：

依據訪談過程，個別完成此份學習單。

參、學習評量

學習目標	形成性評量	總結性評量
1. 學生瞭解教育對每個人的重要性（正規和非正規學習），是永續發展的主要動力，可改善人們的生活和實現永續發展目標。	「活動四：訪談 STEM 領域的女性」評分規準 (附件五)、「3-2-1 自我省思表」(附件六)、「自我省思表 (最終回)」(附件七)	「解開女性在 STAM 領域困境之密碼總結性評量」 1.New Reading(10%) 2.Women in Science(20%) 3.Jigsaw Reading:Group Sharing(20%) 4. Interviewing Women in STEM 5.3-2-1 Reflection(10%) (1)news reading (2)women in science (3)jigsaw eading 1&2 (4)interview 6.3-2-1 Final Reflection(10%)
2. 學生瞭解教育是對民眾及全球都有益處的事，是基本人權，是實現其他權利的基礎。	「活動二：科學界女力」(附件三)、「3-2-1 自我省思表」(附件六)	
3. 學生瞭解性別、性別平等和性別歧的概念，且瞭解各種形式的性別歧視、暴力和不平等（例如，種種有害作法，包括：割掉女性生殖器官，榮譽處決 (honour killings)，童婚，不平等的就業機會和工資，語言結構，傳統的性別角色，自然災害的性別影響），以及過去及目前性別不平等的原因。	「活動一：新聞閱讀：日本醫學系性別歧視入學考」(附件二)、「活動三：影響女性修讀 STEM 教育之原因」(附件四)、「3-2-1 自我省思表」(附件六)	

肆、教學資源

網站中文資料

MASTECH (2017 年 9 月 15 日)。**你趕上 STEM 潮了嗎？**。取自 http://www.mastech3d.com/caseshare/2017/9/25/stem

網站英文資料

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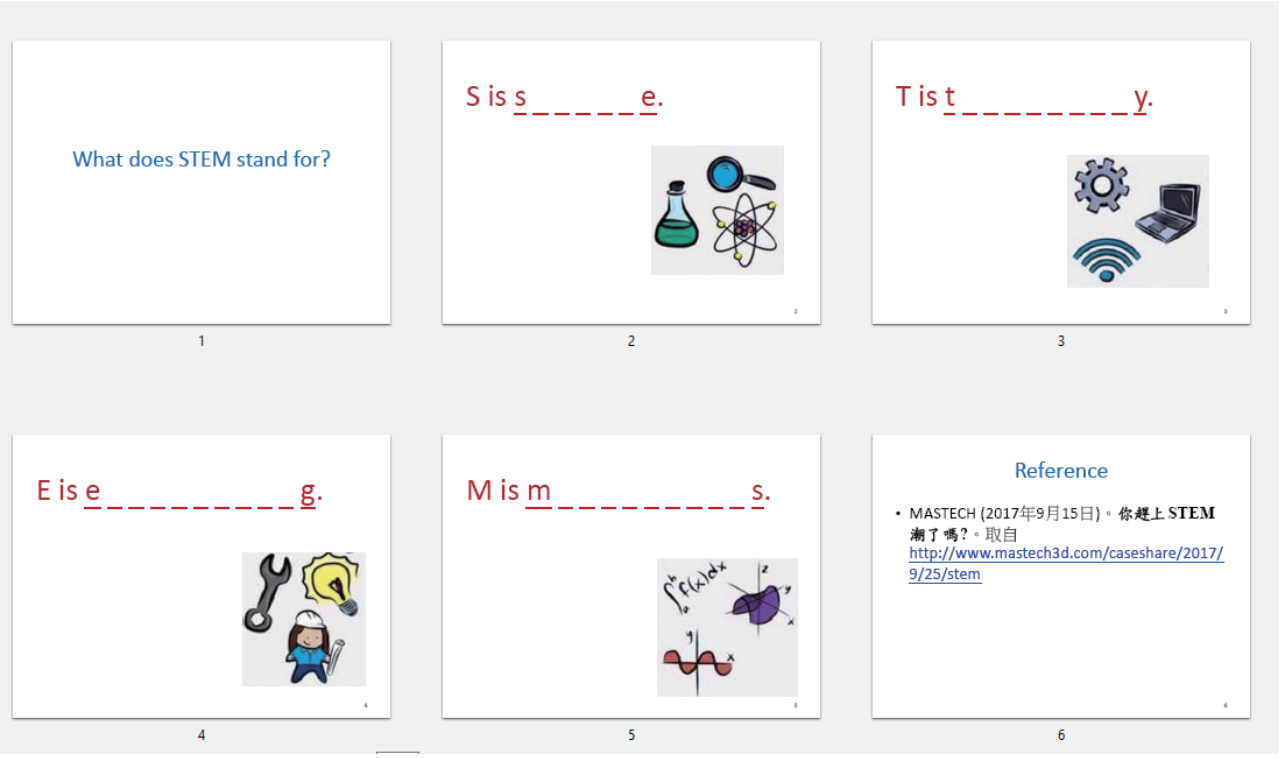
UNESCO (2017, August 18). *Cracking the code: Girls' and women's education in science, technology, engineering and mathematics (STEM)*. UNESCO Bangkok. Retrieved from http://unesdoc.unesco.org/images/0025/002534/253479e.pdf

UNESCO (2017, August 25). *Girls' education in STEM: The facts.* UNESCO Bangkok. Retrieved from https://bangkok.unesco.org/content/girls-education-stem-facts

UNESCO (2017, July 31). *10 facts about girls and women in STEM in Asia.* UNESCO Bangkok. Retrieved from https://bangkok.unesco.org/content/10-facts-about-girls-and-women-stem-asia

附件一

STEM 是什麼？


What does STEM stand for?
1
S is s _ _ _ _ _ e.
2
T is t _ _ _ _ _ _ _ _ y.
3
E is e _ _ _ _ _ _ _ _ _ g.
4
M is m _ _ _ _ _ _ _ _ _ s.
5
Reference
• MASTECH (2017年9月15日)。你趕上 STEM 潮了嗎？。取自 http://www.mastech3d.com/caseshare/2017/9/25/stem
6

附件二

News Reading: Gender Stereotypes on Women in Medicine

Class_____ No_____ Name_____

Directions.
1. Form groups of 4 students.
2. Read the two news on the event of applying for Japan med schools.
3. Discuss with team members with the following questions.

Q1. Summarize the event mentioned in the two news.

Q2. What gender stereotypes do you think that Japanese culture has on women in medicine?

Q3. In Taiwan, do we hold the similar gender stereotypes on women in medicine?

附件三

Women in Science

Class_____ No_____ Name_____

Directions.

1.Form groups of 4 students.

2.Find out the statistics of women researchers in the world from the website "Women in Science."

a.Find out 4 regions.

b.Find out 1 country from each continent, and complete the following chart.

3.Record the statistics you find in the following chart.

4.Share what you discover with your team members.

Women researchers by REGIONS
Region name : percentage % → Example: Arab States : 39%
Region 1_____ : _____% Region 2_____ : _____% Region 3_____ : _____% Region 4_____ : _____%

Women researchers by COUNTRIES				
Continents	Country	Percentage of Females		
1.Asia		Educaiton Pipeline	*Bachelor students*	%
			Doctoral students	%
			Researchers	%
		Breakdown by Field	*Natural Sciences*	%
			Engineering & Technology	%
			Medical Sciences	%
			Agricultural Sciences	%
			Social Sciences	%
			Humanities	%
2.Africa		Educaiton Pipeline	*Bachelor students*	%
			Doctoral students	%
			Researchers	%
		Breakdown by Field	*Natural Sciences*	%
			Engineering & Technology	%
			Medical Sciences	%
			Agricultural Sciences	%
			Social Sciences	%
			Humanities	%
3.Antarctica		Educaiton Pipeline	*Bachelor students*	%
			Doctoral students	%
			Researchers	%
		Breakdown by Field	*Natural Sciences*	%
			Engineering & Technology	%

Women researchers by COUNTRIES				
Continents	Country	Percentage of Females		
3.Antarctica		Breakdown by Field	*Medical Sciences*	%
			Agricultural Sciences	%
			Social Sciences	%
			Humanities	%
4. Australia		Educaiton Pipeline	*Bachelor students*	%
			Doctoral students	%
			Researchers	%
		Breakdown by Field	*Natural Sciences*	%
			Engineering & Technology	%
			Medical Sciences	%
			Agricultural Sciences	%
			Social Sciences	%
			Humanities	%
5.Europe		Educaiton Pipeline	*Bachelor students*	%
			Doctoral students	%
			Researchers	%
		Breakdown by Field	*Natural Sciences*	%
			Engineering & Technology	%
			Medical Sciences	%
			Agricultural Sciences	%
			Social Sciences	%
			Humanities	%
6. North America		Educaiton Pipeline	*Bachelor students*	%
			Doctoral students	%
			Researchers	%
		Breakdown by Field	*Natural Sciences*	%
			Engineering & Technology	%
			Medical Sciences	%
			Agricultural Sciences	%
			Social Sciences	%
			Humanities	%
7. South America		Educaiton Pipeline	*Bachelor students*	%
			Doctoral students	%
			Researchers	%
		Breakdown by Field	*Natural Sciences*	%
			Engineering & Technology	%
			Medical Sciences	%
			Agricultural Sciences	%
			Social Sciences	%
			Humanities	%

★ My discovery—

According to the World Bank data, in the year of 2017, the total female population occupies 49.556% in the world. Compare this to the the statistics of women researchers (by regions and by countries) you find from the website. What surprised you the most? Each of you share what you feel impressed when searching the information. You also have to record your thoughts in the following chart.

Student No	My Opinions

附件四

Factors to Influence women in STEM Education

Class_____ No_____ Name_____

Jigsaw Reading Stage 1

Directions.

1. Form groups of 4 students.
2. Read the assigned texts about factors that might influence girls and womens to receive STEM education.
3. Discuss the questions provided.

Jigsaw Reading Stage 2

Directions.

1. Form new groups of 4 students. One cannot stay with the same partners in the previous stage.
2. Take turns telling your new team members 3 things you learn from your previous groups in Stage 1.

*Resource:

UNESCO (2017, August 18). Cracking the code: *Girls' and women's education in science, technology, engineering and mathematics (STEM)*. UNESCO Bangkok. Retrieved from http://unesdoc.unesco.org/images/0025/002534/253479e.pdf

Jigsaw Reading Stage 1- a

Directions.

1. Form groups of 4 students.
2. Read the assigned texts about factors that might influence girls and womens to receive STEM education.
3. Discuss the question provided.

Individual-level Factors

Key messages

•No differences are observed in the neural mechanism of learning based on sex. While some sex differences may be observed in certain biological functions, they have little or no influence on academic ability, including in STEM subjects.

• Genetic factors may influence academic ability but research suggests that differences in cognitive ability are likely to be larger among individuals than between men and women and that genetic ability interacts with, and is highly infl uenced by, the environment.

• Neuroplasticity – the brain′ s ability to create new connections – is the foundation of any kind of learning.The brain is more malleable during childhood than at any other stage in life. Children who are aware that cognitive ability can improve with practice perform better.

• Stronger written language and spatial skills are associated with higher ability in mathematics. These skillsare flexible and can be influenced by targeted interventions, especially during early childhood.

• Hormones affect human behaviour but more research is needed to conclude how pre-natal hormonal exposure and hormone changes during adolescence might affect cognitive ability and behaviour.

Psychological-level Factors

•Self-selection bias is the major reason for girls opting out of STEM. However, this ′choice′ is infl uenced heavily by the socialisation process and stereotyped ideas about gender roles, including stereotypes about gender and STEM.

• Gender stereotypes that communicate the idea that STEM studies and careers are male domains can negatively affect girls′ interest, engagement and achievement in STEM and discourage them from pursuing STEM careers. Girls who assimilate such stereotypes have lower levels of self-efficacy and confidence in their ability than boys. Self-efficacy affects both STEM education outcomes and aspirations for STEM careers to a considerable extent.

• Not all girls are deterred by gender stereotypes. Those who have a strong sense of self-efficacy in mathematics or science are more likely to perform well and to choose related studies and careers.

• Interest, which is linked to self-efficacy, and a sense of belonging play an important role in girls′ engagement in STEM at school, their subject choices in higher education and their career plans. Some studies have shown that girls appear to lose interest in STEM

subjects with age, suggesting that early interventions are needed to sustain girls' interest in these fields.

Q. Do you agree with the messages mentioned above? State your reasons.

Jigsaw Reading Stage 1- b

Directions.

1. Form groups of 4 students.
2. Read the assigned texts about factors that might influence girls and womens to receive STEM education.
3. Discuss the question provided.

Family- and Peer-level Factors

Key messages

• Parents, including their beliefs and expectations, play an important role in shaping girls′ attitudes towards, and interest in, STEM studies. Parents with traditional beliefs about gender roles and who treat girls and boys unequally can reinforce negative stereotypes about gender and ability in STEM.

• Parents can also have a strong influence on girls′ STEM participation and learning achievement through the family values, environment, experiences and encouragement that they provide. Some research finds that parents′ expectations, in particular the mother′ s expectations, have more influence on the higher education and career choices of girls than those of boys.

• Higher socio-economic status and parental educational qualifications are associated with higher scores in mathematics and science for both girls and boys. Girls′ science performance appears to be more strongly

associated with mothers′ higher educational qualifications, and boys′ with their fathers′ . Family members with STEM careers can also infl uence girls′ STEM engagement.

• The broader socio-cultural context of the family can also play a role. Factors such as ethnicity, the language used at home, immigrant status and family structure may also have an infl uence on girls′ participation and performance in STEM.

• Peers can also impact on girls′ motivation and feeling of belonging in STEM education. Influence of female peers is a signifi cant predictor of girls′ interest and confi dence in mathematics and science.

Jigsaw Reading Stage 1- c

Directions.

1. Form groups of 4 students.
2. Read the assigned texts about factors that might influence girls and womens to receive STEM education.
3. Discuss the question provided.

School-level Factors

Key messages

- Qualified teachers with specialisation in science and mathematics can positively influence girls' performance and engagement with STEM education and their interest in pursuing STEM careers. Female STEM teachers appear to have stronger benefits for girls, possibly by acting as role models and by helping to dispel stereotypes about sex-based STEM ability.
- Teachers' beliefs, attitudes, behaviours and interactions with students can enhance or undermine an equal learning environment for girls and boys in STEM subjects. Attention to gender dynamics in the classroom and school environment is therefore critical.
- Curricula and learning materials play an important role in promoting girls' interest and engagement in STEM subjects. Positive images and text about women and girls, topics that are of interest to both girls and boys, and opportunities for inquiry and practice are essential.
- Opportunities for real-life experiences with STEM, including hands-on practice, apprenticeships, career counselling and mentoring can expand girls' understanding of STEM studies and professions and maintain interest.
- Assessment processes and tools that are gender-biased or include gender stereotypes may negatively affect girls' performance in STEM. Girls' learning outcomes in STEM can also be compromised by psychological factors such as mathematics or test anxiety and stereotype threat about their ability in STEM.

Q. Do you agree with the messages mentioned above? State your reasons.

Jigsaw Reading Stage 1- d

Directions.

1. Form groups of 4 students.
2. Read the assigned texts about factors that might influence girls and womens to receive STEM education.
3. Discuss the question provided.

Societal-level Factors

Key messages

- Cultural and social norms influence girls' perceptions about their abilities, role in society and career and life aspirations.
- The degree of gender equality in wider society influences girls' participation and performance in STEM.In countries with greater gender equality, girls tend to have more positive attitudes and confidence about mathematics and the gender gap in achievement in the subject is smaller.
- Targeted measures to promote gender equality, such as gender mainstreaming legislation or policies such as quotas, financial incentives or other, can increase girls' and women' s participation in STEM education and careers.
- Gender stereotypes portrayed in the media are internalised by children and adults and affect the way they see themselves and others. Media can perpetuate or challenge gender stereotypes about STEM abilities and careers.

Q. Do you agree with the messages mentioned above? State your reasons.

Jigsaw Reading Stage 2

Directions.

1. Form new groups of 4 students. One cannot stay with the same partners in the previous stage.
2. Take turns telling your new team members 3 things you learn from your previous groups in Stage 1.

Factors	Take Notes
Individual-level factors	1. 2. 3.
Psychological-level factors	1. 2. 3.
Family-level factors	1. 2. 3.
Peer-level factors	1. 2. 3.
School-level factors	1. 2. 3.
Societal-level factors	1. 2. 3.

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Interviewing Women in STEM

Class_____ No_____ Name_____

Interviewing Women in STEM

Directions:

Stage 1—Assigning group roles and preparing the interview questions

1. Form groups of 4 students.
2. Explain the purpose of this activity—to learn how women in STEM perform in their jobs and their learning process.
3. Lead the class to read the rubric for the interview.
4. Assign group roles based on the workshhet "Work Distribution Chart."
5. Have each group use the worksheet "Interview Questions" to prepare the group's interview questions.
6. Ask each group to submit the worksheet "Interview Questions" to the teacher.

Stage 2—Preparing the interview

1. Ask each group to use the worksheet "Checklist for Preparing an Interview" to monitor your interview preparation.
2. Before the group interview, tell the teacher its relevant information—who the interviewee is, when and where to interview her, and so on.
3. Remind each group of taking the group picture with the group and the interview in the end of the interview.
4. After the interview, remember to finish the worksheet "Interview Record" (for groups) before the class.

Stage 3—Reflecting your interview

1. Ask each student to complete his/her worksheet "Afterthought" based on their interview
2. The reporter of each group share what happened in the interview with the class group's intervewing in 2 minutes.
3. Each student finds one student rather than his/her team members. Based on his/her "Afterthought", he/she shares what they learned from this interview.
4. Remind students to submit the following worksheets to the teacher:
   1) For GROUPS—
      a. "Work Distribution Chart",
      b. "Interview Record", and
      c. your group photo with the female interviewee.
   2) For INDIVIDUALS— "Afterthought."

Rubrics for the Interview

Group	Work Distribution Chart (5%)	5 points The group submits the chart on time and the chart is completed.		0 point The group either forgets to submit the chart on time or the chart is not completed.
	Group Photo with the interviewee (5%)	5 points The group submits the group photo on time.		0 point The group doesn't submit the group photo.
	Interview Record (15%)	15 points All the required information is provided. The interview content is clearly and fully recorded per each question.	8 points Some of the required information is provided. The interview content is recorded with some parts that needs to be clarified.	0 point The record lacks of relevant information. Most of the interview content leaves a lot to be desired.
Individual	Afterthought (15%)	15 points All the required questions are replied clearly and completely. No grammar or spelling error.	8 points 2 required questioned are completed with a simple reply. 3-5 grammar or spelling errors.	0 point Only one required question is answered and the reply is very simple and vague. More than 6 grammar or spelling errors.
Total		_____ / 40		

Work Distribution Chart

Directions:

1. Form groups of 4 students.
2. Organize your work by using the workshhet "Work Distribution Chart." Group

Group Roles	Student #
Leader *moderating team discussion,* *keeping the group on task,* *distributing work* *preparing the thankful card for the female interviewee*	
Recorder *writing your group's interview questions* *summarizing your interview content* *recording your*	
Reporter *presenting yourgroup's interviewing experience in 2 mintues in class*	
Time Keeper *Keeping the group aware of the time limits* **Liaison** *contacting both the female interviewee and group members the time and the place to interview*	

Interview Questions

Directions:

1. Read the questions used on the website Meet the real STEM girls: Women in STEM share their stories and inspiration via STEM girls books (https://www.stemgirlsbooks.com/women-in-stem-interviews).
2. Discuss which 5 questions you would like to use to ask your interviewee. Write your final interview questions in the box below.

*7 questions used in Meet the real STEM girls: Women in STEM share their stories and inspiration:

1. What is your specific area of STEM?
2. How would you explain your STEM field to young girls?
3. What traits might a child possess that may indicate an interest or aptitude for your STEM field?
4. What did you know about your STEM field when you were a child?
5. Why did you choose your STEM field? Were you inspired by someone?
6. What are some really cool things that people in your profession work on?
7. What inspirational message would you give young girls to inspire them to pursue STEM?

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*If you want to learn how to use these questions, you may take a look at the website below: *Meet the real STEM girls: Women in STEM share their stories and inspiration.* STEM girls books. https://www.stemgirlsbooks.com/women-in-stem-interviews

Our Group's Interview Questions

1	
2	
3	
4	
5	

Checklist for Preparing an Interview

Directions:
Use this checklist to make sure your interview go more smoothly.

Before you interview—

★ in your group:
□ Assign your group roles.
□ Prepare 5 interview questions.
□ Decide the women in STEM to interview.
□ Decide the date/time and the place to hold the interview.
□ Contact the female interviewee and tell her the purpose to have the interview. If she refuses you, don't feel frustrated. Go finding the next person.
□ Make sure all the team members know where and when to have the interview.
□ Tell the teacher the relevant information about the interview.

On the day of the interview—

★ Each person has to follow the rules below:
□ Dress neatly and appropriately.
□ Arrive 10-15 mintues early.
□ Check if if the smartphone or the recording pen to record the interview can work.
□ Prepare one thankful card.

★ in your group:
□ Each of you has to introduce yourself first in the beginning of the interview.
□ Let your interviewee know she will be sound recorded or videotaped.
□ Use a sincere and polite tone to interact with your interviewee.
□ Listen to the interviewee attentively.
□ Use the interview questions to ask the interviewee.
□ Ask other related questions if you want to know more.
□ Pay attention to the time. Don't make your interviewee feel uneasy about the time.
□ Take a group picture with your group members and the interviewee.
□ Say thank you to your interviewee and give her the thankful card you prepare.

Directions:
Use this worksheet to record the interaction between the female interviewee and your group.

Interview Record

Nmae of the interviewee:		
Date:	Time:	Place:
The specific area of STEM:		
Q1.		
Q2.		
Q3.		
Q4.		
Q5.		

Directions:
According to your interview, complete this afterthought. This worksheet should be done individually.

Afterthought

1. What special things do you learn from your female interviewee's STEM job?

2. What are the reasons for your female interviewee to engage in STEM fields?(You may consdider from the aspects of individual, pshchology, shool, peer, or society.)

3. How will you use your female interviewee's learning and working experiences in STEM to encourage students to engage in STEM fields?

3-2-1 Self-Reflection

3 new things I learned today:

2 things I can relate to other subjects I learned:

1 question/doubt I still have:

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Final Reflection

Class_____ No_____ Name_____

3 things I learned from the issue WOMEN in STEM:

2 things I learned from interviewing one woman in STEM fields:

1 action I am able to do to encourage more girls to engage in STEM fields: