

WOMEN IN STEM CHALLENGE

INTRODUCTION

Though it wasn't always easy to get the credit they deserved, women are responsible for many important contributions in **S**cience, **T**echnology, **E**ngineering and **M**athematics, or **STEM** as it is often called. STEM is really cool. It combines various disciplines to make new discoveries and help solve real-world problems. It teaches how we all can work individually and together to overcome many world challenges, including the climate crisis, clean energy, marine and wildlife conservation, food and water security and global health.

For example, there are many women in STEM fighting against global climate change. Scientist **Miranda Wang** is one of the leaders working on new technologies to recycle plastic. She works on the methods that enable transforming unrecyclable plastic into useful new products that also are biodegradable. Another scientist, **Elizabeth Tennyson**, uses advanced optical microscopes to understand the limitations of high-efficiency, low-cost solar cells, with the overall aim to improve these technologies. **Sabiha Rumani Malik** founded the World Bee Project that uses cloud technology, artificial intelligence (AI) and smart sensors to collect information about honey bee decline to protect them. Engineer **Eden Full** is one of the inventors of the SunSaluter, a low-cost mechanism that optimizes solar panels while providing clean water for rural, off-grid communities in eighteen developing countries. **Kate Marvel** uses maths to better predict how much the Earth's temperature will rise in the future.

Here, we would like to introduce a game that teaches about **amazing women in STEM** and their discoveries and inventions. They are from all over the world. We hope that you will find inspiration to become more involved in STEM. More importantly, we hope that you will learn interesting facts about these great women and spread the word to everyone. They deserve recognition and to be the subject of many conversations.

This matching game consists of 4 lotto boards and 24 picture cards.

HOW TO PLAY (AGES 8-12)

- Each player chooses a playing board.
- Spread all of the cards, face down, (word side up) on the table.
- The youngest player begins by turning over one of the cards to reveal the photo of the woman scientist.
- If the card matches a picture on the players board, the player reads the picture's description aloud and places the card over the matching picture on their playing board.
- If the card does not match any of the images on their playing board, it is returned to the table, face downwards. Play then moves clockwise to the next player.

THE WINNER is the first player to cover all the pictures on their board with matching cards.

HOW TO PLAY FOR OLDER CHILDREN

- Each player chooses a playing board.
- The picture cards are shuffled and placed face downwards on the table.
- The youngest player begins by taking the top card from the pile without revealing the name of the scientist pictured. The player then reads the description aloud.
- If the the player believes that the scientist being described is pictured on their playing board:
 - » They guess out loud the name of the scientist who's description they've read. The player then looks at the image and the name without revealing it to the other players.
 - » If they have guessed correctly, they share the answer with the other players and place the card, face up on the corresponding image on their playing board.
 - » They then draw the next card and continue to play until they either guess incorrectly or draw a card describing a scientist who is not on their playing board.
 - » If they guess incorrectly, they do NOT reveal the name/image of the scientist to the other players and return the card to the middle of the deck, and play passes in the clockwise direction.
 - » If they have guessed the name of the scientist described incorrectly, they do NOT reveal the name/image of the scientist, and return the card to the middle of the deck, and play passes in the clockwise direction.
 - » If the player believes the scientist being described is NOT on their playing board, they return the card to the top of the deck and play continues in the clockwise direction.

THE WINNER is the first player to cover all the pictures on their board with matching cards.