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### The Women in Science and Engineering Starter Deck

Although patriarchy's stranglehold on science and engineering is ever-weakening, it still causes significant hurdles for scientists and engineers worldwide. You have the chance to support groundbreaking women in science and technology by securing resources for their careers. Advance science by completing as many careers as possible!

### Objective

The objective of the game is to obtain as many points as possible. The player with the most points at the end of the game is the winner. Points are gained by completing *Scientist/Engineer Cards*. In order to complete a *Scientist/Engineer Card* the appropriate combination of *Resource Cards* must be collected. Points from any incomplete *Scientist/Engineer Card* is subtracted from your total score at the end of the game.

Note that this deck also has a few blank cards for you to create and add your own DIY *Scientist Card* and/or your own DIY *Modifier Card*. If you tweet or Instagram these DIY cards with the hashtag #WISEdeck, we'll take a look in case there are future expansion decks!

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### The Deck

This deck contains a total of 74 cards which includes 21 *Scientist/Engineer Cards*, 77 *Resource Cards*, and 22 *Modifier cards*. This game is best played with 3 to 5 players, but can be played with 2.

Length of playing time is approximately 30 to 45 minutes but this can be easily adjusted by lowering the number of *Scientist/Engineer cards* used (see below).

#### Scientist/Engineer Cards:

Players obtain points upon completion of *Scientist/Engineer Cards*. Each of these cards requires a specific combination of *Resource Cards* which must be assigned to the scientist/engineer in order to be completed. Usually, the number of *Resource Cards* required to complete a project is the number of points collected by the player upon completion. At the end of the game, incomplete *Scientist/Engineer Cards* result in negative points equal to the point value of the card.

Note that some of the scientists/engineers are women of colour (WoC), and therefore may have additional obstacles in game. Because of this, their cards may be more difficult to complete and are consequently worth an extra point.

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Symbols for resources required for project completion (discipline and achievements)\*

Name and some interesting biographical notes.

Number of points won if the project is completed. Points lost if incomplete.

\*Note that women of colour are not specifically labeled as such.

#### Resource Cards:

*Resource Cards* include *Discipline cards*, and *Achievement Cards* which contribute towards completing *Scientist/Engineer Cards*. They also include *Modifier Cards*, which can affect gameplay in special ways.

**Discipline Cards:** The field(s) of research that the woman was involved in.

**Achievement Cards:** These cards reflect additional activities that the woman may have been involved in.

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#### Modifier Cards:

These cards generally reflect issues related to gender equity and have effects (explained in the card text) that can impede or help a player complete their *Scientist/Engineer cards*. Note that some *Modifier Cards* are specifically aimed at women of colour scientists/engineers (WoC).

### Set Up

#### The Playing Field

There are 4 main card "piles" in the game.

- Resource Card pile** – contains the shuffled up *Resource Cards* face down.
- Scientist/Engineer Card pile** – contains the *Scientist/Engineer Cards* face down.
- Discard pile** – contains discarded cards face up (at the beginning, this will be empty).
- Burn pile** – (also empty at the beginning) contains face down *Discipline* and *Achievement Cards* that were used to complete *Scientist/Engineer Cards* as well as used *Modifier Cards*.

Once the *Resource Card* pile is completely used up, the *Burn pile* and *Discard pile* (minus the top card) are combined, shuffled and used to replenish the new *Resource Card* pile.

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To start the game, place all the *Resource Cards* and *Scientist/Engineer Cards* face down in two separate piles between the players. As the game progresses, a *Discard pile* and a *Burn pile* will be generated. Position the piles as below:



### Playing

Each player starts with a hand of two *Resource Cards*, and one *Scientist/Engineer Card*. If you pick up a *Modifier Card* at the beginning, return it to the middle of the *Resource* pile – unfortunately, this also means you will be starting with a smaller hand. Every turn consists of three basic phases: A draw phase, an action phase and a discard phase.

**1. Draw:** At the start of their turn (youngest player goes first), the player draws two cards, in any combination, from the *Scientist/Engineer Card* pile, the *Resource Card* pile or the *Discard pile* (ie. 2 cards from the *Resource Card* pile or 1 card each

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from the *Scientist/Engineer Card* and *Resource Card* pile, etc). The player must pick up both cards before looking at either of them. Only the top cards in the *Discard* pile can be drawn (ie. you cannot look through *Discard* pile).

**2. Action:** The player can now choose to do as many of the following actions during their turn.

#### i) Start and/or work on a scientist/engineer.

To start a scientist/engineer, place a *Scientist/Engineer Card* face up in front of you. By doing this, you commit to finishing the card. If you do not finish it, you will be deducted the point value of the project at the end of the game. There is no limit to the number of projects you can work on at the same time. Finishing a scientist/engineer card, involves placing required *resource cards* from your hand beside the *scientist/engineer card* on the playing field.

#### ii) Complete a scientist/engineer.

A scientist/engineer is completed when you have acquired all the *Resource Cards* needed for the project and placed them beside the *Scientist/*

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*Engineer Card* on the playing field. Take the completed *Scientist/Engineer Card* and set it aside. Place the associated *Resource Cards* face down in the *Burn* pile.

#### iii) Use a Modifier Card.

*Modifier Cards* are *Resource Cards* that result in special actions. They might help complete or disrupt a player's progression. Read these cards carefully. Many require you to use them immediately, but there are a few that let you keep in your hand. As well, there are a few *WoC Modifier Cards* which can only be used on women of colour.

**3. Discard.** At the end of your turn, you must discard cards from your hand into the *Discard* pile face up if your hand size is LARGER than the number of *Scientist/Engineer Cards* you have in progress. For example, if you are working on one *Scientist/Engineer Card*, you can only hold one card at the end of your turn. If you have no active *Scientist/Engineer Cards* (completed *Scientist/Engineer Cards* do not count), you must discard your entire hand. Note that *Scientist/Engineer*

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*Cards* can only be discarded if they are in your hand (ie. Active ones on the table cannot be discarded).

### Ending the Game

When the last *Scientist/Engineer Card*\* is drawn from the *Scientist/Engineer* pile, the next player to complete a *Scientist/Engineer Card* ends the game. After this player finishes a *Scientist/Engineer Card*, all players get one more turn before the game ends. Then, players tally up all their points: positive points for completed *Scientist/Engineer Cards* and negative points for unfinished *Scientist/Engineer Cards* left on the field. The player with the most points wins the game.

For example: Dave completed a 4-point card, a 2-point card, and has an unfinished 3-point card. He gets  $4 + 2 - 3 = 3$  points at the end of the game.

\* Note that you can play with fewer *Scientist/Engineer Cards* to start. This can be done to adjust the total playing time.

## CREDITS

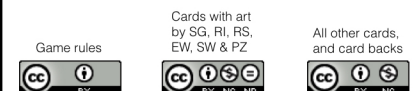
### Credits

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For more information about the WWEST, please visit <http://www.wwest.ca>

For more information about the PHYLO card game, please visit <http://phylogame.org>