

An Educational Card Game

ChemKarta is card-based education game designed to reinforce basic chemistry understanding and build higher-level thinking. It is a simple matching game, however in the process players also build higher-level associations between simple concepts.

**The Cards** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ChemKarta contain 5 types of cards. Only 3 of these are required to play a basic game. The others can be added or removed.

**Solution Cards –** Solutions contain answers you can used to solve Problem cards. Each Solution has more than one answer. Solutions also have explanations and Keywords that describe the card. Solution cards have blue borders.

**Problem Cards –** Problems have questions on that you can solve using Solutions. Each Problem is worth the printed number of points. Some Problems have Honors questions. These are additional questions you can answer to gain more points! Problem cards have red borders.

**Bonus Cards** **–** Bonus cards can be collected when a Problem is solved for extra points. Pay attention so you don’t skip one. Bonus cards have orange borders

**Technique Cards** – Technique cards can be added to the Solution deck to give players chances to affect the game. They can help you or hurt your opponents. You may omit these cards if you wish. Technique cards have green borders and blue backs.

**Victory Cards** – Victory cards have conditions on them that must be met in order to win them game. These cards make it harder to win and can be used to make a game last longer. You may omit these cards if you wish. Victory cards have purple borders.

**Basic Game**

**Setting the Game Up**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Take out the blue-bordered Solution deck and shuffle it. Each player is dealt 6 Solution cards face-up. All players may look at their cards and decide if they want to keep them. Each player is allowed to discard any cards they don’t want and draw back up to 6 cards.

Lay the Bonus Cards out in the middle of the table face-up so all players can see them.

Take out the Problem cards and shuffle them. This is the Problem deck. Keep it separate from the Solution deck.

**Playing the Game\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

At the beginning of the player’s turn, flip over the top card of the Problem deck. This is the question the player must solve. If the player has an answer, the player announces the name of the Solution card they are playing and indicates which answer on the card they are using. If the answer is correct, the player takes the Solution from their hand, sets it on top of the Problem, and scores that many points.

Some Problems have honors questions. You may only attempt to answer to Honors question if you have gotten the regular question right. If you answer the Honors question right, you score the Honors points instead of the regular points. If you get it wrong, you just score the regular points.

*Ex. It’s Sue’s turn. The Problem for her turn is an Aldehyde. Sue chooses the Solution* p*-Anisaldehyde and points to the aldehyde. She places her Solution on top of the Problem and scores 15 points.*

*Ex. It’s Matt’s turn and his Problem is an Alcohol. He picks the card Cyanoketone and identifies the alcohol. The Honors question asks if it is 1°, 2°, 3°, or aryl. He chooses 2°, which is incorrect. He scores the normal 5 points instead of the Honors 10.*

If a Solution also matches a Bonus, the player may collect the bonus along with scoring points as normal. The bonus is placed under the Problem with the points showing. Pay attention to which cards match the available Bonus card because you’ll only have one chance to grab them.

If the player does not have an answer, or their answer is incorrect, then they lose their card and cannot try to answer again. Then any other player may attempt to solve the Problem. If more than one player wants to answer, the active player chooses which one answers. Always look at your cards for answers even when it’s not your turn because you may have an opportunity to gain points during another player’s turn. Repeat until the Problem is solved or no player wants to answer.

*Ex. On his turn, Jacob reveals an amide Problem card. He plays the Solution card Raspberry Ketone and incorrectly chooses a ketone. He discards his card and asks if any other players want to answer. Both Courtney and Lucas want to answer. Jacob chooses Lucas to answer. Lucas chooses the Solution card Stepronin, identifies the amide, and correctly answers the Honors question (linear) for 15 points. He also collects the Bonus card Thiophene (10 points) for playing a card with a thiophene group, for a total of 25 points. At the end of his turn, Jacob draws a card to replace the one he lost.*

At the end of a player’s turn, that player may discard any number of cards they do not want. The player then draws back up to 6 cards. Remember, you only draw at the end of your turn, so if you’re using your cards to solve other player’s Problems, you won’t have many in your hand when it becomes your turn.

First player that reaches 100 points wins, even if you score during another player’s turn.

**Special Problems**

There are also special problems, which can earn you a lot of points. In this module the Special Problems are:

Complete Solution – Name all the functional groups on any 1 Solution card. You get 10 points for each correct answer. If you cannot name any functional groups, or get them all wrong, the card goes out to the group as usual.

**Advanced Game**

**Technique cards**

Technique cards have green borders on the front and blue borders on the back. They are shuffled into the Solution deck at the beginning of the game. Technique cards are dealt out at random to players along with Solution cards.

Technique cards can only be played at certain times (printed on the card). They can help the player by searching for Solutions or hurt opponents by preventing them from solving Problems. Use them carefully to help you get ahead.

**Victory cards**

If you are playing with Victory cards, deal each player a face-down Victory card at the beginning of the game. You do not win at 100 points. Instead, at the beginning of a player’s turn, if they have 100 points or more flip over the Victory card and follow the instructions. You may only flip over a Victory card on your turn, even if you score 100 points or more on another player’s turn. First player to fulfill their Victory card wins.