COMPOUNDED

Chemistry Textbook

COMPOUNDED: CHEMISTRY TEXTBOOK

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For more advanced variants, strategy notes, downloadable rules and a video tutorial, visit **dicehatemegames.com/compounded**.

Course Introduction

Welcome to the lab! In Compounded, you and your fellow scientists will be taking on the task of lab managers, hastily competing to complete the most Compounds before they are completed by others – or destroyed in an explosion. There is a bit of luck in running a successful lab, but careful management of your personal Work Bench, paying close attention to available Compounds, and striking the best deals with your fellow lab mates may just provide you with the formula for victory.

Credits & Acknowledgements

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Publisher: Dice Hate Me Games

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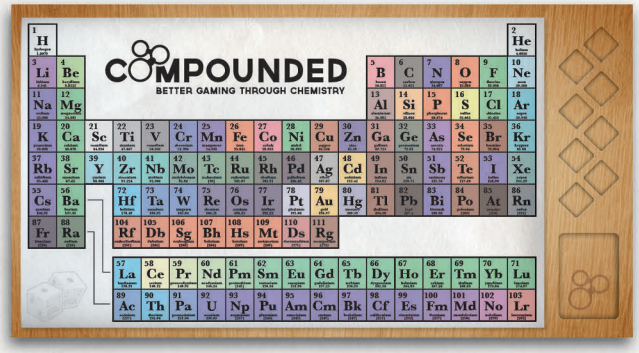
Special Thanks: Darrell would like to thank Lesley Louder for being his muse, Ethan Louder for being his son, John Moller for starting the Unpub Program, T.C. Petty III for keeping him interested, Chris & Cherilyn for rolling the dice on the little guys, Science for existing and being awesome, Bakka for injecting his youth with curiosity and the urge to constantly discover, Jeff Staab & Jackie Purtel for urging him to put purple into the game, Lisa Scodari & Amberle Browne for your scientific eyes, Apple for everything you do, the KickStarter backers for their support and faith, Teachers for putting up with politics and still trying to make the world a better place, KickTraq for making him addicted to data collection, Mom & Dad for being supportive to the black sheep, and you for taking the time to read the bylines.

Chris & Cherilyn would like to thank all the Kickstarter supporters for their wonderful enthusiasm and generosity. None of this would have been possible without all of you.

This game is dedicated to Ethan Robert Louder. May your excitement, sense of discovery, and smile never fade.

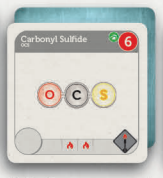
LABORATORY EQUIPMENT



Score Track

Lab Key start player marker

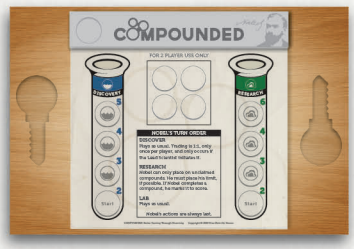
9 Starting Compounds



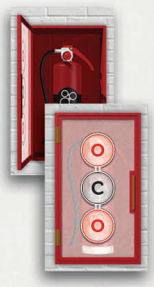
54 Compound cards

5 Lab Fire cards

5 Work Benches



1 Nobel Work Bench (for games with two players), *see page 14*



5 Fire Extinguishers

5 Wild Element Tokens

15 Storage Markers

4 Graduated Cylinders

4 Journals

4 Pipets

4 Safety Goggles

2 Lab Keys

4 Bunsen Burners

15 Flame Tokens

100 Element Crystals in 6 types; 1 Element Bag

30 Hydrogen

20 Carbon

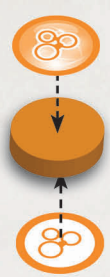
20 Oxygen

15 Nitrogen

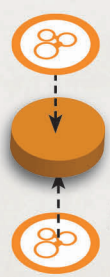
10 Calcium

5 Sulfur

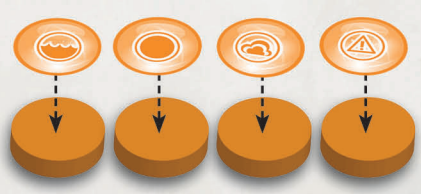
40 player discs in 5 colors; sticker sheet



Claim Tokens (3 per player)



Scoring Token

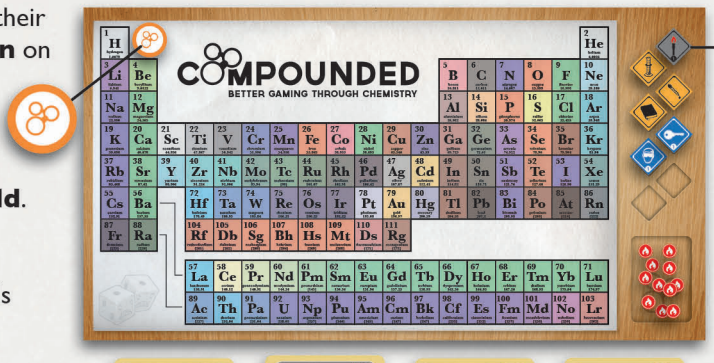


Discovery Token | Study Token | Research Token | Lab Token

SETTING UP THE LAB (3+ scientists)

Unfold the Score Track and place it on the playing area as shown below. Give all scientists a Work Bench in their desired color, along with their 3 Claim Tokens, 1 Scoring Token, and all 4 of their Experiment Tokens. Place all Element crystals in the Elements Bag and shake gently to randomize the crystals. *This is Lab set up for 3 to 5 scientists. To learn how to set up the Lab for 2 scientists, see page 14.*

Scientists place their **Scoring Token** on the Score Track.



Place **Lab Tools**. There should be one less Graduated Cylinder, Pipet and Journal than the number of players. For example, in a three-player game, there would only be two of each of those Lab Tools.

Create the **Research Field**. Randomly deal the 9 starting Compound cards (marked with a yellow border) face up, in a grid-pattern of 4 cards x 4 cards. Shuffle the Compound Deck and fill the remaining grid with cards from the top of the Compound Deck.

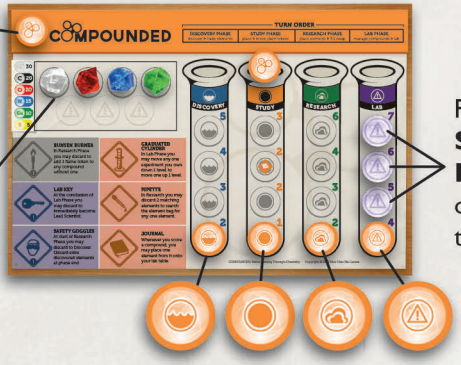
Set up the **Compound Deck** and place it to the side of the Research Field. For deck set up details, see next page.

Place 2 Claim Tokens on the **Claim Reserve**. Place 1 Claim Token at the top of the Study Experiment – the Active Claim Token area.

Give each scientist one **Wild Element Token.**

Give each scientist a personal **Fire Extinguisher**.

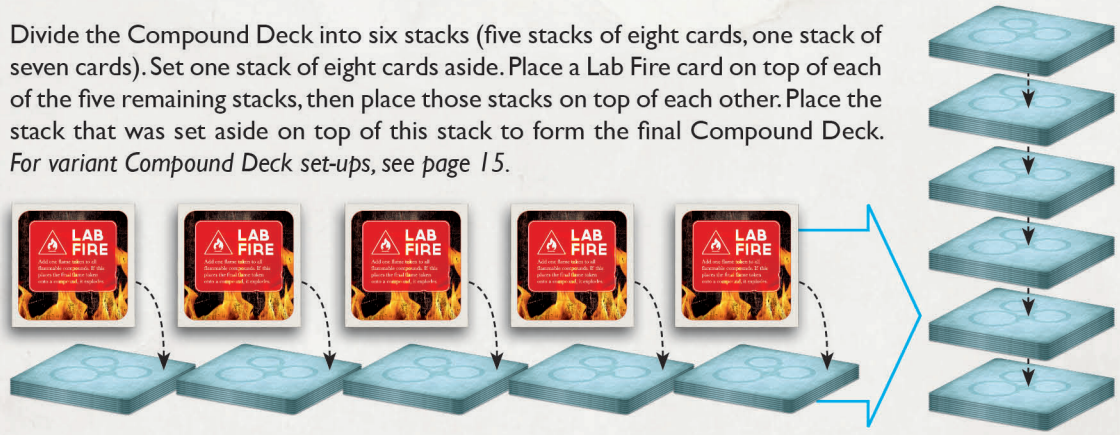
Scientists each draw 4 random Elements from the Element Bag and places them in the **Element Storage area**.



Place **Storage Markers** on the Lab test tube.

Set up (continued)

Divide the Compound Deck into six stacks (five stacks of eight cards, one stack of seven cards). Set one stack of eight cards aside. Place a Lab Fire card on top of each of the five remaining stacks, then place those stacks on top of each other. Place the stack that was set aside on top of this stack to form the final Compound Deck. *For variant Compound Deck set-ups, see page 15.*



A Note on Wild Elements

A player may discard a Wild Element Token during the Research Phase to take any Element (**except Sulfur**) from the Element Bag and immediately place it onto a Compound in the Research Field or a Fire Extinguisher. Normal placement rules apply. *For placement rules see Phase 3: Research, page 7.*

WINNING COMPOUNDED

When any one of the below factors occur, the end game is triggered:

A) A scientist reaches **50 Atomic Points (AP)**.

B) A scientist **completes 3 of the 4 Experiments** on his Work Bench.

C) The **Research Field** is unable to be filled to capacity.

The 4 Lab Experiments

When condition A or B occurs there is one additional turn of game play.

When condition C occurs - the Research Field can not be filled - the game ends immediately.

At the end of the game, a scientist scores 1 AP for each Element that is on any **uncompleted** Compounds he has claimed. Each scientist scores 1 AP for **every 2 elements** on his Work Bench.

If a scientist has a **completed and unused Fire Extinguisher** at game end, it is worth **4 AP.**

Each **Wild Element** in a scientist's possession at game end is worth **2 AP.**

THE SCIENTIST WITH THE MOST ATOMIC POINTS WINS.

SEQUENCE OF PLAY

Each round of Compounded is broken up into 4 phases.

DISCOVERY Scientists gain Elements and initiate trades.

STUDY Scientists claim Compounds in Research Field.

RESEARCH Scientists place Elements onto Compounds.

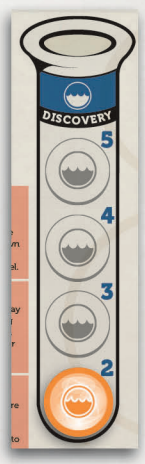
LAB Completed Compounds are scored, Work Benches are managed, Research Field is replenished. Lab Fires may occur.

At the start of the game, the scientist with the rarest Elements on his Work Bench is the **Lead Scientist** and is given the wooden Lab Key. In the case of a tie, the youngest scientist is Lead Scientist. The Lead Scientist is the first player to take actions in each Phase. At the end of each round, the Lab Key is passed to the scientist on the start player's left. That player is now the Lead Scientist.

Element rarity is ranked at left, with Hydrogen being the most common, and Sulfur being the most rare.

PHASE 1: Discovery

Beginning with the Lead Scientist, each scientist draws a number of Elements (as shown on the Discovery Experiment, as seen at right) from the Element Bag. These Elements are then placed on the scientist's Work Bench in the Element Storage area. After all scientists have drawn Elements, trading begins. **NOTE: The Discovery Phase is skipped in the first round of the game.**



Scientists only Discover two Elements each round at the beginning of the game, but Discover more by improving this Experiment. See Phase 4: Lab on page 8.

A scientist may freely trade Elements, acquired Lab Tools, a Fire Extinguisher, Wild Elements, or even future favors for anything from any other scientist or group of scientists. Traded favors, however, are only as good as the scientist's word - no deal for favors is binding! Scientists **may not trade** Atomic Points or Experiment levels.

At the end of the Phase, after all trading is complete, if a scientist has more Elements than available spaces in his Element Storage area, he returns those Elements to the Element Bag.

OPEN TRADING

Although trading of Elements, Tools, and physical components may only be done during the Discovery Phase, verbal agreements can be made at any time during the game. Scientists are encouraged to bargain, coerce and, sometimes, swindle to get a step ahead. Remember, though, that no verbal deal is binding!

PHASE 2: Study

Beginning with Lead Scientist and proceeding clockwise around the lab, each scientist may place **one** Claim Token from his Work Bench that is not in his Claim Reserve onto an unclaimed Compound, or pass. This continues until each scientist has placed all available Claim Tokens (determined by the number on their Study Experiment) or all have passed. Once a scientist has passed, he may not place Claim Tokens again this round.

After Claim Tokens have been placed, beginning with Lead Scientist, each scientist with a Claim Token that was placed in a previous round **may move one – and only one –** of those Claim Tokens to an unclaimed Compound.

Claim Tokens may be placed on any open Claim area.

PHASE 3: Research

Beginning with Lead Scientist, each scientist moves a number of Elements (shown by the Research Experiment level) onto the Research Field. A scientist may place his elements on **any** claimed or unclaimed Compound (and his personal Fire Extinguisher).

CLAIMED COMPOUND

Only scientists who claim a Compound can score and benefit from completion. Scientists may place Elements on other scientists' claimed Compounds, but cannot score by doing so.

UNCLAIMED COMPOUND

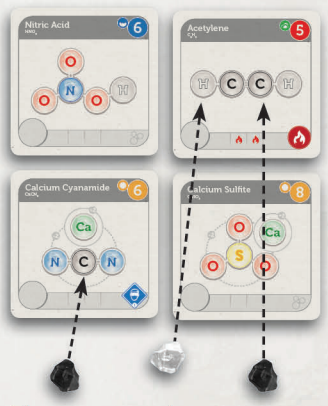
When a scientist places the final Element on an unclaimed Compound he places a Claim Token from his Claim Reserve – temporary claim icon side-up – onto the card to mark the Compound for scoring in the Lab Phase. Claim Tokens are limited; if a player does not have a Claim Token in Claim Reserve he may not claim nor score from finishing an uncompleted Compound. Unclaimed Compounds containing previously-placed Elements can be claimed by a scientist in the Study Phase if that scientist has an available Claim Token.

Temporary Claim side

FIRE EXTINGUISHER

Scientists may place Elements onto their personal Fire Extinguisher just as placing Elements into the Research Field.

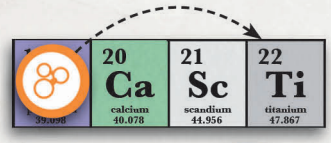
NOTE: Once during this Phase, scientists may also trade three of the same type of Element from their Work Bench for any Element in the Element Bag.



Elements are placed on an open Element space on any Compound card.

The Fire Extinguisher is flipped to the activated side in the Lab Phase once completed and may be used in future rounds. *For more on the Extinguisher, see page 9.*

A completed Compound.



Scoring Tokens are advanced a number of spaces on the Score Track equal to the Compound's Atomic Number.

Scientists gain Lab Tools when Compound cards have a Tool icon.

The three physical states of every Compound: Liquid, Solid and Gas.

Example of a Chemical Reaction icon.

PHASE 4: Lab

During this phase, scientists score their completed Compounds (if any), move up the appropriate number of Atomic Points on the Score Track, gain Lab Tools (if available), raise the level of their Experiments, and trigger Chemical Reactions.

SCORING A COMPOUND

Beginning with the Lead Scientist and proceeding clockwise, completed Compounds are scored. Compounds are considered complete when all open Element spaces on the card are filled.

1) The Compound card is removed from the Research Field and placed next to the Work Bench of the scoring scientist.

2) The scientist's Scoring Token is advanced a number of spaces on the Score Track equal to the Compound's Atomic Number.

3) The Claim Token is returned to the scientist; if the Claim Token has the temporary claim side up, it is returned to the player's Claim Reserve. Otherwise, it is placed on top of the Study test tube and may be used next round.

4) All elements on the Compound are returned to the Element Bag (*unless the Journal is used, see Lab Tools on page 11*).

GAINING LAB TOOLS

Some Compound cards contain a specific Lab Tool icon. When that Compound is completed, the claiming scientist takes the appropriate Lab Tool and places it on his Work Bench. The Tool may be used in subsequent rounds, or traded. NOTE: If a scientist already has that type of tool on his Work Bench, he cannot take the tool. *For more on Lab Tools, see page 11.*

RAISING EXPERIMENT LEVELS

Each Compound has a chemical state that corresponds to a certain Experiment on each scientist's Work Bench. After a Compound is completed and scored, the claiming scientist may improve that particular Experiment by moving that token upwards one level. Instead of improving Discovery, Study or Research Experiments, a scientist may choose to improve his Lab Experiment. *For Experiment levels, see Work Bench on page 10.*

TRIGGERING CHEMICAL REACTIONS

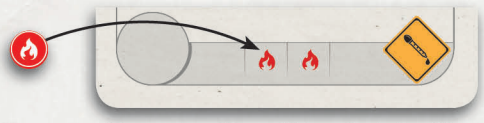
Some Compound cards have a Chemical Reaction icon. After these Compounds are completed and scored, the Chemical Reaction immediately takes effect. *See Chemical Reactions, page 13.*

PHASE 4: Lab (continued)

After all completed Compounds have been scored, the Lead Scientist draws new Compounds to fill the empty spaces in the Research Field from left to right, top to bottom. The Lead Scientist then passes the Lab Key to the scientist to his left and a new round begins with the Discovery Phase.

REVEALING A LAB FIRE

When a Lab Fire is revealed while filling the Research Field, set the Lab Fire aside and **finish filling the Field**. Then, discard the Lab Fire and place a Flame Token on all flammable Compounds.



This Compound has a two-Flame Token limit. It will explode when there are two Flame Tokens on the Compound.

Any Compounds that reach their Flame Token limit explode and are taken out of the Research Field and discarded. Any Elements on the exploding Compounds will scatter to Compounds that are horizontally, vertically and diagonally adjacent. If the exploding Compound is claimed, then the scientist whose Claim Token is on the Compound chooses where to place the Elements. If there is a space for the Element on an adjacent Compound, the Element **must be placed**. All Elements that are not able to be placed are discarded. If the exploding Compound is unclaimed, then the Lead Scientist chooses where those Elements (if any) scatter. Any gaps in the Research Field grid are then filled with cards from the top of the Compound Deck.

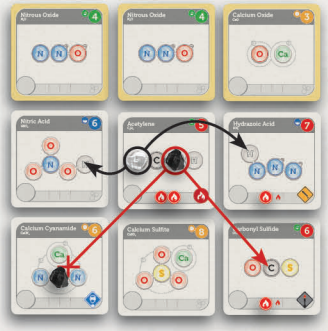
Two Lab Fires cannot occur during the same turn. If a second (or more) Lab Fire cards are revealed during the same Lab Phase, discard them and continue refilling the Research Field.

NOTE: A Lab Fire can occur in the same round that the Volatile Chemical Reaction has been triggered. This is the only exception to the 1 Lab Fire limit. *See page 13 for Chemical Reactions.*

USING A FIRE EXTINGUISHER

If a scientist has completed his personal Fire Extinguisher (or traded to acquire a completed Extinguisher), he may discard it to prevent the placement of a Flame Token on any one Compound (even an unclaimed Compound or a Compound claimed by another scientist).

It's important to remember that there cannot be two Lab Fires in the same round.



In this example, Acetylene has exploded. The one Hydrogen on the Compound could scatter to Nitric Acid or Hydrozoic Acid. The Carbon can only scatter to Carbonyl Sulfide since Calcium Cyanamide's Carbon Element space is already filled.

MANAGING YOUR WORK BENCH

Each scientist is given his own tableau, or Work Bench, to manage and control. When a scientist completes a Compound, he will manage this space during the Lab Phase.

ELEMENT STORAGE SPACES

At the start of a game, scientists have 4 available Element Storage spaces on their Work Bench. This number can be increased by moving up the Lab Experiment level, to a maximum of 7.

ELEMENT KEY

The element key is located to the left of the Element Storage on each Work Bench. This key defines the Element colors, abbreviations, and the number of each Element in the game.

DISCOVERY EXPERIMENT

For each level of the Discovery Experiment, that scientist is able to Discover (pull from the Element Bag) a number of Elements during the Discovery phase equal to the level number.

STUDY EXPERIMENT

For each level of the Study Experiment, that scientist is now able to claim a maximum number of Compounds equal to the level number.

RESEARCH EXPERIMENT

For each level of the Research Experiment, that scientist is able to place a number of Elements into the Research Field equal to the level number.

LAB EXPERIMENT

A scientist may opt to raise his Lab Experiment instead of another Experiment's level when scoring a Compound. When this Experiment is increased, the scientist removes the Storage Marker from the test tube and places it on one of the designated places in the Element Storage area of the Work Bench. For each Element Space Token gained in this way, a scientist can store one additional Element on their Work Bench.

Achievement unlocked! Storage Markers increase the amount of Elements a scientist can hold on his Work Bench.

HOW TO SAFELY OPERATE LAB TOOLS

Some Compound Cards are marked with a Lab Tool icon. Once this Compound is scored, the scientist gains a tool tile (if available) to add to his Work Bench. The scientist now has access to that ability for the remainder of the game, unless the Tool is discarded or traded away.

SAFETY GOGGLES

Discard Safety Goggles at the **start of the Research Phase** to Discover a second time this round. These Elements should be kept **separate** from any Elements that are currently in Element Storage. The scientist may place these Elements in the Research Field along with Elements from his Work Bench, but can only place as many as his Research Experiment level allows. When the scientist has completed placing Elements, any Elements remaining from the Safety Goggles should be placed back into the Element Bag. Scientists may not trade any of the Safety Goggles Elements using the 3-for-1 trade or through the use of the Pipet Tool.

LAB KEY

Discard this Tool at the **end of the Lab Phase** to claim the wooden Lab Key and be Lead Scientist at the start of the next turn.

PIPET

During the Research Phase the scientist may now trade two of the same type of Element for any one Element in the Element Bag. The scientist may only perform this trade once per round and cannot be used the same turn as a 3-for-1 trade.

JOURNAL

This Tool is acquired when a scientist improves his Study Experiment. With the Journal, once **during the Lab Phase** whenever a scientist scores his completed Compounds, the scientist may place one Element from one of those Compounds onto an open Element Storage space on his Work Bench. This ability takes effect the **turn after** the scientist gains this tool.

The Journal is acquired when a scientist's Study Experiment reaches this level.

Blue and Gray Tools are one-time use. They are discarded from the game after their action is activated.

Lab Tools (continued)

GRADUATED CYLINDER

During the Lab Phase the scientist may move any one Experiment down one level to move another Experiment up one level. This can only be done once per round. If this movement results in a Study Experiment being reduced and there are more of that scientist's Claim Tokens in the Research Field than the new level number would allow, the scientist must immediately remove one of his Claim Tokens from a claimed Compound. If the scientist reduces the Lab Experiment, the scientist must return a Storage Marker to the Lab Experiment and discard any Elements from his Work Bench that are in excess of his limit.

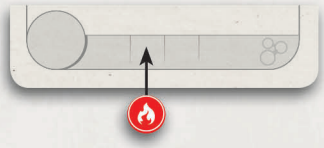
Example: Moving Research down one level to move Discovery up one level

BUNSEN BURNER

Discard Bunsen Burner any time **during the Research Phase** to add one Flame Token to any Compound that **does not currently have a Flame Token**. As in a Lab Fire, a scientist may discard his Fire Extinguisher to prevent placement of the Flame Token. If a Fire Extinguisher is used, Bunsen Burner is discarded with no effect.

If a Flame Token is placed on a non-flammable Compound, that Compound is now treated as flammable. A non-flammable Compound's Flame Token limit is two.

Bunsen Burner may also be used to place a Flame Token on a Compound with a Flame Token limit of one. This will result in that Compound blowing up immediately. *See Revealing a Lab Fire on page 9 for more on exploding Compounds.*



Flame Tokens are placed here when added to non-flammable Compounds.

CHEMICAL REACTIONS AND YOU

Some Compound Cards are marked with a Chemical Reaction icon. When a scientist scores this Compound, the effects of the Chemical Reaction immediately take place.

GRANT

When this Chemical Reaction triggers, the scientist must choose another scientist and one of their Experiments. That Experiment moves up one level. The scientist **must** choose an Experiment that is not at its maximum level. If all Experiments are at their maximum levels, the AP on the Compound are shared between the two scientists. If the AP cannot be divided equally, the point difference is not counted for either scientist. For example, if a Compound scores 7 AP, each scientist would receive 3 AP.

VOLATILE

When this Chemical Reaction triggers, it acts as if a Lab Fire was just revealed from the Compound Deck. Follow the same rules as those of a Lab Fire. This can result in Compounds exploding immediately. *See Revealing a Lab Fire on page 9 .*

NOTE: Although there cannot be two Lab Fires in a single turn, there may be both a Lab Fire and a Volatile Reaction. Science can sometimes be dangerous!

The following Chemical Reactions are featured in the Lab Partners variant. For more information on Lab Partners, please see page 15.

HAZARDOUS HAULING

When this Compound is scored, each scientist moves one Element from this Compound onto any other Compound in the Research Field. The scientist who owns the Claim Token that is in the left Claim location on the Compound card chooses first.

CORROSIVE COMPOUND

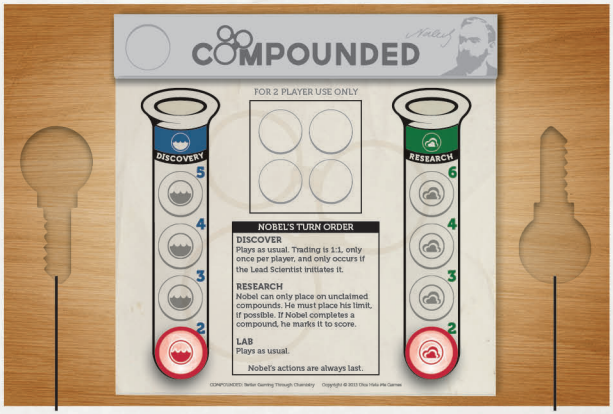
When this Compound is scored, the two scoring scientists each move down one level on their Study Experiment (if possible).

EXPLOSIVE ELEMENTS

When this Compound is scored, all Compounds which have at least one flame token on them **immediately explode**. This does not add Flame Tokens to Compounds (so a Fire Extinguisher does not prevent this).

SET UP AND PLAY FOR TWO SCIENTISTS

Compounded is intended for three or more scientists; however, if two scientists wish to play, a third scientist has been included in the box - his name is **Nobel**. He is a bit more limited in what he can do in the game, but do not underestimate his wily scientific mind.



Nobel should be placed between the two scientists during set up. The Lab Key may be placed in these spots to indicate which scientist controls Nobel's actions for the round.

SET UP

Place Nobel's Work Bench within reach of both scientists. Place a Research Marker of the same color on the start spaces of the Discovery and Research Experiments. Place a Scoring Token in that same color on the Score Track. Draw four Elements and place them in the Storage area on Nobel's Work Bench. Create the Research Field using two of each Starting Compounds as shown at left. The rest of the grid is filled with two Compounds from the top of the Compound Deck.

PLAYING AS NOBEL

During the game, Nobel will always be controlled by the Lead Scientist and Nobel's actions will always take place at the **end of a phase** after both scientists have completed their actions.

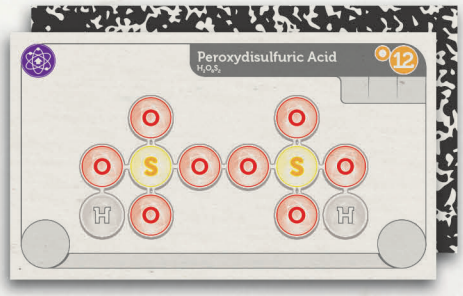
DISCOVERY PHASE: The Lead Scientist draws the amount of elements from the bag equal to Nobel's current Discovery level and places them in the Element Storage area of Nobel's Work Bench. After all Elements have been drawn, the Lead Scientist may choose to trade with Nobel. This trade may only be **one Element** from the Lead Scientist's Work Bench for **one Element** from Nobel's Work Bench. If the Lead Scientist chooses to trade, then the second scientist may also choose to trade in the same manner; otherwise, neither scientist may trade with Nobel. At the end of the Discovery Phase, if Nobel has more than four Elements on his lab table, the Lead Scientist chooses which Elements to discard and places them back into the Element Bag.

RESEARCH PHASE: After both scientists have placed their Elements, the Lead Scientist must place a number of Elements from Nobel's Work Bench equal to Nobel's current Research level (if available) onto one or more **unclaimed** Compounds. If the placement of Elements on Compounds by Nobel completes a Compound, a Claim Token in Nobel's chosen color is placed on the Compound.

LAB PHASE: Completed Compounds with Nobel's Claim Tokens are placed next to Nobel's Work Bench and Nobel's Scoring Token is adjusted on the Score Track. Any Tools acquired are not placed on Nobel's Work Bench, but Chemical Reactions do occur. If the completed Compound was a Liquid or Gas, then Nobel's Discovery or Research Experiment levels are adjusted and the new levels taken into account during subsequent Discovery and Research Phases. And, yes, Nobel may win the game.

LAB VARIANTS

LAB PARTNERS



The Lab Partners Compound cards expand the playing experience of Compounded with larger Compounds and more chances for scientists to work together. Lab Partners is only recommended for games with 3 or more scientists.

SET UP: Game set up is as normal, except that the Research Field will be made up of 12 regular Compound Cards and 2 Lab Partners cards. After setting up the Research Field as shown at right, shuffle the Lab Partners Deck and place 2 Lab Partners cards side by side at the bottom of the grid.

GAME PLAY: Lab Partners Compound cards play with all the same rules as the base game Compound cards, with one exception: A Lab Partners Compound cannot be scored in the Lab Phase unless there are two Claim Tokens on the Compound. These Claim Tokens will normally be from two different scientists, but can be from the same scientist, as well (daring, but it can be done). When Lab Partners Compounds explode, any Elements on the Compound will scatter first to the two regular Compounds next to the Lab Partners Compound and then to the next two Compounds in the row above and so on. When Regular Compounds explode next to a Lab Partners Compound, Elements may scatter onto the Lab Partners Compound. See the scatter chart at right for more detail.

LAB PHASE: When a completed Lab Partners Compound is scored, each scientist with a Claim Token on the Compound will receive the noted AP, as well as adjust their Experiments accordingly. If a scientist's Claim Token occupies both Claim spaces on the Lab Partners Compound, that scientist **does not** receive twice the amount of AP, nor does he gain more than one level when adjusting an Experiment. When a Lab Partners Compound is scored, replace it with the top card from the Lab Partners Deck. If an empty Lab Partners space is unable to be replenished, the game ends immediately.

VARIABLE COMPOUND DECK SET UP

A) When setting up the Compound Deck, shuffle one Lab Fire into each of the five card stacks to create a more unpredictable game. This is **highly recommended** for advanced scientists.

B) For a truly unpredictable game, ignore the normal Compound Deck set up and shuffle all Compound cards and Lab Fires together. Best of luck in the lab!

RESTRICTED RESOURCES

A) In a 3-player game, do not add the final row of four Compound cards to the Research Field.

B) Remove the personal Fire Extinguishers and Wild Element Tokens from the game.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