A Game of The Elements

RULEBOOK
In Periodic: A Game of The Elements, players activate periodic trends to maneuver across the Periodic Table researching elements to score points. The goal is to land on and research specific elements shown on available Goal Cards - this is the primary way players will score points. As players move across the board, they’re also racing to end their turn within specific families of elements, competing with other players for the limited Academic points. The player with the most points at the end of the game wins!

**Game Summary**

32 Goal Cards
- 9 green
- 9 blue
- 7 purple
- 7 pink

8 Element Group Cards
- 1 for each Element Group

12 Agenda Cards

11 Goal Markers
- 2 green
- 3 blue
- 3 purple
- 3 pink

28 Lab Tokens
- 12 3-point
- 10 5-point
- 6 15-point

**Components**

**Player Pieces**

30 Research Cubes
- 6 pink, 6 orange, 6 green, 6 blue, 6 purple

5 Erlenmeyer Flasks
- 1 pink, 1 orange, 1 green, 1 blue, 1 purple

5 Microscopes (Element Group Markers)
- 1 pink, 1 orange, 1 green, 1 blue, 1 purple

5 Discs (Academic Track Markers)
- 1 pink, 1 orange, 1 green, 1 blue, 1 purple

12 Award Tiles
- 3 +3 Spaces
- 3 Free Trend
- 3 Move To
- 3 Take 2 Energy

24 Energy Tokens

1 Periodic Table game board
**GAME SETUP**

1. Place the **game board** face-up in the center of the play area.

2. Separate the **Goal Cards** by color, and place a stack of 6 (at random) green Goal Cards facedown above the board. Do the same with 6 blue, 5 purple and 5 pink Goal Cards. Flip the top card of each stack faceup.

3. Place the **three “+3 Spaces” Award Tiles** above the green Goal Cards, the **“Take 2 Energy” Tiles** above blue Goal cards, the **“Free Trend”** above the purple, and the **“Move To”** above the pink.

4. Place **1 green Goal Marker** on each of the elements on the game board that match the elements shown on that green Goal Card. Repeat this for the blue, purple and pink Goal Cards.

5. Place the **Lab Tokens** to the left of the Goal Cards.

6. Shuffle the **Element Group Cards** and place four of them faceup in a half circle along the left side of the board, and the remaining four faceup in a half circle along the right side of the board. These creates a circular track around the game board.

7. Place **1 Energy Token** on each of the **Periodic Trend spots** located at the bottom of the board.

8. Have each player choose a color and give them **1 Flask, 1 Microscope, 1 Disc**, and **6 Research Cubes** of that color.

9. The player to touch Calcium Carbonate (Chalk, Seashells, etc.) most recently is **first player**. Going clockwise, the first, second and third players should each place their Disc on the “0” spot of the **Academic Track** (horizontal track below the periodic table). The fourth and fifth players should place their Discs on the “2” spot.

10. Distribute **Energy Tokens** as follows: the first player gets 3, the second player gets 4, the third gets 5, THEN the fourth player gets 3 and fifth gets 4.
The first player places their Microscope on the 1st Element Group Card (the card at the bottom-most left of the board). The next player should skip one and place their Microscope on the third Element Group Card (moving clockwise), the 3rd player places on the 5th card, and the 4th player and 5th player on the 7th card.

Each player should locate their Element Group on the game board (according to the Element Group Card on which they placed their Microscope in Step 11). Then each player places their Flask on the element within their Group that has the lowest Atomic Number. (For example, the player who placed their Microscope on the Metalloids Element Group Card in Step 11, would place their Flask on Boron).

Deal each player 3 Agenda Cards facedown (in a 5 player game deal each player 2). Each player secretly chooses 1 and places the remaining 2 back in the box.

You are now ready to play!
In *Periodic*, players compete to research elements and advance along the Academic Track by strategically activating periodic trends to move their Flask across the periodic table. During each turn, players choose between either *spending* energy to make multiple movements (in the hopes of researching multiple elements) or *gaining* energy but taking only a single movement.

*Periodic* is played in turns, starting with the first player and continuing clockwise around the table.

**A turn consists of two main parts:**

**Activating Periodic Trend(s)**
- a. Spend or Gain Energy Token(s) in order to Move Your Flask
- b. Researching Elements

**Refresh After Your Turn**
- a. Refresh Completed Goal Cards
- b. Advance Markers up Tracks

1. **ACTIVATING PERIODIC TRENDS**

There are five spots at the bottom of the game board representing 5 periodic trends. The primary way a player moves their Flask across the periodic table (on the game board) is by activating one or more of these periodic trends.

After activating a periodic trend, a player moves their Flask from 1 to 5 spaces (the number of spaces is chosen by that player) across the periodic table from their starting position in the direction(s) allowed by the periodic trend they’ve activated. A player researches an element by ending their movement on an element containing a Goal Marker. Any number of players may occupy a single element.

**a. Spend or Gain Energy Token(s) in order to Move Your Flask**

There are two different ways a player can **Activate a Trend** in order to move their Flask: **Spend Energy Tokens** to activate multiple trends or **Gain Energy Tokens** but activate only one trend.

**Spend Energy Token(s)**

If a player chooses to “Spend”, they pay Energy Tokens to activate multiple periodic trends. To activate the first periodic trend, a player places 1 Energy Token on the periodic trend they wish to activate. That player then moves their Flask across the periodic table 1 to 5 spaces in the direction indicated by the periodic trend they activated. **For each additional trend a player wishes to activate, they pay 2 Energy Tokens onto their desired periodic trend.** Players may activate any number of periodic trends, and/or activate the same trend multiple times, so long as they have the Energy Tokens to pay for it.
Gain Energy Token(s)
If a player chooses to “Gain”, they collect all the Energy Tokens accumulated on a single Period Trend.

Then, that player moves their Flask across the periodic table 1 to 5 spaces in the direction indicated by the periodic trend from which they collected the Energy Tokens. This is the only periodic trend a player may activate on this turn, unless they use an Award Tile(s).

If there are 0 Energy Tokens on the periodic trend a player wishes to activate, they may take 1 Energy Token from the player with the most Energy Tokens. If multiple players are tied for most, the active players chooses. (In a 2 player game, take the Energy Token from the box instead).

The Five Periodic Trends - Movement Directions

*Increase or Decrease Atomic Number* — allows a player to move their Flask EITHER left OR right according to the Atomic Number. *This is the only trend* that allows a player to jump from the far right edge of the periodic table to the far left edge (or vice versa) as long as they move according to the Atomic Number.

For example, if a player starts on Na (Sodium, Atomic No. 11) they may move to Ne (Neon, Atomic No. 10) by moving 1 space to the left. Using this trend would allow a player to move from Na to any of the following elements: C, N, O, F, Ne, Mg, Al, Si, P, or S.

*Increase Ionization Energy* — allows a player to move their Flask up and/or right. This means a player may move up only, or to the right only, or any combination of up and right.

For example, if a player starts on Na (Sodium, Atomic No. 11), they may move to N (Nitrogen, Atomic No. 7), by moving 4 spaces to the right (Mg to Al are adjacent for the purpose of movement) and 1 space up. Using this trend would allow a player to move from Na to any of the following elements: H, He, Li, Be, B, C, N, Mg, Al, Si, P, or S.

*Increase Atomic Radii* — allows a player to move their Flask down and/or left. This means a player may move down only, or to the left only, or any combination of down and left.
For example, if a player starts on S (Sulfur Atomic No. 16), they may move to Pb (Lead, Atomic No. 82) by moving 3 spaces down, and then 2 spaces to the left. Using this trend would allow a player to move from S to any of the following elements: Na, Mg, Al, Si, P, Ca, Zn, Ga, Ge, As, Se, In, Sn, Sb, Te, Pb, Bi, Po, Mc, or Lv.

**Increase Atomic Mass** — allows a player to move their Flask down and/or right. This means a player may move down only, or to the right only, or any combination of down and right.

For example, if a player starts on Be (Beryllium, Atomic No. 4), they may move to Ge (Germanium, Atomic No. 32) by moving 1 space to the right, 2 spaces down, then 1 space to the right. Using this trend would allow a player to move from Be to any of the following elements: B, C, N, O, F, Mg, Al, Si, P, S, Ca, Sc, Ti, V, Ga, Ge, As, Sr, Y, Zr, In, Sn, Ba, Hf, Tl, or Ra.

**Decrease Atomic Mass** — allows a player to move their Flask up and/or left. This means a player may move up only, or to the left only, or any combination of up and left.

For example, if a player starts on Al (Aluminum, Atomic No. 13) to Hydrogen (H, Atomic No. 1) by moving 2 spaces to the left, then 2 spaces up. Using this trend would allow a player to move from Al to any of the following elements: H, Li, Be, B, Na, or Mg.

Movement from Ba (Barium, Atomic No. 56) to Hf (Hafnium, Atomic No. 72) or from Ra (Radium, Atomic No. 88) to Rf (Rutherfordium, Atomic No. 104) is one space.

To move diagonally, a player must move two spaces (for example, up and then right). A player may not move diagonally in one move.

b. Researching Elements

Players score points by researching elements. Elements that are available to be researched are indicated on the periodic table with Goal Markers. These same elements are also indicated on the faceup Goal Cards above the game board. A player may research an element by ending their movement on an element containing a Goal Marker. **Because researching happens only at the end of a movement, a player may research only 1 element per periodic trend they activate.** (A player may not research an element by beginning their turn on that element.)

When a player researches an element, they place one of their Research Cubes on the corresponding Goal Card showing that element.

Multiple players may research the same element on a single Goal Card, but a player may not research the same element on a single Goal Card twice. If there are multiple Goal Markers on an element on the periodic table, a player must choose only one of them to research. They may come back and research the other on a future movement.
2. **Refresh After Your Turn**

After a player completes their final movement, they should check to see if they need to **Refresh Completed Goal Cards or Advance Markers on Tracks.**

### a. Refresh Completed Goal Cards

If a single player has Research Cubes on every element of a single Goal Card, then that Goal Card is complete. (It’s possible for a player to complete multiple Goal Cards in a single turn. All other Goal Cards that were not completed that turn remain unchanged for the next player’s turn.) For any completed Goal Card(s) do the following:

1. **Take Lab Tokens (Points) & Research Cubes**
   
   Each player with a Research Cube(s) on the completed Goal Card (except the player who completed the Goal Card) takes back their Research Cubes, and then receives Lab Tokens accordingly.

   - Player(s) with 1 total Research Cube on the completed Goal Card take a Lab Token worth 3 points.
   - Player(s) with 2 total Research Cubes on the completed Goal Card take a Lab Token worth 5 points.

2. **Take Goal Cards and Award Tiles**

   The player who completed the Goal Card will not take any Lab Tokens, rather they take the Goal Card they completed (the point value is shown in the lower right corner of the Goal Card) as well as the top Award Tile from the stack above the Goal Card they completed (if there are any still available).

3. **Flip a New Goal Card**

   For each Goal Card stack where the top Goal Card was completed and taken, flip the next Goal Card faceup and place it on top of that stack. Then, place the Goal Markers associated with that stack onto the new elements on the periodic table to match the elements shown on that new Goal Card.

Now the active player’s turn is over and the player to their left may take their turn. If a stack runs out, this marks the end of the game (See Ending the Game). Replenish stacks that have run out with Goal Cards from the box so there are always four available.

### b. Refresh Completed Goals Cards

**Advancing On the Element Groups Track**

The periodic table is divided into groups of elements. These groups are represented in the game by Element Group Cards, which are arranged in a semi-circle along the sides of the game board, making the Element Group Track. Players track their progress (and score points) by advancing their Microscope clockwise along this track from card to card.

When a player ends their turn with their Flask (on the periodic table) on any element that is part of the element group shown on their next Element Group Card, they will advance their Microscope clockwise along the track, to that next Element Group Card.
For example, if a player ends their last Flask movement on Arsenic (which is part of the group Metalloid), and the next card (going clockwise) on the Element Group Track is Metalloid, that player advances their Microscope to the Metalloids Element Group Card.

Each time a player advances their Microscope to the next Element Group Card, they must also move their Disc one space to the right along the Academic Achievement Track.

**Advancing On the Academic Track**
The Academic Track is the horizontal track below the periodic table. Each time a player advances their Microscope to the next Element Group Card, they must also move their Disc one space to the right along the Academic Track. In this way, the Academic Track tallies the number of points a player will score at the end of the game from advancing along the Element Group Track.

The right-most spot on the Academic Track may only every contain one Disc. The spot directly to the left may only contain 2 Discs at any time, and the spot to the left of that may only contain 3 Discs at any time. If a spot contains the maximum number of Discs, opponents may not advance their Discs into that spot.

**AWARD TILES**
Award Tiles are benefits given to players for completing Goal Cards (see Take Goal Cards and Award Tiles above). A player may use any number of their Award Tiles during their turn (regardless of whether they Spend or Gain for their action), to take the one-time bonus ability specified on that Tile. Once an Award Tile has been used, place it back in the box.

- **+3 Spaces** – Use this tile after activating a periodic trend to move your Flask an additional 1, 2, or 3 spaces (following the same direction rules of that movement).
- **Move To** – Use this tile to move your Flask to any element on the periodic table that’s within the Element Group shown on the Award Tile.
- **Free Trend** – Use this tile at any time during your turn, to activate the periodic trend indicated on the Award Tile for free.
- **Take 2 Energy** – Use this tile at the beginning of your turn to take 2 Energy Tokens total from one or two periodic trends. This Award Tile does NOT allow you activate the periodic trend from which the Energy was taken. After spending this tile, take a turn as usual, either Gaining or Spending.
The Goal Cards above the game board show the elements that are available to be researched. A Goal Marker is placed on the periodic table for each element shown on the Goal Cards, making the elements available to be researched more visible to all players.

Multiple players may research the same elements on a single Goal Card, but once a single player has researched all the elements on a Goal Card, that card is complete and player should follow the instructions in Refresh After Your Turn.

Each Agenda Card lists a unique combination of 1-2 possible objectives, that, if achieved, award additional bonus points to that player at the end of the game. (A player does not need to complete both objectives, but may score points for either or both of the objectives listed on their Agenda Card).

Each Goal Card a player completes may counts toward only 1 objective on their Agenda Card. Points from Agenda Cards are awarded during Final Scoring.

**Objectives**

- **+1 point for each level on the Academic Track above 0**
  Count the number of spaces you advanced your Disc beyond 0 to the right along the Academic Track and gain 1 point for each space.

- **+1 point for every Goal Card you complete**
  Count the number of Goal Cards you completed and gain 1 point for each.

- **+2 points for every Goal Card you complete (rules are the same for Agenda Cards referring to or Goal Cards)**
  Count the number of the specified Goal Cards you completed, and gain 2 points for each pair.

- **+5 points for each pair of Goal Cards you complete (rules are the same for Agenda Cards referring to or Goal Cards)**
  Count the number of pairs of the specified Goal Cards you completed, and gain 5 points for each pair.

- **+9 points for each set of three Goal Cards of different difficulties you complete**
  Count the number of sets of 3 Goal Cards you completed (each set of 3 must have no more than 1 card from each difficulty level) and gain 9 points for each set.
**ENDING THE GAME**

The final round of the game is triggered when one of the following conditions is met:

- **One** stack of Goal Cards is depleted.

- **Two** players advance to the two rightmost (23 and 28) positions on the Academic Track.

When one of these conditions is satisfied, each player (excluding the player who triggered end game) takes one final turn. Then, move to **Final Scoring**.

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If the final round is triggered by a depleted Goal Card stack

During the "Refresh After Your Turn", replenish any depleted Goal Card stack(s) with additional Goal Cards (of the correct difficulty) from the box so there are always four Goal Cards available.

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**FINAL SCORING**

To determine their final score, each player should add up any points earned throughout the game.

1) **Points from Goal Cards and Lab Tokens**

2) **Points from the Academic Track**

3) **Points from Research Cubes remaining on incomplete Goal Cards.**

   Each player with a Research Cube(s) remaining on an incomplete Goal Card(s) is awarded Lab Tokens as if the Goal Card was completed.

4) **Points from Agenda Cards.**

The player with the most points wins!

If there is a tie, then the tied player with highest position on the Academic Track wins the tie. If players are still tied, then the tied player with the most Energy Tokens wins the tie.
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