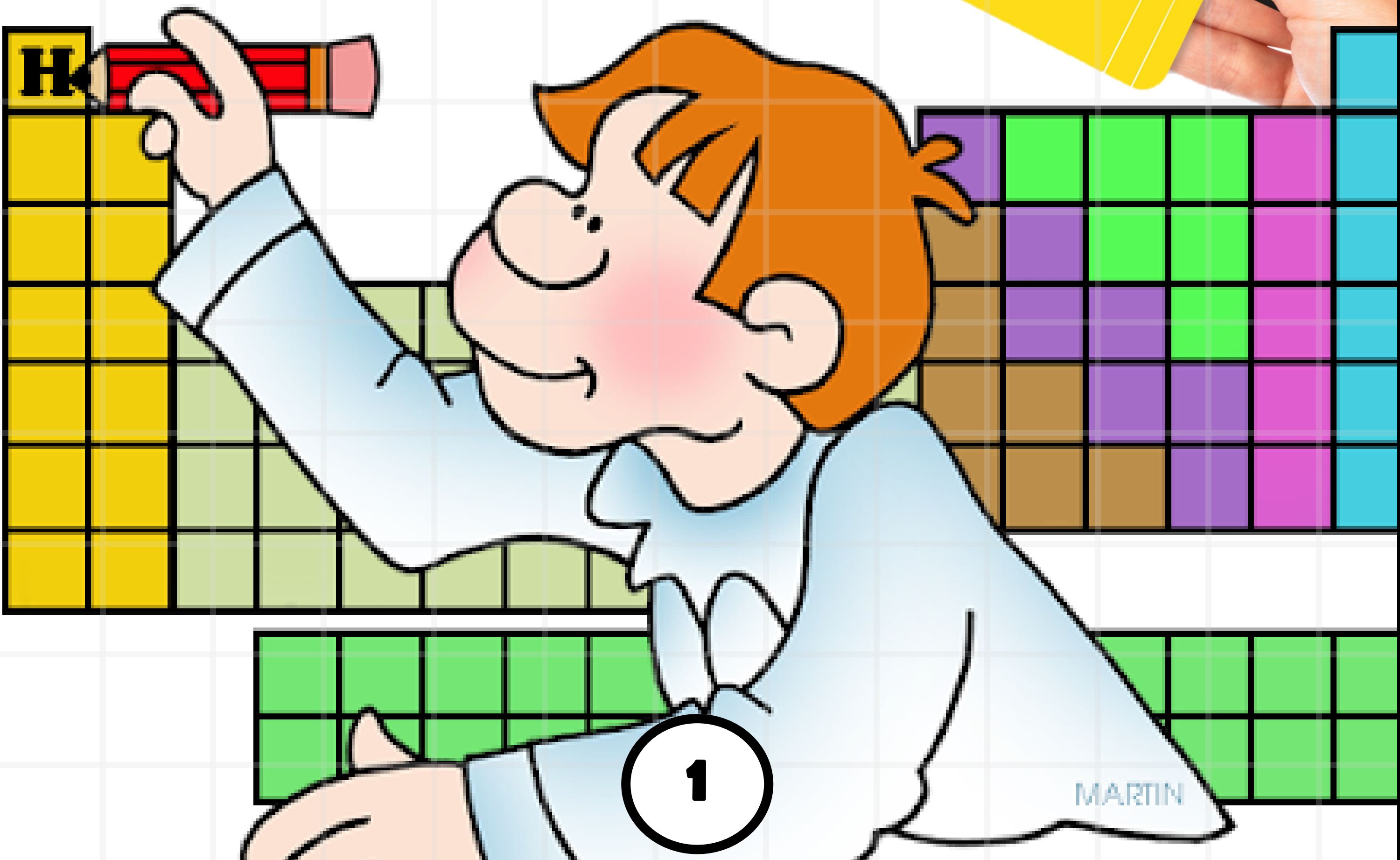




ELEMENTING



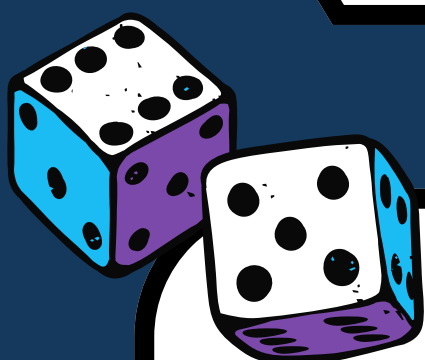
MARTIN

Elementing

Game Theme
Elements

Grade Level
IV - X

Game Type
Card Game



Game Overview

- Understanding the periodic table and the properties of elements is a crucial part of chemistry; however, students often find it difficult to retain information like element names, symbols, atomic numbers, and uses. This game is designed to make this learning process more engaging and interactive, allowing students to practice and reinforce these core concepts. By participating in this card-based gameplay, students will develop their ability to classify and recall essential properties of elements.
- By the end of the gameplay, students will be able to identify and classify elements based on their names, symbols, atomic numbers, and uses
- A complete game set, for one group, includes the following materials:
 - Periodic table (for reference)
 - My element board
 - 80 element cards, with four cards per element, covering:
 - Element name
 - Element symbol
 - Atomic number
 - Real-life use or application
 - Answer key



Gameplay Instructions

- Divide the students into small groups of 4-5 and provide each group with a deck of 80 cards. Instruct students to distribute the cards evenly.
- The game begins when the first player places one card (such as a card with the element's name) in the center. The other players then search for the remaining three corresponding cards - those containing the element's symbol, atomic number, and real-life use, to complete the set for that element.
- Once a complete set of four cards is made for one element, the group will place the four cards on the element board. The game continues until all the elements are completed.
- If a group gets stuck, they may use one of three lifelines:
 - Refer to the periodic table for help.
 - Ask the teacher for a hint.
 - Consult another group for assistance.
- The first group to correctly match all element sets shouts 'Periodic Table' and wins the game.

Debriefing and Reflection

After completing the game, engage students in a whole-class discussion or reflective journaling using the following prompts:

- How the game helped them better understand the link between an element's name, symbol, atomic number, and real-life use.
- Which parts of the periodic table (e.g., metals, nonmetals, noble gases) were easier or harder to complete.
- What new connections they made between elements and their applications in daily life.

Adaptations for Gamplay

- **For lower grades:** Simplify the game by focusing on just two aspects of the elements, such as name and symbol or name and atomic number. Alternatively, use only ten elements to make it easier for younger students to manage.
- **For higher grades:** Add complexity by including additional properties of elements, such as atomic mass or group number, to extend the learning experience. Teachers can also challenge students to match cards faster by starting with random cards rather than element names.
- **Alternate game format:** This game can also be adapted into a Memory Game to further engage students with elements and their properties. This variation is played in groups of five students, with each student selecting one element to focus on. The set for this round includes five elements, with cards for each element shuffled and placed face down in a grid. Players take turns flipping over two cards at a time. If a player reveals a card that corresponds to their chosen element, they keep it; if not, they return both cards face down. The goal is to collect all the cards related to each player's element as quickly as possible. The player who collects all cards related to their element the fastest wins the game. The memory-based approach reinforces students' recognition of different elements and their properties while improving memory skills and promoting friendly competition.



Hydrogen



Helium



Lithium



Beryllium



Boron



Carbon



Nitrogen



Oxygen



Fluorine



Neon



Sodium



Magnesium



Aluminium



Silicon



Phosphorus



Sulphur



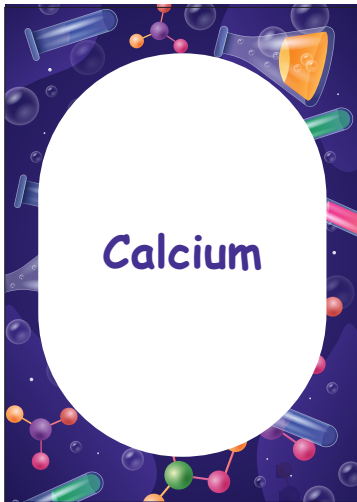
Chlorine



Argon



Potassium




Calcium

2




3

4



5

6



7



8

10



11



12



13



14



15



16



17



18



19



20



H



He



Li



Be



B



C



N



O



F



Ne



Na



Mg



Al



Si



P



S



Cl



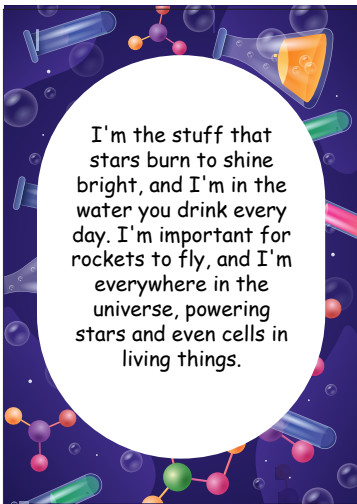
Ar



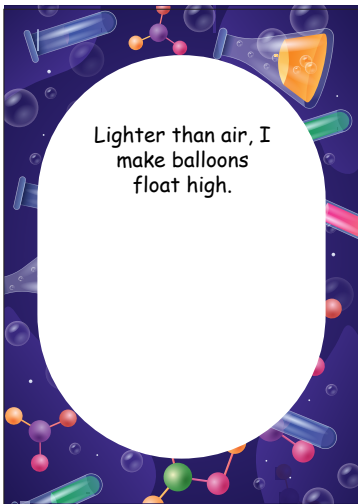
K



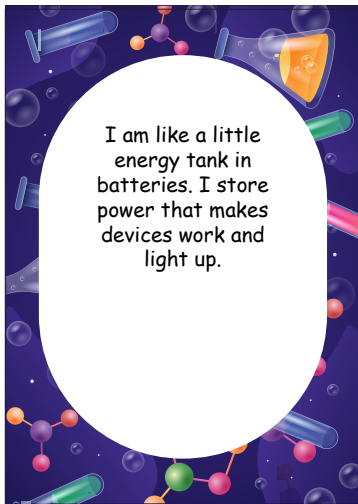
Ca



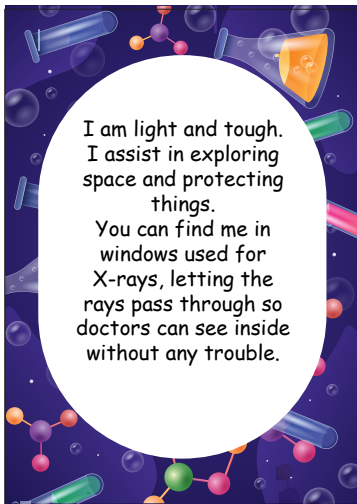
I'm the stuff that stars burn to shine bright, and I'm in the water you drink every day. I'm important for rockets to fly, and I'm everywhere in the universe, powering stars and even cells in living things.



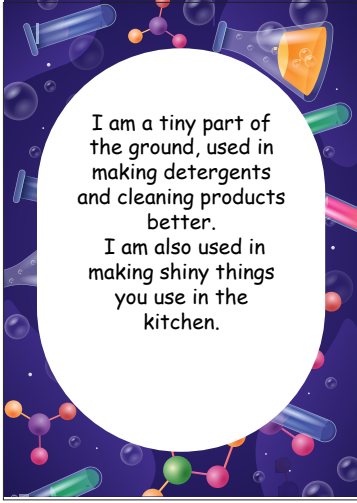
Lighter than air, I make balloons float high.



I am like a little energy tank in batteries. I store power that makes devices work and light up.

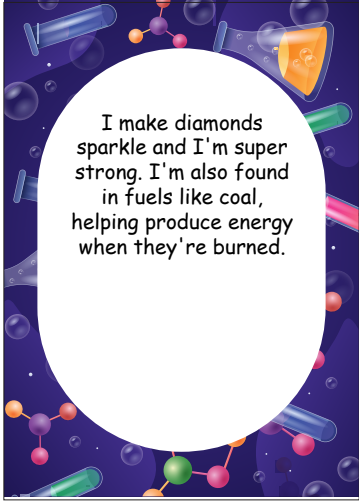


I am light and tough. I assist in exploring space and protecting things.
You can find me in windows used for X-rays, letting the rays pass through so doctors can see inside without any trouble.

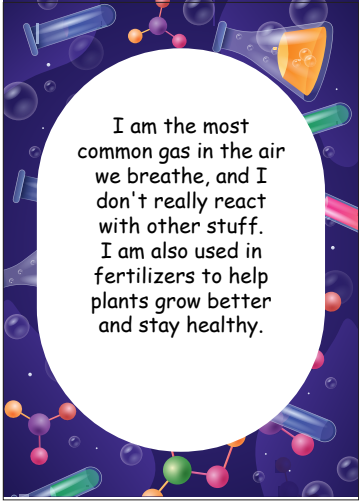


I am a tiny part of the ground, used in making detergents and cleaning products better.

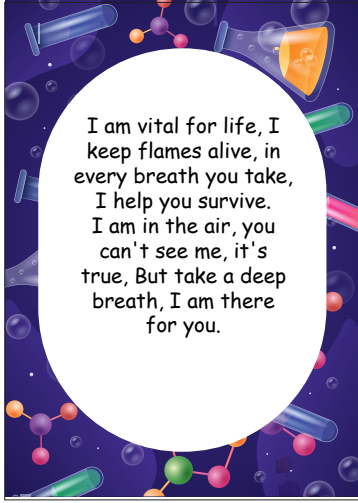
I am also used in making shiny things you use in the kitchen.



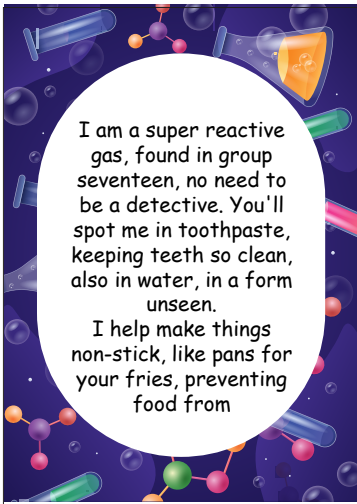
I make diamonds sparkle and I'm super strong. I'm also found in fuels like coal, helping produce energy when they're burned.



I am the most common gas in the air we breathe, and I don't really react with other stuff. I am also used in fertilizers to help plants grow better and stay healthy.



I am vital for life, I keep flames alive, in every breath you take, I help you survive. I am in the air, you can't see me, it's true, But take a deep breath, I am there for you.

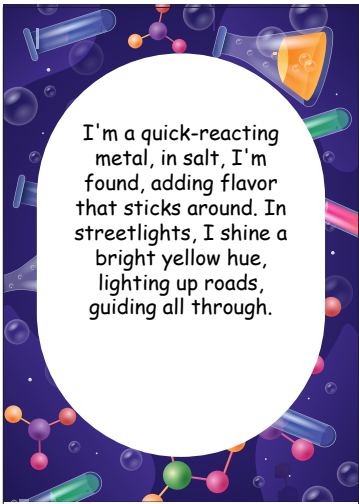


I am a super reactive gas, found in group seventeen, no need to be a detective. You'll spot me in toothpaste, keeping teeth so clean, also in water, in a form unseen.

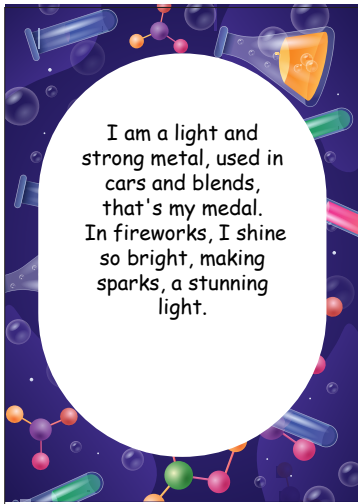
I help make things non-stick, like pans for your fries, preventing food from



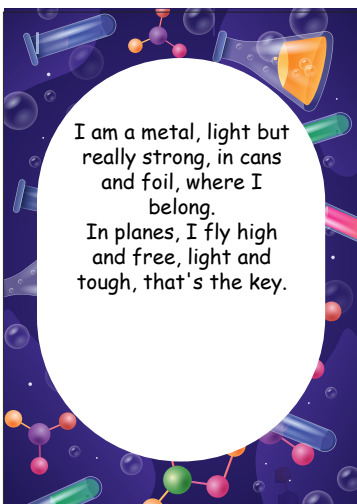
I am in signs and lights, shining bright, showing off colors, a lovely sight. In ads, I get noticed, with neon's glow, brightening streets, putting on quite a show.



I'm a quick-reacting metal, in salt, I'm found, adding flavor that sticks around. In streetlights, I shine a bright yellow hue, lighting up roads, guiding all through.

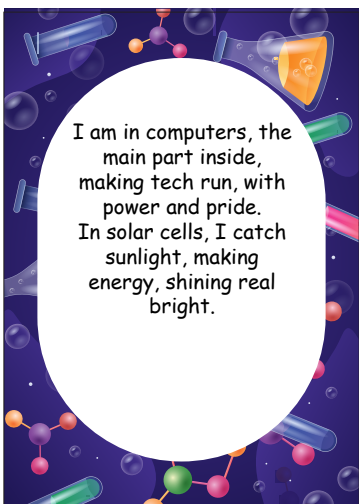


I am a light and strong metal, used in cars and blends, that's my medal. In fireworks, I shine so bright, making sparks, a stunning light.

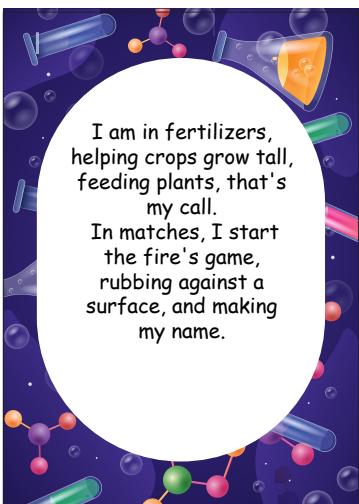


I am a metal, light but really strong, in cans and foil, where I belong.

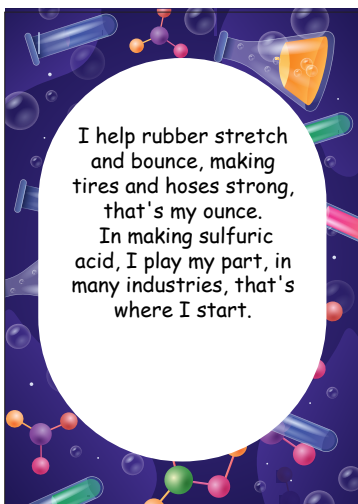
In planes, I fly high and free, light and tough, that's the key.



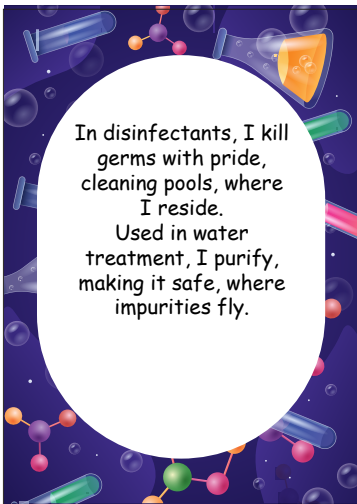
I am in computers, the main part inside, making tech run, with power and pride. In solar cells, I catch sunlight, making energy, shining real bright.



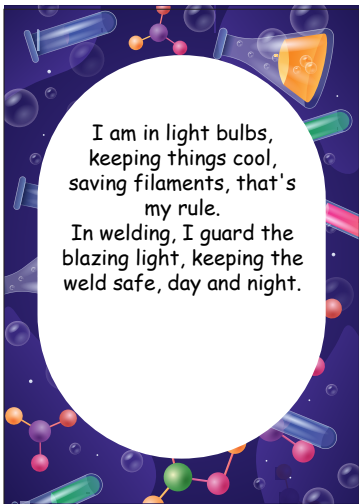
I am in fertilizers, helping crops grow tall, feeding plants, that's my call. In matches, I start the fire's game, rubbing against a surface, and making my name.



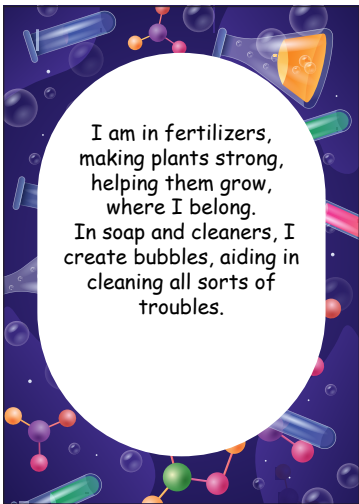
I help rubber stretch and bounce, making tires and hoses strong, that's my ounce. In making sulfuric acid, I play my part, in many industries, that's where I start.



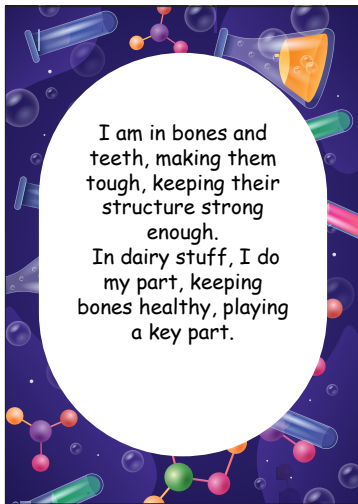
In disinfectants, I kill germs with pride, cleaning pools, where I reside. Used in water treatment, I purify, making it safe, where impurities fly.



I am in light bulbs, keeping things cool, saving filaments, that's my rule. In welding, I guard the blazing light, keeping the weld safe, day and night.



I am in fertilizers, making plants strong, helping them grow, where I belong. In soap and cleaners, I create bubbles, aiding in cleaning all sorts of troubles.



I am in bones and teeth, making them tough, keeping their structure strong enough. In dairy stuff, I do my part, keeping bones healthy, playing a key part.

My Element Board



ANSWER SHEET

Symbol of the Element	Name of the Element	Atomic Number of the Element	Use of the Element
H	Hydrogen	1	I'm the stuff that stars burn to shine bright, and I'm in the water you drink every day. I'm important for rockets to fly, and I'm everywhere in the universe, powering stars and even cells in living things.
He	Helium	2	Lighter than air, I make balloons float high.
Li	Lithium	3	I am like a little energy tank in batteries. I store power that makes devices work and light up.
B	Boron	4	I am light and tough. I assist in exploring space and protecting things. You can find me in windows used for X-rays, letting the rays pass through so doctors can see inside without any trouble.
Be	Beryllium	5	I am a tiny part of the ground, used in making detergents and cleaning products better. I am also used in making shiny things you use in the kitchen.
C	Carbon	6	I make diamonds sparkle and I'm super strong. I'm also found in fuels like coal, helping produce energy when they're burned.
N	Nitrogen	7	I am the most common gas in the air we breathe, and I don't really react with other stuff. I am also used in fertilizers to help plants grow better and stay healthy
O	Oxygen	8	I am vital for life, I keep flames alive, in every breath you take, I help you survive. I am in the air, you can't see me, it's true, But take a deep breath, I am there for you.
F	Fluorine	9	I am a super reactive gas, found in group seventeen, no need to be a detective. You'll spot me in toothpaste, keeping teeth so clean, also in water, in a form unseen. I help make things non-stick, like pans for your fries, preventing food from clinging, I'm the element that applies.
Ne	Neon	10	I am in signs and lights, shining bright, showing off colors, a lovely sight. In ads, I get noticed, with neon's glow, brightening streets, putting on quite a show
Na	Sodium	11	I'm a quick-reacting metal, in salt, I'm found, adding flavor that sticks around. In streetlights, I shine a bright yellow hue, lighting up roads, guiding all through.
Mg	Magnesium	12	I am a light and strong metal, used in cars and blends, that's my medal. In fireworks, I shine so bright, making sparks, a stunning light.
Al	Aluminium	13	I am a metal, light but really strong, in cans and foil, where I belong. In planes, I fly high and free, light and tough, that's the key.

ANSWER SHEET

Symbol of the Element	Name of the Element	Atomic Number of the Element	Use of the Element
Si	Silicon	14	I am in computers, the main part inside, making tech run, with power and pride. In solar cells, I catch sunlight, making energy, shining real bright.
P	Phosphorous	15	I am in fertilizers, helping crops grow tall, feeding plants, that's my call. In matches, I start the fire's game, rubbing against a surface, and making my name.
S	Sulphur	16	I help rubber stretch and bounce, making tires and hoses strong, that's my ounce. In making sulfuric acid, I play my part, in many industries, that's where I start
Cl	Chlorine	17	In disinfectants, I kill germs with pride, cleaning pools, where I reside. Used in water treatment, I purify, making it safe, where impurities fly.
Ar	Argon	18	I am in light bulbs, keeping things cool, saving filaments, that's my rule. In welding, I guard the blazing light, keeping the weld safe, day and night.
K	Potassium	19	I am in fertilizers, making plants strong, helping them grow, where I belong. In soap and cleaners, I create bubbles, aiding in cleaning all sorts of troubles
Ca	Calcium	20	I am in bones and teeth, making them tough, keeping their structure strong enough. In dairy stuff, I do my part, keeping bones healthy, playing a key part.

