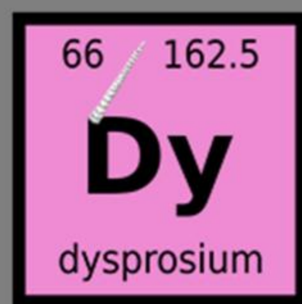
No Metal No Magic

Element 66

Dysprosium, Presented By Dypsie

From The Magical Elements of the Periodic Table Series

Dypsie



Dysprosium

By Sybrina Durant with Illustrations by Pumudi Gardyawasam

Dypsie Presents Dysprosium

Her book features the periodic table element, Dysprosium. It is presented by Dypsie, a member of the Metal Horn Unicorn Tribe from Unimaise. Each member of her tribe has a metal horn and hooves. They also have magical powers based on the properties of their metals.

Dypsie is just one of the 118 elementals who will present all of the Magical Elements of the Periodic Table to readers who are curious about the wonders of the world.

Dypsie introduces the very necessary element, Dysprosium, in her book.

The Metal Horn unicorns from Unimaise and their other techno-magical unicorn friends are the perfect group to introduce you to metals and other elements in the Periodic Table. Hopefully, the Magical Elements of the periodic table book will spark an interest in the magical and real world properties of all the metals and other elements known today. You may be surprised at how prominently they feature in our every day lives.

Each page in this book contains terms that might not be completely familiar to the reader. Refer to the definitions in the back of the book to get a clear understanding of each meaning.

There is also a fun elemental themed Periodic Table at the back of the book. It features 118 elements presented by fanciful characters like unicorns, dragons, wizards, knights and goblins.. They want you to remember that if there's no metal...there's no magic or technology.

Remember, "No metal – No Magic. . .and No Technology".

It's Techo-Magical.

Note: Sybrina Publishing websites are Sybrina.com and MagicalPTElements.com. Follow sybrinapublishing on Instagram, Magical Elements of the Periodic Table on Facebook, @sybrinad on Pinterest and Sybrina_SPT on Twitter.

Dysprosium is a Rare Earth Lanthanide Metal

The pure form of Dysprosium was isolated in the 1950s a team of scientists led by French chemist Georges Urbain.

Dysprosium is a solid with a silver color. Dysprosium is an electrical conductor, making it useful in various applications.

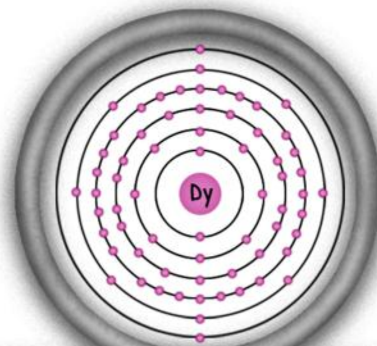
Dysprosium is strongly paramagnetic, meaning it is attracted to magnetic fields.

Dysprosium is not ductile or malleable, as it is a brittle metal.

Dysprosium is a rare earth element and a lanthanide, commonly used in high-tech industries.

LEGEND
Alkali Metals
Alkali Earth Metals
Transition Metals
Post-Transition (or Other Metals)
Metalloids
Non-Metals
Halogens
Noble Gases
Rare Earth Lanthanide Metals
Actinide Metals
Super Heavy—Radioactive

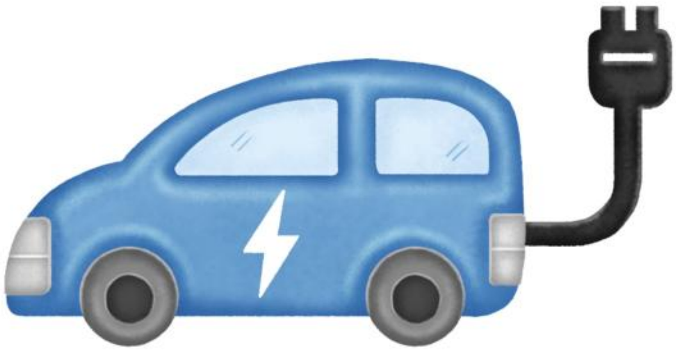
Dysprosium Element



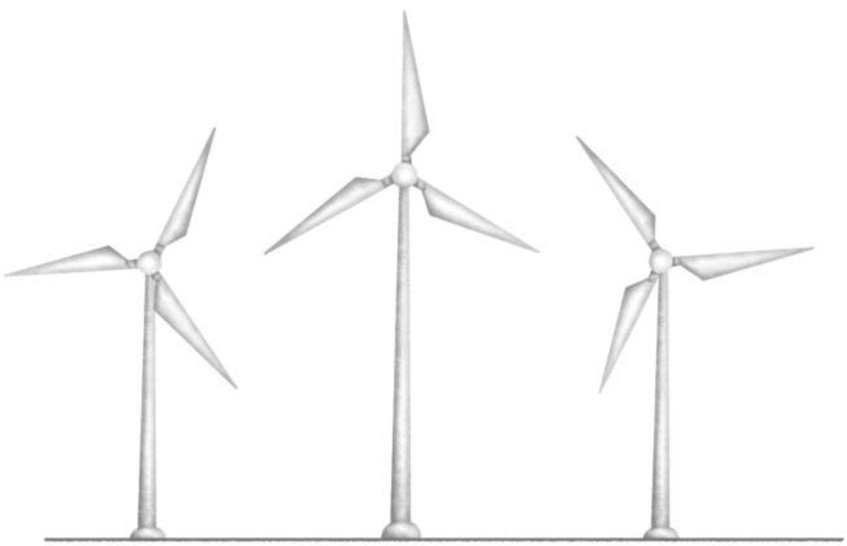
Atomic Structure

Lanthanide Rare Earth Minerals—The Japanese call them "the seeds of technology." The US Department of Energy calls them "technology metals." These elements have atomic numbers 57-71. They are vital to industry. They can be added to metals to strengthen them to make alloys such as stainless steel, used to refine crude oil, and are crucial in producing technology—electronics, telecommunications, and metal devices to name a few. They are lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, scandium and yttrium.

Uses For Dysprosium

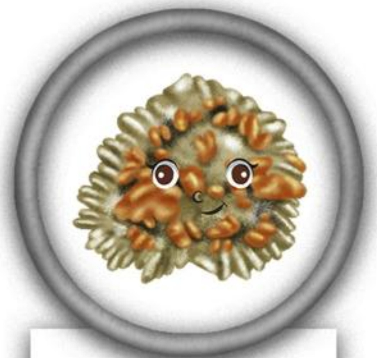


Permanent magnets in electric cars are made from Dysprosium.



Wind generators utilize Dysprosium magnets.

The Source of Dysprosium



Dysprosium is
mined from
monazite,
a phosphate
mineral.
Some of the
largest deposits
are in India.

Dysprosium is a rare element that is important for many things we use in industry. It is not found on its own in nature, but we get it from special rocks like monazite, bastnasite and xenotime.. The process of getting dysprosium from these rocks involves taking them out of the ground and using different methods like crushing and grinding to separate the dysprosium from other stuff in the rocks. Commercial processing includes acid baking, leaching, and solvent extraction techniques to extract dysprosium from the minerals.

Some of the largest deposits are in India but right now, China is the biggest producer of dysprosium because it has a lot of it and can make it for less money. But other countries like Australia and the United States are also starting to make more dysprosium. When we mine and make dysprosium, it can hurt the environment by making waste and using chemicals that can be harmful if not handled properly.

One big worry with dysprosium is that the rocks we get it from can have radioactive stuff in them. This can be dangerous for workers and nature if the right safety rules are not followed.

In the end, while dysprosium is important for many things we use, we need to be careful when getting it so we don't hurt the environment or people.

Structure Of Elements In The Periodic Table

Periodic tables are laid out in rows and columns.

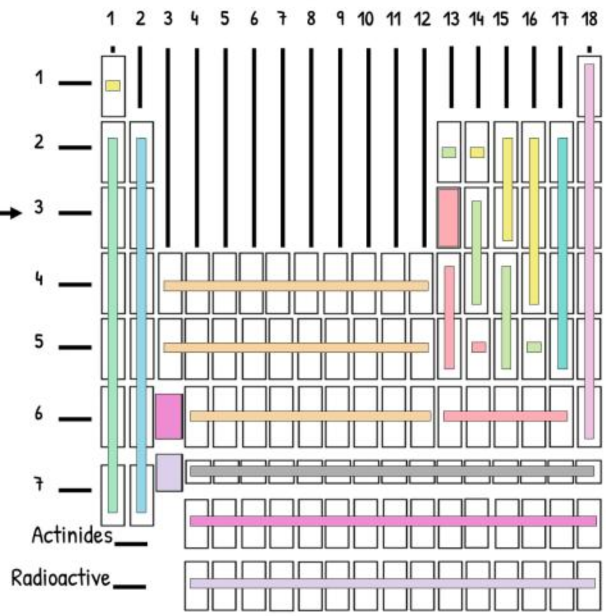
Vertical columns are called Groups.

Each element is placed in a specific location because of its atomic structure. Elements are arranged in Families.

Horizontal rows are called Periods.

All rows read left to right.

The last two periods are part of periods 6 & 7.



The Families are:

- Alkali Metals
- Alkali Earth Metals
- Transition Metals
- Post-Transition (or Other Metals)
- Metalloids
- Non-Metals
- Halogens
- Noble Gases
- Rare Earth Lanthanide Metals
- Actinide Metals
- Heavy—Radioactive

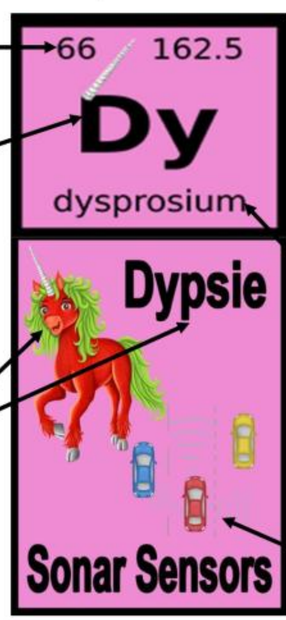
The term 'Element' is used to describe atoms with specific characteristics.
Every element in the first column or Group has 1 electron in the outer orbital (shell).
Every element in the second column (group two) has two electrons in the element's outer orbital.
The number designation of each Group represents the number of electrons in the element's outer orbital—except for Group 18, Period 1—Helium. It only has 2 electrons.
Those electrons, called Valence Electrons, are what chemically bond with other elements.

Atomic Structure of Element: The atomic structure of an element refers to the arrangement of protons and neutrons in the nucleus of the atom, and the electrons in the electron cloud around the nucleus. Group 1, Period 1—Hydrogen is the only element that has no neutrons.

Dy—Dysprosium
Group 13—Period 6

Atomic Number— Indicates the number of protons in the nucleus and the number of electrons in the atom (Element).

Element Symbol— The identifying letters for the element are an abbreviation of the element name. Only one or two letters are used for element symbols. Dy = Dysprosium

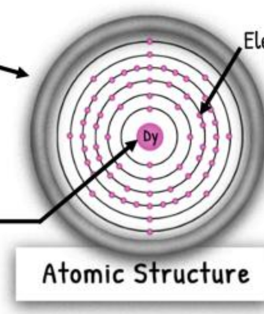


The Elemental Unicorn introducing this Element in the Magical Elements of the Periodic Table Element 66 Book is Dypsie the Unicorn With The Dysprosium Horn and Hooves.

Atomic Mass (or Weight) — Equals the number of Protons + Neutrons in the Element's nucleus.

Atom (Element)

Electrons

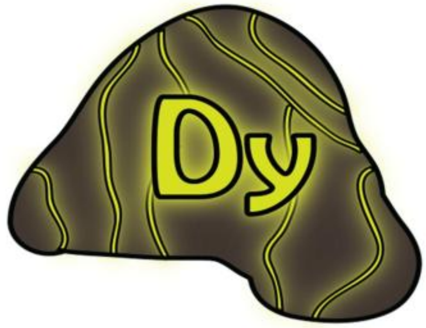


Protons and Neutrons in Nucleus

Atomic Structure

Element Name—
The name of this element is Dysprosium. It is a Lanthanide Rare Earth Metal.

An every day use for the element.
IE: Dysprosium is used to make sonar sensors.



What Makes Dysprosium Seem Magical?

Dysprosium is a soft, silvery metal, a rare gem hidden among the earth's crust like buried treasure. Enchantingly entwined with the lanthanide series of elements, Dysprosium dances with complex electron configurations, casting a spell of captivating chemical behaviors. While it may not be the abundant hero of the elemental world, it is undeniably one of the most magical, as if plucked right from the pages of a sci-fi saga.

At the heart of Dysprosium's charm lies its extraordinary magnetic prowess. This mystical metal serves as a spellbinding ingredient in the creation of high-performance permanent magnets, the lifeblood of electric motors, wind turbines, and hard disk drives. These magnets, essential to the very fabric of our modern conveniences, empower technologies that seem like wizardry at work.

These enchanting magnets thrive even in the warmth that typically banishes other magnetic forces to the shadows. Dysprosium acts as a sorcerer's wand in the realm of technology, ensuring devices endure and excel where others falter. Picture a future where every device you interact with is infused with the unique magic of this rare earth material, allowing them to flourish longer and perform with unparalleled vigor.

Dysprosium also infuses a vibrant glow into the world of phosphors, materials that shimmer and illuminate under special lighting. Its compounds create dazzling displays in screens and lighting systems, breathing life into televisions and smartphones with vibrant energy efficiency. With a sprinkle of Dysprosium, your favorite fantasy adventures unfold in breathtaking clarity, enchanting your senses!

In the realm of energy, Dysprosium is weaving its spell. As we embark on a journey toward sustainable energy, the quest for efficient energy storage solutions is soaring. Enter Dysprosium, a key player in the crafting of advanced batteries that may one day power everything from electric vehicles to our very homes, envisioning a sleek, eco-friendly future straight from the fantasy tales we admire.

Imagine a world where your electric skateboard glides effortlessly for miles, recharged not by plugs but by the extraordinary energy-storing magic of Dysprosium-enhanced lithium-ion batteries. The horizons of possibility stretch endlessly, limited only by the bounds of our imagination.

It's evident that Dysprosium is far more than a mere element on the periodic tableau; it is a fountain of innovation and a gateway to a realm brimming with technology that feels almost otherworldly. Embracing Dysprosium invites you to delve into an array of beguiling topics: magnetism, energy, luminescence, and the unfolding future of technology itself.

Meet Dypsie, the extraordinary unicorn of legend, born from the mystical Metal Horn Unicorn Tribe—a lineage as rare as it is magnificent. With her dazzling Dysprosium horn, forged from the depths of the Earth's crust, Dypsie embodies the essence of power and enchantment. This unique metallic horn is not merely a striking feature; it is the source of her remarkable abilities that set her apart in the world of mystical beings.

With a graceful twist of her horn, Dypsie can manipulate magnetic fields to effortlessly levitate metal objects, creating dazzling displays of floating artifacts that shimmer in the air. In the midst of conflict, she can conjure protective shields that radiate a shimmering energy, safeguarding her friends from harm. Her mastery of electrokinesis allows her to wield electricity as if it were a tangible force. Bolts of lightning can dance around her like stars, giving her an added advantage in both defense and offense. In battle, she can release arcs of energy that stun her foes, turning the tide with a flicker of her horn.

Perhaps one of Dypsie's most extraordinary gifts is her ability to absorb a multitude of energies from her surroundings—heat from the sun, the kinetic energy from movement, and raw electrical power. This energy absorption not only fortifies her magical prowess but also amplifies her capability to heal and rejuvenate those around her, making her a cherished ally in times of need. When her companions are weary, she can channel the absorbed energy to restore their spirits and strength, proving that her heart is as powerful as her magic.

Dypsie's wild spirit makes her an emblem of freedom. She traverses the lands with an ethereal grace, her body moving with effortless fluidity that seems to defy the very laws of nature. With a flick of her iridescent lime green mane, she can vanish into thin air, slipping between dimensions as easily as breathing. This skill allows her to explore realms unknown, where the wonders of the universe unfold beneath her hooves.

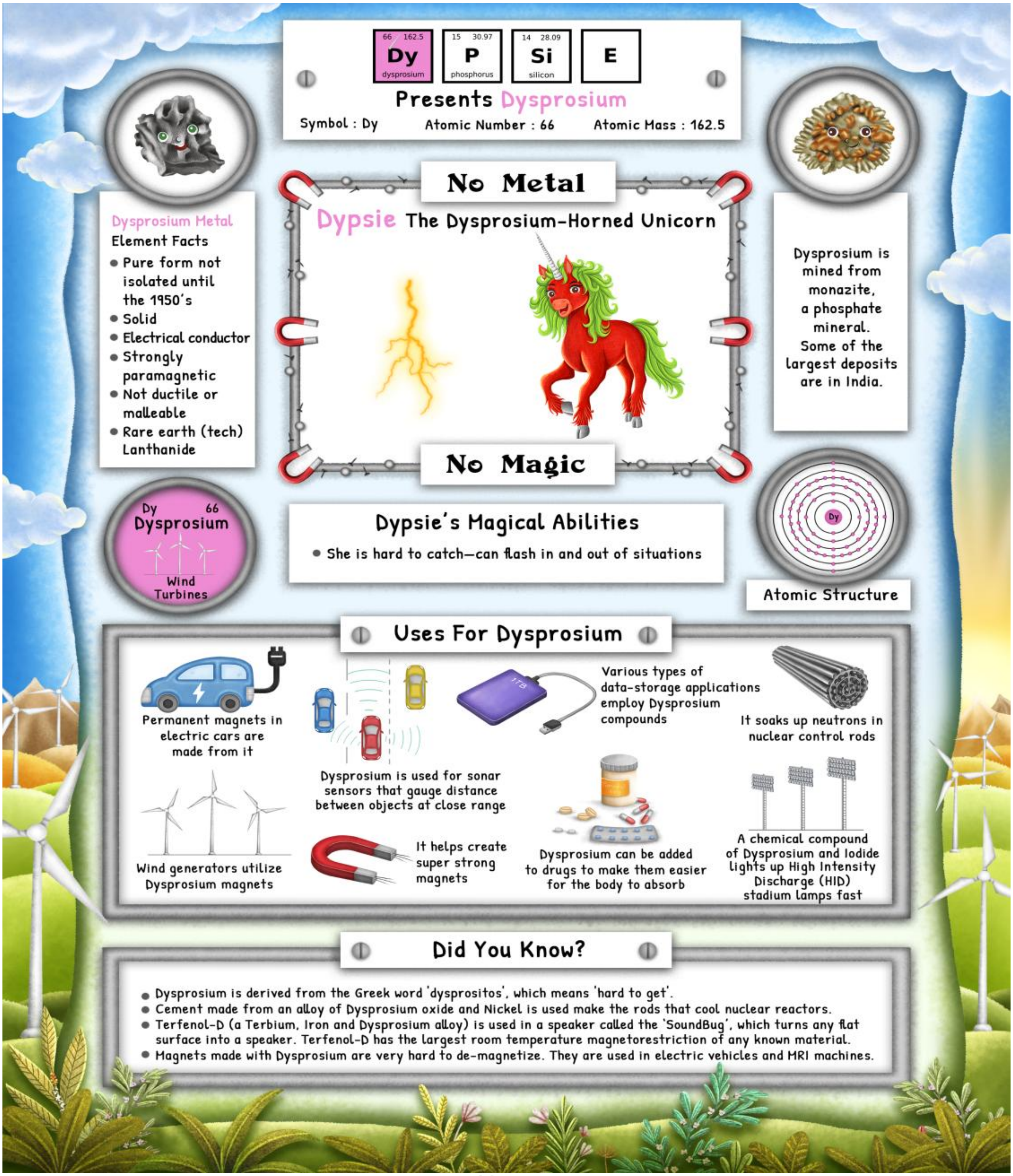
Yet, for all her powers and enchanting qualities, Dypsie is steadfast in her commitment to noble causes. She uses her extraordinary abilities not for selfish ambition, but to champion peace, fairness, and protection for the vulnerable. Dypsie is revered for her capacity to communicate with nature, summoning the flora and fauna to aid her in her quests. Animals of the woods rally to her side, drawn by her magnetic presence and unwavering spirit.

Her incredible powers paired with her innate beauty leave an indelible mark on all who cross her path. Those fortunate enough to glimpse her shimmering form or witness her enchanting dances often find themselves inspired, feeling a renewed sense of hope in their hearts. Dypsie is regarded as not just another mythical creature, but a symbol of resilience—a beacon that bridges the gap between the spirit of nature and the magic that resides within us all.

In every encounter, Dypsie evokes wonder and admiration. Her legendary status as a defender of justice and a harbinger of harmony makes her an unforgettable presence in the folklore of the land. As she continues her journey through the enchanting tapestry of existence, Dypsie embodies the unbreakable bond between nature and spirit, forever illuminating the hearts of those willing to believe in the magic that surrounds them.

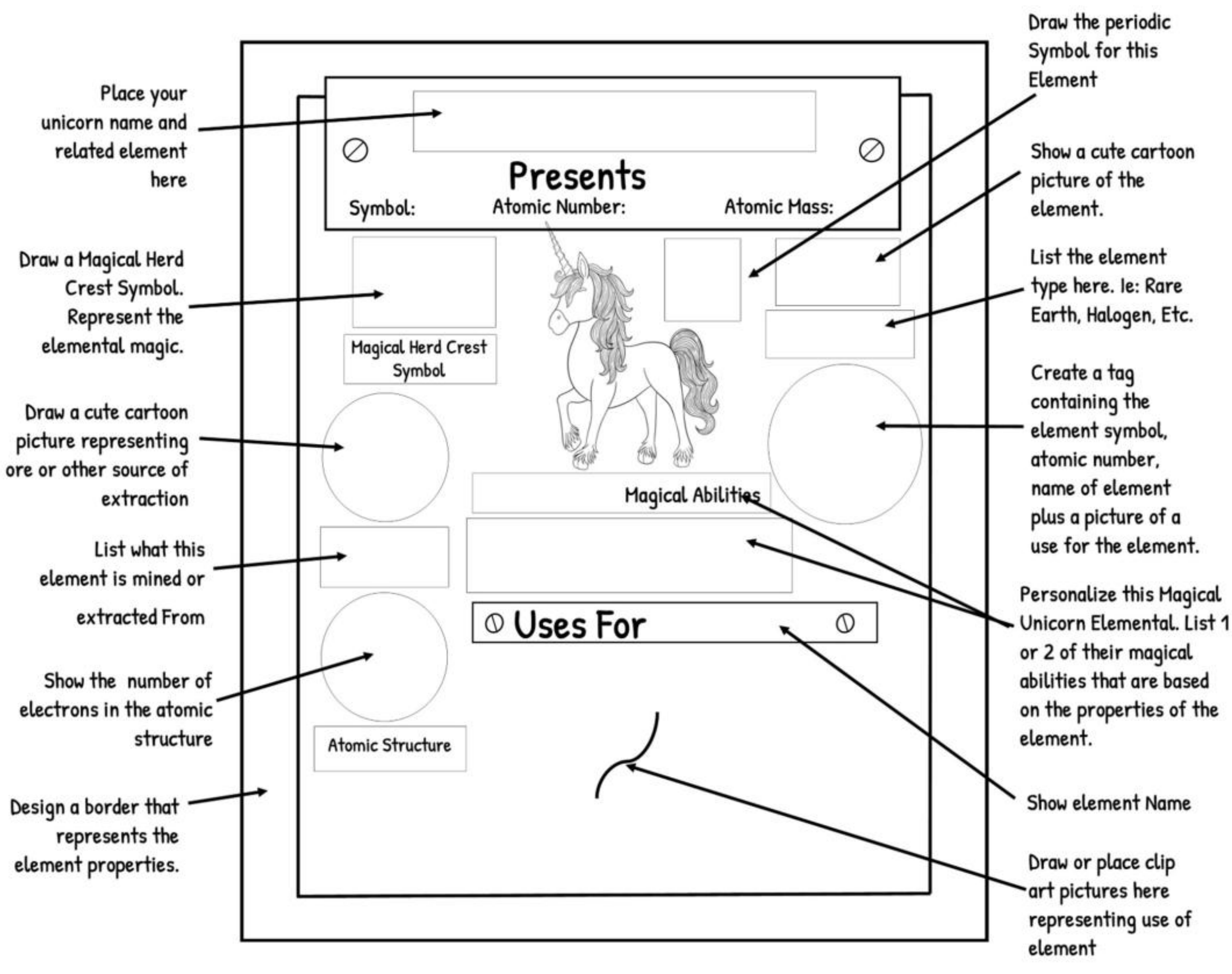
Sample Page From Magical Elements of the Periodic Table

Presented Alphabetically By The Metal Horn Unicorns



CREATE YOUR OWN Magical Unicorn Elemental

Students may either use a program like power point to cut and paste clip art into a Magical Unicorn Elemental Blank or, if they wish, they may draw everything themselves.



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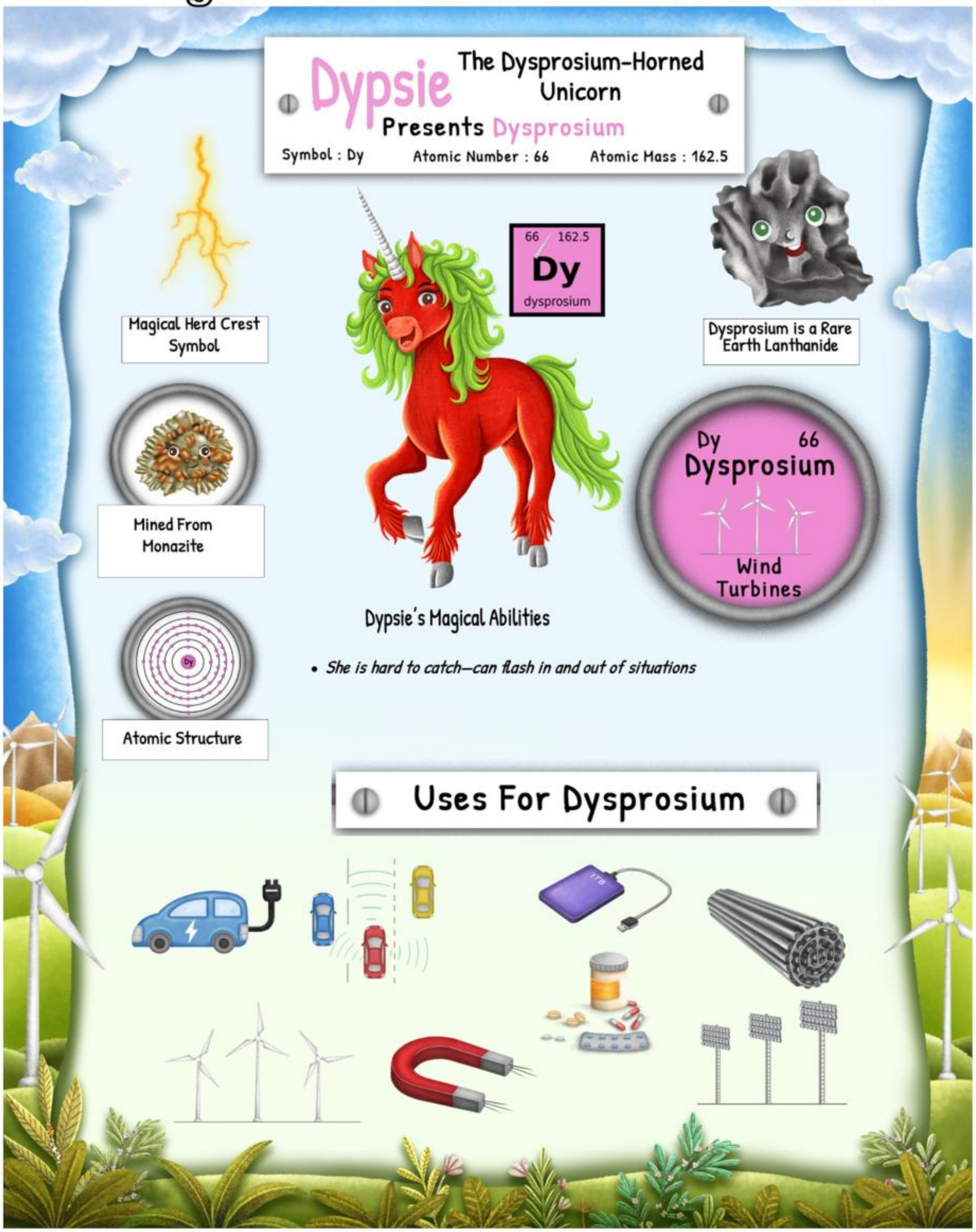

Presents

Symbol: Atomic Number: Atomic Mass:

Magical Herd Crest Symbol

Magical Abilities

Atomic Structure

Uses For

Do Your Middle Graders Want To Know More From The Magical Elementals About The Periodic Table?

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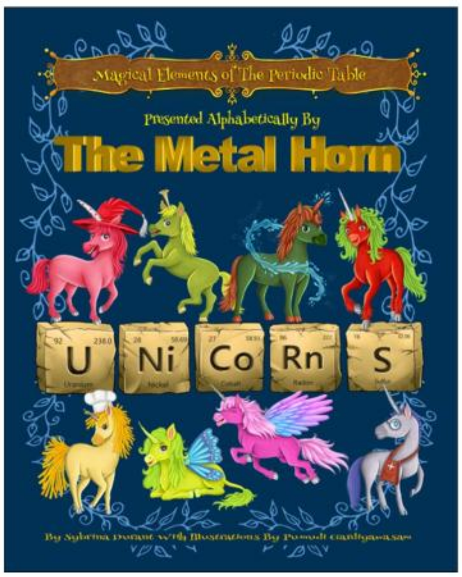
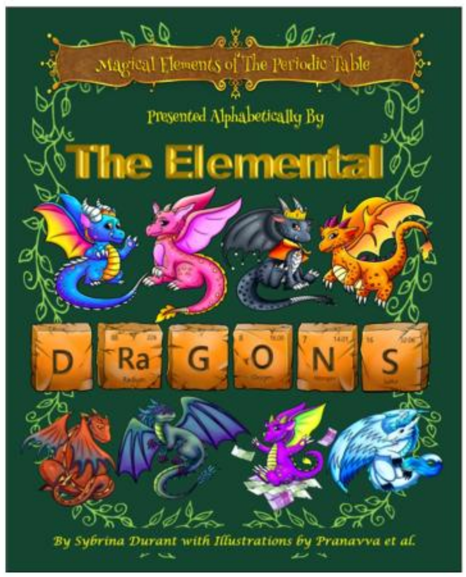
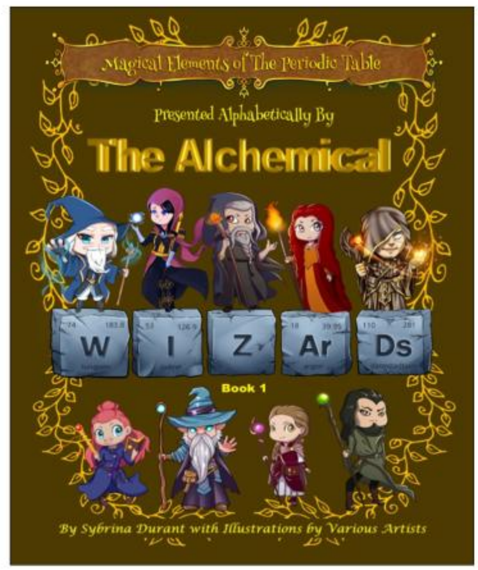
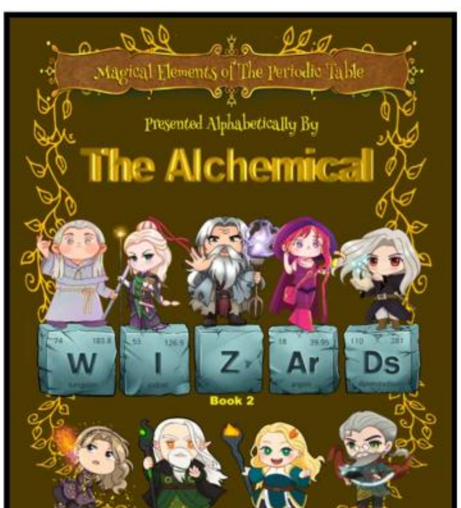
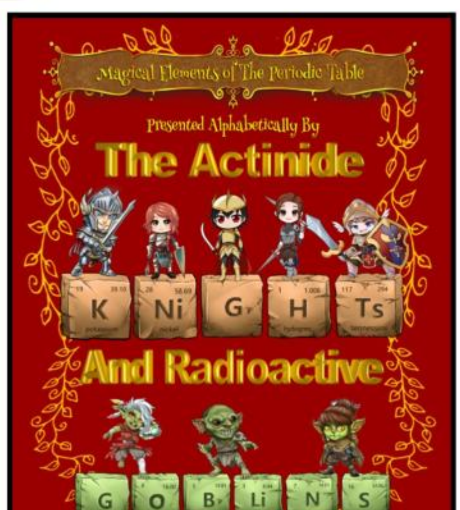






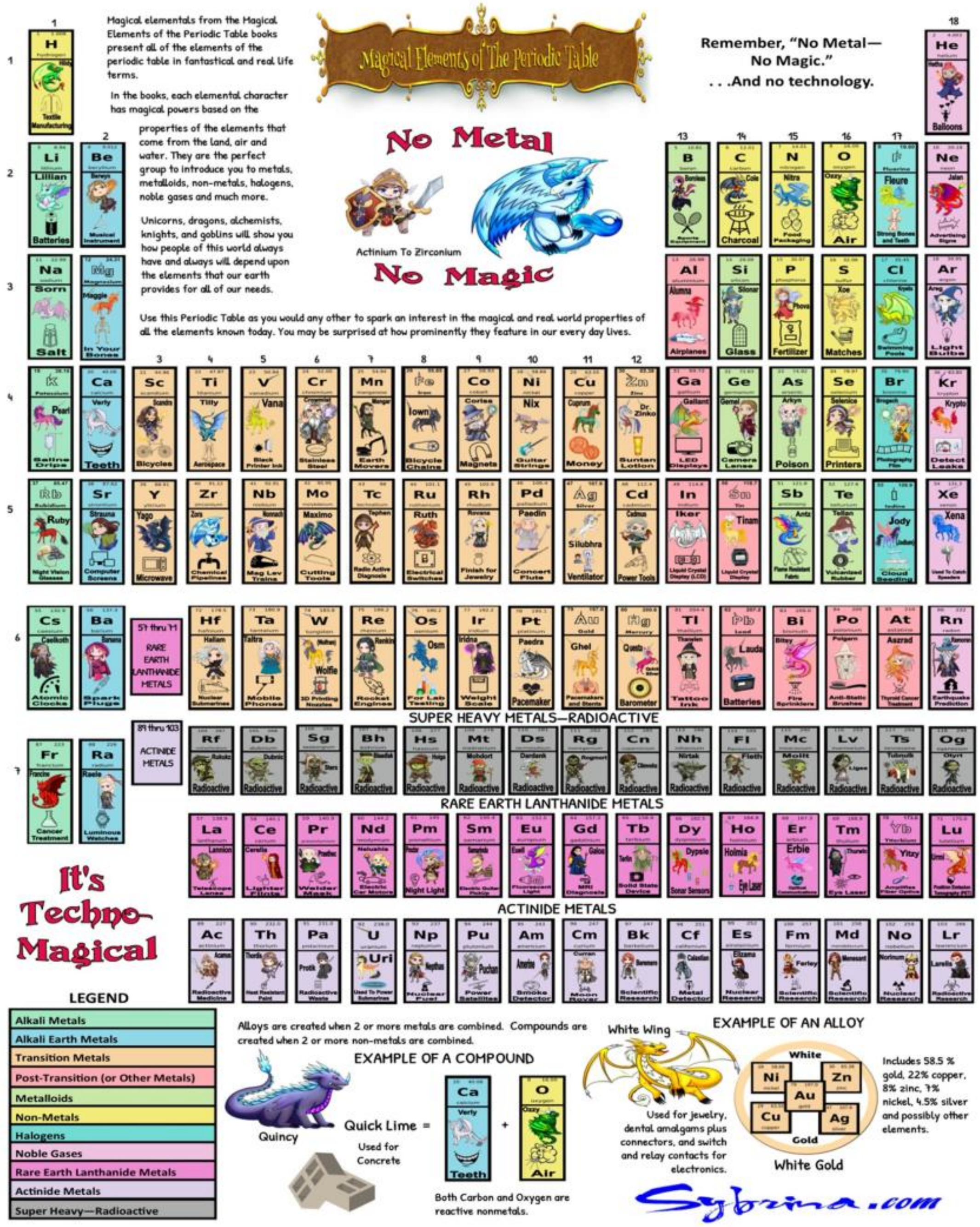
Coming Soon





Also Available From Sybrina Publishing

Magical Elemental-Themed Periodic Table



Would you like a 24" x 36" poster of the Magical Elemental-Themed Periodic Table from The Magical Elements of the Periodic Table books? The best place to get a high quality poster size print is at https://bit.ly/49QMxBT It will look great on a classroom or kid's room wall.

I hope you enjoyed this sample

The book is available in PDF and Soft Cover Formats.

Learn more about it at magicalptelements.com

Sybrina Publishing

If you love the book,

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home schoolers and anyone else who might enjoy it.