

Periodic Table Worksheet Chemistry Tutorial

Periodic Table Worksheet Chemistry

Periodic Table Worksheet Chemistry: A Gateway to Mastering Elements

periodic table worksheet chemistry is an incredibly effective tool for students and

educators alike to deepen their understanding of the elements and their properties.

Whether you're a high school student grappling with the basics or a college learner aiming to solidify your grasp on chemical concepts, using a periodic table worksheet in chemistry offers a hands-on approach to learning that goes beyond memorization. In this article, we'll explore why these worksheets are so valuable, how they can be utilized effectively, and provide tips for maximizing their educational potential.

Understanding the Importance of Periodic Table Worksheet

Chemistry

The periodic table is the backbone of chemistry. It organizes all known elements based on their atomic number, electron configurations, and recurring chemical properties. However, simply looking at the table can be overwhelming due to its complexity. This is where periodic table worksheets come into play.

These worksheets break down the table into manageable sections and often include exercises that prompt learners to identify elements, group them by families, or understand trends such as electronegativity and atomic radius. Using worksheets

encourages active learning, which is proven to improve retention and comprehension.

What Makes a Good Periodic Table Worksheet?

Not all worksheets are created equal. A well-designed periodic table worksheet chemistry resource should:

Encourage interaction rather than passive reading.

Include varied question types such as fill-in-the-blanks, matching, and multiple-choice.

Present real-world applications of elements to spark interest.

Incorporate visual aids like color-coded groups to highlight trends.

Challenge students with puzzles or problem-solving questions related to periodic trends.

By combining these elements, worksheets become powerful learning tools rather than just busywork.

Key Concepts Covered in Periodic Table Worksheets

Periodic table worksheets in chemistry typically cover a broad range of foundational topics that are essential for mastering the subject.

Element Identification and Symbol Recognition

One of the first skills students learn is recognizing element symbols and their placement on the periodic table. Worksheets often feature activities where students match symbols to element names or fill in missing symbols based on atomic numbers. This helps cement the connection between chemical symbols and the elements they represent.

Grouping Elements and Understanding Families

The periodic table is organized into groups and periods, with elements in the same group sharing similar properties. Worksheets guide students through identifying groups such as alkali metals, alkaline earth metals, halogens, and noble gases. Understanding these groups is crucial because it reveals patterns in reactivity and physical properties.

Periodic Trends and Properties

Worksheets often delve into periodic trends such as atomic radius, ionization energy, and electronegativity. Activities might include comparing elements across periods or groups to observe how these properties change. This hands-on approach illuminates abstract concepts, making them more tangible.

Enhancing Learning with Different Types of Periodic Table

Worksheets

Variety is key when it comes to keeping learners engaged. Different worksheet formats cater to diverse learning styles and help reinforce concepts from multiple angles.

Fill-in-the-Blank and Labeling Worksheets

These worksheets typically provide a blank periodic table or tables with missing information. Students fill in element symbols, atomic numbers, or group names. This format encourages memorization and familiarization with the layout of the periodic table.

Crossword and Puzzle-Based Worksheets

Incorporating puzzles such as crosswords, word searches, or element bingo makes

learning fun and interactive. For example, a crossword might require students to recall element names based on clues about their properties or uses.

Application and Problem-Solving Worksheets

More advanced worksheets challenge students to apply their knowledge to solve chemical problems. These might include predicting element behavior in reactions, calculating atomic masses, or analyzing electron configurations. This approach promotes critical thinking and deeper understanding.

Tips for Using Periodic Table Worksheet Chemistry Effectively

To get the most out of periodic table worksheets, consider the following strategies:

Start with the basics: Begin with simple worksheets focusing on element names

1.
and symbols before progressing to complex concepts like periodic trends.

Use worksheets alongside visual aids: Pair worksheets with colorful, interactive

2.
periodic tables to enhance visual learning.

Encourage group work: Collaborative exercises can stimulate discussion and

3.
reinforce understanding.

Integrate technology: Digital worksheets or interactive apps can provide instant

4.

feedback and engaging multimedia content.

Regularly revisit worksheets: Periodic review using worksheets helps

5.

consolidate knowledge over time.

Customizing Worksheets for Different Learning Levels

Periodic table worksheet chemistry resources can and should be tailored to the learners'

proficiency. For beginners, worksheets might focus on memorization and basic concepts.

For advanced students, incorporating challenges such as electron configuration puzzles or

predicting element reactivity sharpens analytical skills. Teachers and tutors can modify

existing worksheets or create their own to suit the needs of their students.

Where to Find Quality Periodic Table Worksheets

A quick online search will yield thousands of periodic table worksheet chemistry options,

but quality varies widely. Reliable educational websites, chemistry textbooks, and

academic resource platforms often provide well-structured worksheets vetted by

educators. Additionally, some websites offer customizable worksheet generators, allowing

you to tailor content and difficulty.

Educational forums and teacher communities are also valuable places to discover

recommendations for the best worksheets and share your own creations. For those

interested in technology-enhanced learning, apps and interactive platforms often include

worksheet-style quizzes that adapt to student performance.

Integrating Periodic Table Worksheets into Your Study Routine

Making periodic table worksheets a regular part of your study plan can significantly boost your chemistry skills. Consider setting aside time each week to complete different types of worksheets, gradually increasing complexity. Pair this with other learning tools such as flashcards, videos, and lab experiments for a comprehensive approach.

Remember, the goal is not just to memorize the periodic table but to understand how elements behave and relate to one another. Worksheets that encourage application and critical thinking are especially valuable in achieving this.

Periodic table worksheet chemistry is much more than a simple academic task; it's a dynamic learning tool that brings the fascinating world of elements to life. By engaging with these worksheets thoughtfully, learners can unlock a deeper appreciation for chemistry and build a strong foundation for future scientific exploration.

Question

Answer

What is the purpose of a periodic table worksheet in chemistry?

A periodic table worksheet helps students understand and practice the arrangement of elements, their properties, and trends within the periodic table.

What key concepts are

usually covered in a periodic

table worksheet?

Key concepts include element symbols, atomic

numbers, groups and periods, element classification

(metals, nonmetals, metalloids), and periodic trends

such as electronegativity and atomic radius.

How can a periodic table

worksheet help in learning

element groups and periods?

Worksheets often include exercises that require

identifying elements by their groups and periods,

reinforcing the organization of the periodic table and

the similarities in chemical properties within groups.

What types of questions are

common in periodic table

worksheets?

Common questions include identifying elements based

on atomic number or symbol, predicting element

properties, arranging elements by increasing atomic

mass, and explaining periodic trends.

How do periodic table

worksheets aid in
understanding periodic
trends?

They provide practice in analyzing trends such as
atomic size, ionization energy, and electronegativity
across periods and down groups, helping students
grasp the reasons behind these patterns.

Are periodic table worksheets
useful for both beginners and
advanced chemistry
students?

Yes, worksheets can be tailored to different levels, from
basic identification and classification for beginners to
more complex problem-solving and trend analysis for
advanced students.

Can periodic table worksheets
be used for online chemistry
learning?

Absolutely, many periodic table worksheets are
available in digital formats, allowing interactive learning

and self-assessment in virtual or hybrid chemistry classes.

What are some effective

activities included in periodic table worksheets?

Activities like filling in missing element symbols, matching elements to properties, coloring groups, and completing trend charts are effective for engaging students.

Where can teachers find free periodic table worksheets for chemistry?

Teachers can find free worksheets on educational websites such as Khan Academy, Education.com, and Teachers Pay Teachers, as well as through chemistry textbook resources and online teaching platforms.

Periodic Table Worksheet Chemistry: An Essential Tool for Learning and Teaching

periodic table worksheet chemistry serves as a foundational resource in both educational and professional settings, enabling students and educators to deepen their understanding of elemental properties and relationships. As chemistry continues to evolve, the periodic table remains an indispensable reference, and worksheets designed

around it play a critical role in facilitating engagement, retention, and practical application of chemical concepts.

In this article, we investigate the significance of periodic table worksheets within the chemistry curriculum, exploring their design, educational value, and adaptability across various learning environments. We will also consider how these worksheets complement digital tools and traditional teaching methods, enhancing comprehension of complex topics such as atomic structure, element classification, and periodic trends.

The Role of Periodic Table Worksheets in Chemistry Education

Periodic table worksheet chemistry materials function as interactive platforms that encourage active learning rather than passive memorization. Unlike simply glancing at a printed periodic table, worksheets require students to analyze, interpret, and apply knowledge, which fosters critical thinking skills essential in scientific disciplines.

These worksheets typically present tasks such as filling in missing element symbols, predicting element properties based on position, identifying groups and periods, and solving problems related to atomic number and mass. By incorporating exercises that demand application, worksheets help bridge the gap between theoretical understanding and practical chemistry knowledge.

Design and Structure of Effective Periodic Table Worksheets

The design of a periodic table worksheet significantly influences its educational impact. Effective worksheets balance complexity with clarity, ensuring that learners at different

levels can engage meaningfully. Common features include:

Blank Periodic Tables: Allowing students to fill in element symbols or atomic

1.

numbers to reinforce memory and spatial understanding.

Classification Exercises: Tasks focusing on categorizing elements into metals,

2.

nonmetals, metalloids, or specific groups such as alkali metals or noble gases.

Trend Analysis: Worksheets prompting students to analyze and predict trends

3.

such as electronegativity, atomic radius, or ionization energy across periods and groups.

Problem-Solving Questions: Challenges involving real-life applications or

4.

calculations using periodic properties, enhancing analytical skills.

Incorporating varied question types—multiple-choice, matching, short answer, and diagram labeling—caters to diverse learning preferences and encourages comprehensive engagement with the periodic table.

Benefits of Using Periodic Table Worksheets in Learning

The educational advantages of periodic table worksheet chemistry extend beyond rote learning. These benefits include:

Enhanced Retention: Active involvement in filling and analyzing tables

improves

1.

long-term memory of elemental data.

Conceptual Understanding: Worksheets often contextualize elements within

2.

chemical families and periodic trends, aiding conceptual clarity.

Skill Development: Students develop skills in data interpretation, pattern

3.

recognition, and scientific reasoning.

Assessment Utility: Teachers can use worksheets both as formative assessments

4.

and revision tools to gauge student progress.

Moreover, the flexibility of worksheets allows for customization to cater to different educational levels, from middle school introductions to advanced high school and college chemistry courses.

Integrating Periodic Table Worksheets with Modern Educational Technologies

While traditional paper-based worksheets remain prevalent, the integration of digital periodic table worksheet chemistry resources has gained traction. Interactive digital worksheets and apps offer dynamic features such as instant feedback, interactive quizzes,

and customizable difficulty levels.

Advantages of Digital Worksheets

Digital platforms provide several enhancements over static worksheets:

Immediate Feedback: Learners receive instant corrections, encouraging self-

1.

paced learning and reinforcing correct information.

Multimedia Integration: Incorporation of animations and graphics helps visualize

2.

atomic structures and element interactions.

Accessibility: Online worksheets are accessible anytime, supporting remote

3.

learning environments.

Tracking and Analytics: Educators can monitor student performance and identify

4.

areas needing reinforcement.

These features not only support engagement but also facilitate personalized learning

strategies, adapting to the needs of individual students.

Challenges and Considerations

Despite the advantages, certain challenges accompany the use of periodic table

worksheet chemistry resources:

Over-Reliance on Worksheets: Excessive dependence on worksheets may limit

1. opportunities for hands-on experiments and discussions.

Quality Variability: The abundance of free worksheets online means that not all

2. materials meet educational standards or accuracy.

Technology Barriers: Not all students have equal access to digital devices or

3. reliable internet, potentially hindering equitable learning.

Educators must balance the use of worksheets with other instructional methods to foster a comprehensive understanding of chemistry.

Comparing Periodic Table Worksheets to Other Learning Tools

Periodic table worksheets occupy a unique niche compared to textbooks, flashcards, and laboratory experiments. While textbooks provide in-depth explanations and flashcards aid memorization, worksheets promote active problem-solving and application.

Laboratory experiments offer experiential learning but may not always elucidate the broader periodic trends or elemental relationships that worksheets can effectively highlight. In this context, worksheets act as a bridge, reinforcing theoretical knowledge while preparing students for practical activities.

Customizing Worksheets for Different Learning Goals

Educators increasingly tailor periodic table worksheet chemistry materials to align with specific curriculum standards and learner needs. For example:

Introductory Worksheets: Focus on basic element identification and groupings

1.
suitable for beginners.

Advanced Worksheets: Include complex problem-solving tasks involving electron

2.
configurations, isotope notation, or periodic law applications.

Cross-Disciplinary Worksheets: Connect chemistry with physics or

3.
environmental science by exploring element uses and properties.

This adaptability enhances the relevance of worksheets across diverse educational contexts.

The ongoing evolution of chemistry education underscores the importance of versatile tools like periodic table worksheet chemistry resources. By fostering active engagement and critical analysis, these worksheets continue to support effective learning and teaching practices that adapt to both traditional classrooms and modern digital environments.

periodic table activities, chemistry worksheet, element symbols practice, periodic table quiz, chemical elements worksheet, periodic trends exercise, atomic number worksheet, element classification activity, periodic table review, chemistry learning sheet

the periodic table and periodic law glencoe

the periodic table and periodic law glencoe

The periodic table and periodic law are fundamental concepts in the field of chemistry, serving as essential tools for understanding the properties and relationships of chemical elements. The "Glencoe" reference pertains to the widely used educational materials and textbooks published by Glencoe/McGraw-Hill, which have played a significant role in teaching students about the organization and significance of the periodic table. This article explores the historical development, structure, and significance of the periodic table and periodic law, with specific insights drawn from the Glencoe educational approach.

Historical Development of the Periodic Table

Early Attempts and Discoveries

The journey to the modern periodic table began in the 19th century, as scientists sought to organize the rapidly growing list of known elements. Early chemists such as John Newlands proposed the Law of Octaves in 1864, observing that elements exhibited similar properties every eighth element when arranged by increasing atomic mass. Although this idea was limited, it laid the groundwork for recognizing periodicity in elemental properties.

Mendeleev's Periodic Table

Dmitri Mendeleev is credited with creating the first widely recognized periodic table in 1869. He arranged elements according to increasing atomic mass and grouped elements with similar properties into columns. Notably, Mendeleev left gaps for yet undiscovered elements and predicted their properties accurately, which validated his periodic law. His table was revolutionary in emphasizing periodicity and the relationships among elements.

Refinement and Modernization

As scientific understanding evolved, particularly with the discovery of atomic number by Henry Moseley in 1913, the periodic table was reorganized to reflect atomic number rather than atomic mass. This change resolved inconsistencies and led to the modern periodic table we use today.

The Periodic Law

Definition and Significance

The periodic law states that the properties of elements are periodic functions of their atomic numbers. In simpler terms, when elements are arranged by increasing atomic number, elements with similar properties appear at regular intervals. This law underscores the periodic nature of elemental properties and provides a systematic way to predict the characteristics of elements.

Implications of the Periodic Law

- It explains the recurring patterns in properties such as atomic radius, ionization energy, electronegativity, and chemical reactivity.
- It allows scientists to classify elements into groups (families) with similar behaviors.
- It facilitates the prediction of properties of undiscovered elements based on their position in the table.

The Structure of the Modern Periodic Table

Layout and Organization

The modern periodic table is arranged in a grid format with rows called periods and columns called groups or families.

- **Periods:** Horizontal rows numbered from 1 to 7, representing increasing energy levels.
- **Groups/Families:** Vertical columns numbered from 1 to 18, indicating elements with similar chemical properties.

Key Features of the Table

- The table is divided into blocks based on electron configurations: s-block, p-block, d-block, and f-block.
- Elements are ordered by increasing atomic number.
- The table highlights element groups with similar valence electron configurations, which determine chemical behavior.

Major Classifications of Elements

- **Metals:** Located on the left and center, conductive, malleable, and ductile.
- **Nonmetals:** Found on the right, generally poor conductors and more likely to gain electrons.
- **Metalloids:** Elements with properties intermediate between metals and nonmetals, found along

the zigzag line.

Significance of the Periodic Table in Chemistry Education

Educational Approach in Glencoe Materials

The Glencoe textbooks emphasize a clear understanding of the periodic table's organization and its underlying principles. They focus on:

- Teaching students how to read and interpret the table.
- Understanding periodic trends and their explanations.
- Recognizing the importance of electron configurations in determining element properties.

Teaching Strategies

- Use of visual aids and interactive activities to help memorize groups and periods.
- Connecting periodic trends to real-world applications.
- Encouraging students to predict properties of unknown elements based on their position.

Periodic Trends and Their Explanations

Atomic Radius

- Decreases across a period due to increasing nuclear charge pulling electrons closer.
- Increases down a group as additional electron shells are added.

Ionization Energy

- The energy required to remove an electron.
- Increases across a period as electrons are held more tightly.
- Decreases down a group as outer electrons are farther from the nucleus and less tightly bound.

Electronegativity

- Measures an atom's ability to attract electrons.
- Increases across a period.

- Decreases down a group.

Electron Affinity

- The energy change when an atom gains an electron.
- Trends similar to electronegativity.

Applications of the Periodic Table

Predicting Chemical Behavior

The periodic table allows chemists to predict how elements will react, form bonds, and participate in chemical reactions based on their position.

Discovering New Elements

Understanding periodic trends guides scientists in synthesizing new elements and placing them within the existing table.

Material Science and Industry

Elements' properties inform their applications in technology, medicine, energy, and manufacturing.

Conclusion

The periodic table and periodic law are cornerstones of chemical science, providing a systematic framework for understanding the relationships among elements. The work of early scientists like Mendeleev, combined with modern discoveries such as the atomic number, has led to the sophisticated and comprehensive periodic table used today. Educational resources like Glencoe have played a vital role in imparting this knowledge to students, emphasizing the importance of organization, periodic trends, and the predictive power of the table. As science continues to evolve, the periodic table remains a dynamic and invaluable tool, reflecting the ongoing quest to understand the fundamental building blocks of matter.

The periodic table and periodic law Glencoe represent foundational concepts in modern chemistry, serving as essential tools for understanding the properties, behaviors, and relationships of elements. Their development and organization have profoundly influenced scientific research, education, and technological advancements. This comprehensive review explores the origins, structure, principles, and significance of the periodic table and periodic law as presented in Glencoe chemistry resources, providing an in-depth analysis suitable for students, educators, and

enthusiasts alike.

Introduction to the Periodic Table and Periodic Law

The periodic table is often regarded as the blueprint of chemical elements, systematically arranging them based on shared properties and atomic characteristics. Paired with the periodic law—a guiding principle stating that element properties are periodic functions of their atomic numbers—this organizational framework reveals patterns that underpin chemical behavior.

Historical Context

The journey toward the modern periodic table began in the 19th century, as scientists sought to classify the rapidly increasing number of discovered elements. Early efforts by Dmitri Mendeleev laid the groundwork, proposing a table that grouped elements by atomic mass and periodic properties. Although initial versions faced challenges—such as inconsistencies in atomic weights—subsequent discoveries, especially the identification of atomic numbers, solidified the current organization.

Significance in Chemistry

The periodic table facilitates the prediction of element properties, identification of trends across periods and groups, and understanding of chemical reactions. It acts as both a reference and a predictive tool, enabling chemists to anticipate behaviors of elements and compounds.

Development of the Periodic Law

From Atomic Mass to Atomic Number

Initially, the periodic law was based on atomic masses, with Mendeleev's pioneering work arranging elements in order of increasing atomic weight. However, anomalies in the order—such as the placement of tellurium and iodine—highlighted limitations of atomic mass as the primary organizing principle.

The breakthrough came with the discovery of the proton and the realization that atomic number (number of protons) provides a more accurate basis for organization. This shift led to the modern periodic law:

"The properties of the elements are periodic functions of their atomic numbers."

Implications of the Modern Periodic Law

This law underpins the current periodic table, explaining why elements with similar properties recur

periodically when arranged by increasing atomic number. It also accounts for the periodic trends observed in atomic and physical properties, such as ionization energy, electronegativity, and atomic radius.

Structure of the Periodic Table

The periodic table's structure reflects the periodic law, organizing elements into rows and columns that group elements with similar characteristics.

Periods and Groups

- Periods: Horizontal rows numbered 1 through 7. Elements in the same period have the same number of electron shells but vary in their properties across the period.

- Groups (Families): Vertical columns numbered 1 through 18 (or 1-12 in older tables). Elements within a group share similar valence electron configurations, leading to comparable chemical behaviors.

Blocks of the Periodic Table

The table is subdivided into blocks based on the electron subshell being filled:

- s-block: Groups 1 and 2, plus hydrogen and helium.
- p-block: Groups 13-18.
- d-block: Transition metals (Groups 3-12).
- f-block: Lanthanides and actinides, often displayed separately beneath the main table.

Element Categories

- Metals: Located mainly on the left and center; characterized by high electrical conductivity, malleability, and ductility.
- Nonmetals: Found on the right; generally insulators and brittle.
- Metalloids: Positioned along the zigzag line; exhibit mixed properties.

Periodic Trends and Properties

Understanding how element properties vary across the periodic table reveals underlying atomic

structure influences and facilitates predictions about element behavior.

Atomic Radius

- Trend: Decreases across a period (left to right), increases down a group.
- Explanation: Increasing nuclear charge pulls electrons closer; additional electron shells appear down a group, enlarging atomic size.

Ionization Energy

- Trend: Increases across a period, decreases down a group.
- Significance: Reflects the energy required to remove an electron; higher in elements with stronger nuclear attraction.

Electronegativity

- Trend: Rises across a period, falls down a group.
- Implication: Indicates an atom's tendency to attract electrons in chemical bonds.

Electron Affinity

- Trend: Generally increases across a period.
- Note: Variations exist based on element type and electronic configuration.

Glencoe Resources and Teaching of the Periodic Table

The Glencoe series provides comprehensive educational materials that elucidate the periodic table's organization, properties, and applications.

Key Features of Glencoe's Approach

- Visual Aids: Color-coded tables, diagrams, and interactive models to help students grasp complex concepts.
- Historical Context: Emphasizes the evolution of the periodic table, fostering a deeper understanding of scientific progress.
- Practice Problems: Exercises that reinforce trends, classifications, and the application of

periodic law.

- Real-World Applications: Demonstrates how the periodic table informs fields like medicine, materials science, and environmental science.

Educational Strategies

- Using comparative analysis to highlight periodic trends.
- Incorporating laboratory activities to observe properties such as reactivity.
- Encouraging critical thinking about the periodic law's implications in modern chemistry.

Significance of the Periodic Table and Periodic Law

The periodic table is not merely a catalog of elements; it embodies the fundamental principles governing chemical behavior. Its predictive power allows scientists to:

- Discover new elements by extrapolating periodic trends.
- Understand elemental reactivity and compound formation.
- Develop new materials with desired properties.
- Advance fields like nanotechnology, pharmacology, and energy storage.

Moreover, the periodic law emphasizes the interconnectedness of atomic structure and chemical properties, illustrating nature's inherent order and symmetry.

Future Perspectives and Innovations

Advances in computational chemistry and experimental techniques continue to refine our understanding of the periodic table. Notably:

- Extended Periodic Tables: Efforts to synthesize superheavy elements expand the boundaries of the table, challenging existing theories.
- Periodic Law Revisions: Ongoing research explores whether alternative organizing principles might better capture emerging properties.
- Educational Enhancements: Digital tools and virtual labs enhance comprehension and engagement with periodic concepts.

Conclusion

The periodic table and periodic law, as detailed in Glencoe resources, constitute the backbone of

chemical science. They encapsulate the elegant patterns governing elements and serve as powerful frameworks for scientific exploration and innovation. By understanding their development, structure, and significance, students and scientists alike gain insights into the fundamental nature of matter, fostering curiosity and driving future discoveries in chemistry and related disciplines.

QuestionAnswer What is the main purpose of the periodic table according to Glencoe's Periodic Law? The main purpose of the periodic table is to organize elements based on their atomic number and properties, revealing periodic trends and relationships among elements. How does Glencoe's approach explain the periodic law? Glencoe explains the periodic law as the periodic repetition of chemical and physical properties of elements when they are arranged in order of increasing atomic number. What are the key features of the periodic table highlighted in Glencoe's curriculum? Key features include the arrangement of elements into periods and groups, the classification into metals, nonmetals, and metalloids, and the periodic trends such as electronegativity and atomic radius. How does the periodic law help in predicting properties of elements in Glencoe's lessons? The periodic law allows scientists to predict properties of elements based on their position in the table, such as reactivity, atomic size, and ionization energy, by analyzing their periodic trends. What role do atomic numbers play in the organization of the periodic table as per Glencoe's explanation? Atomic numbers serve as the fundamental organizing principle, with elements arranged sequentially by increasing atomic number, which underpins the periodicity of their properties.

Related keywords: periodic table, periodic law, glencoe chemistry, element groups, periodic trends, atomic structure, element symbols, atomic number, chemical elements, periodic table layout

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