

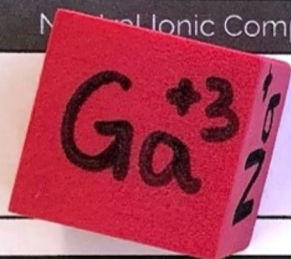
Ionic Compound Formula Dice

Print & Digital

FREE

oppositely charged [ions / atoms]. The positive ion is called the [cation / anion]. The negative ion is called the [cation / anion]. Ionic compounds are made of a ratio of ions so that the **overall** charge of an ionic compound is [charged / neutral].

Cation	Anion
Neutral Ionic Compound	

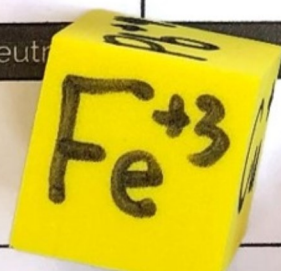


Cation	Anion
Neutral Ionic Compound	



Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	



Cation	Anion
Neutral Ionic Compound	

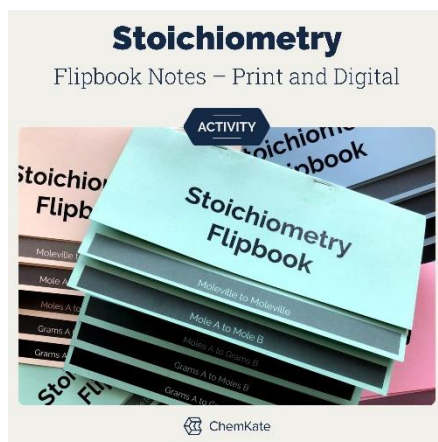
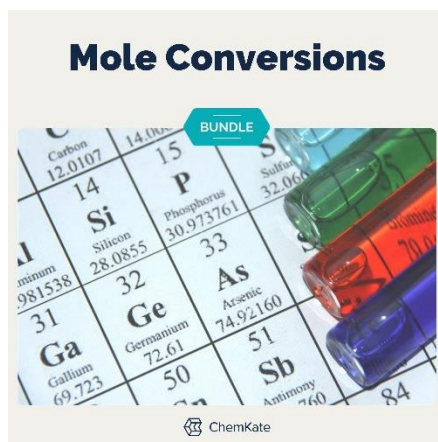


Cation	Anion
Neutral Ionic Compound	



Ionic Compound Formula Writing – Ion Dice

Thank you for your download! You might also be interested in the [linked](#) images below:



This *no-prep* activity makes ionic compound formula writing interactive and engaging. Practice ionic compound formula writing *in print and digital Google formats!* Ask your students to use specific colored dice or digital spinners for specific practice, i.e. monatomic ions, multivalent ions or polyatomic ions.

Also included:

1. Directions and tips for how to set up your dice
2. Printable worksheet for structured practice with sample answer key
3. Digital Google slides with embedded digital spinners for practice with sample answer key where slides can be duplicated or removed to fit your students' needs
4. All digital spinners embedded on one Google slide – this slide can replace the use of dice

◆ This is available in my *costs-savings* [Ionic and Covalent Bonding Bundle](#), and *save time and assurance* with all the activities found in this [Chemistry I Mega Activity Bundle](#) - Visit this to see a wide variety of many *no-prep, print and digital inquiry activities, graphic organizers and application* ◆

Dice Information:

1. Six dice are needed per group - one of each color: red, orange, yellow, green, blue & violet. I'd recommend groups of 2-4 students. For a class size of 30, make 10 copies of each dice - using a total of 60 cubes.



Ionic Compound Formula Writing cont.

Dice Information continued:

- The foam cubes seen in the product image came from Amazon, specifically, the "Manipulite Foam 1-Inch Color Cubes, Set of 100" - not included in this resource. Any unused cubes can be used to make dice for other games.
- I favored the quiet rolling foam cubes. However, these could be replaced with:
 - Wooden cubes – use colored permanent markers (red, orange, yellow, green, blue, violet) to write the ions on the dice. Often available at local craft & retail stores.
 - Paper cubes – to increase the durability for years of use, use card stock or laminate before cutting. Search "blank cube template" online and write in ions from the provided list before making copies.
 - 3-D print your own ion dice-specific colors and ions listed in this resource.

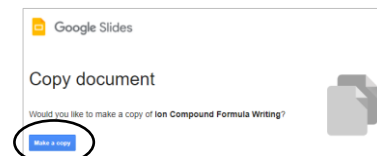
Teaching Tips:

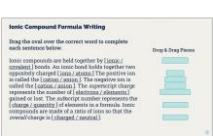

- On the printable worksheet, ask students to use larger space below the "Neutral Ionic Compound" heading to show their work as they "drop and swap", or criss-cross charges to make the ionic compound formula or use the space to show the math behind the neutral charge.
- Consider having students collaborate and check each other's work.

Need a great, fully editable year-long resource to quickly group students & sneak in review with the group card names? See my [Editable Student Partner Cards resource](#) here.

Accessing the Digital Activities

- Be sure you are logged into the Google account you want to save these files into first. When you select the links below, it will ask you to make a copy of each file. Select "Make a Copy".



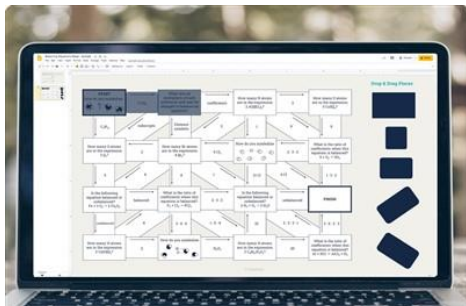
Preview	Student File(s)	Answer Key(s)
	<p>Ionic Compound Formula Writing</p> <p>Duplicate or remove slides within this slide deck to fit your students' needs. You can reference Google™ help on how to do this here.</p>	<p>Sample Answer Key</p>
	<p>Ionic Compound Formula Writing Spinners</p> <p>This slide can replace the use of dice.</p>	

- These copies in your drive are now your Master Templates. I would recommend changing the names of the files and organizing the file into a folder so that you can easily access it later.

Ionic Compound Formula Writing cont.

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Credits:

All graphics by © ChemKate

Thank you!



Making Your Ion Dice:

Using six colors of foam cubes, label each of the six sides with the ions below. Low on time? Consider asking a student help you out, they are great at helping!

- Writing tip: Slightly curl the lowercase "l" that appears in chloride, chlorate, chlorite and hypochlorite ion formulas so that students don't confuse the "l" with an uppercase "I".

R	O	Y	G	B	V
Monatomic cations	Monatomic anions	Multivalent cations	Polyatomic anion "-ates"	Polyatomic cations	Polyatomic anion "-ites" and "-ides"
Na^+	F^-	Fe^{2+}	NO_3^-	NH_4^+	NO_2^-
Be^{2+}	O^{2-}	Fe^{3+}	CO_3^{2-}	H_3O^+	PO_3^{3-}
Al^{3+}	N^{3-}	Cu^+	PO_4^{3-}	Ba^{2+}	SO_3^{2-}
Li^+	Cl^-	Cu^{3+}	SO_4^{2-}	Sr^{2+}	ClO_2^-
Ca^{2+}	S^{2-}	Pb^{2+}	ClO_3^-	Al^{3+}	ClO^-
Ga^{3+}	P^{3-}	Pb^{4+}	BrO_3^-	Mg^{2+}	OH^-

Scaffold with Ion Dice

Scaffold ionic compound formula writing by using the following combinations:

Combinations	Colored Cubes
a.) Monatomic cations and monoatomic anions	Red & Orange
b.) Multi-valent cations and monoatomic anions	Yellow & Orange
c.) Monatomic cations and polyatomic "-ates"	Red & Green
d.) Multivalent cations and polyatomic "-ates"	Yellow & Green
e.) Polyatomic cations and monatomic anions	Blue & Orange
f.) Monatomic cations and polyatomic "ites" and "ides"	Red & Violet
g.) Polyatomic cations and polyatomic "ites" and "ides"	Blue & Violet
h.) Practice with all ions	All!

Introductory Reading: Circle the correct word to complete each sentence below.

Ionic compounds are held together by [ionic / covalent] bonds. An ionic bond holds together two oppositely charged [ions / atoms]. The positive ion is called the [cation / anion]. The negative ion is called the [cation / anion]. The *superscript* charge represents the number of [electrons / elements] gained or lost. The *subscript* number represents the [charge / quantity] of elements in a formula. Ionic compounds are made of a ratio of ions so that the *overall* charge is [charged / neutral].

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

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Neutral Ionic Compound	

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Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Introductory Reading: Circle the correct word to complete each sentence below.

Ionic compounds are held together by ionic / ~~covalent~~ bonds. An ionic bond holds together two oppositely charged ions / ~~atoms~~. The positive ion is called the cation / ~~anion~~. The negative ion is called the cation / anion. The *superscript* charge represents the number of electrons / ~~elements~~ gained or lost. The *subscript* number represents the charge / ~~quantity~~ of elements in a formula. Ionic compounds are made of a ratio of ions so that the *overall* charge is charged / neutral.

Sample answers shown below.

Cation	Anion
Na ⁺	S ²⁻
Neutral Ionic Compound	
Na_2S 2+ 0✓ 2-	

Cation	Anion
Ca ²⁺	SO ₄ ²⁻
Neutral Ionic Compound	
CaSO_4 2+ 0✓ 2-	

Cation	Anion
Fe ²⁺	N ³⁻
Neutral Ionic Compound	
Fe_3N_2 +6 0✓ -6	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	

Cation	Anion
Neutral Ionic Compound	