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PROBLEM \(\PageIndex{1}\) Using the periodic table, predict whether the following chlorides are ionic or covalent: KCl, NCl3, ICl, MgCl2, PCl5, and CCl4. Answer Ionic: KCl, MgCl2; Covalent: NCl3, ICl, PCl5, CCl4 PROBLEM \(\PageIndex{2}\) Using the periodic table, predict whether the following chlorides are ionic or covalent: SiCl4, PCl3, CaCl2, CsCl, CuCl2, and CrCl3. Answer Ionic: CaCl2, CuCl2, CsCl, CrCl3; Covalent: SiCl4, PCl3 PROBLEM \(\PageIndex{3}\) For each of the following compounds, state whether it is ionic or covalent. If it is ionic, write the symbols for the ions involved: (a) NF3 (b) BaO (c) (NH4)2CO3 (d) Sr(H2PO4)2 (e) IBr (f) Na2O Answer a covalent Answer b ionic, Ba2+, O2− Answer c ionic, \(\ce{NH4+}\), \(\ce{CO3^2-}\) Answer d ionic, Sr2+, \(\ce{H2PO4-}\) Answer e covalent Answer f ionic, Na+, O2− PROBLEM \(\PageIndex{4}\) For each of the following pairs of ions, write the symbol for the formula of the compound they will form: (a) Ca2+, S2− (b) \(\ce{NH4+}\), \(\ce{SO4^2-}\) (c) Al3+, Br− (d) Na+, \(\ce{HPO4^2-}\) (e) Mg2+, \(\ce{PO4^3-}\) Answer a CaS Answer b (NH4)2CO3 Answer c AlBr3 Answer d Na2HPO4 Answer e Mg3(PO4)2 PROBLEM \(\PageIndex{5}\) For each of the following pairs of ions, write the symbol for the formula of the compound they will form: (a) K+, O2− (b) \(\ce{NH4+}\), \(\ce{PO4^3-}\) (c) Al3+, O2− (d) Na+, \(\ce{CO3^2-}\) (e) Ba2+, \(\ce{PO4^3-}\) Answer a K2O Answer b (NH4)3PO4 Answer c Al2O3 Answer d Na2CO3 Answer e Ba3(PO4)2 Click here for a video of the solution PROBLEM \(\PageIndex{6}\) Name the following compounds: (a) CsCl (b) BaO (c) K2S (d) BeCl2 (e) HBr (f) AlF3 Answer a cesium chloride Answer b barium oxide Answer c potassium sulfide Answer d beryllium chloride Answer e hydrogen bromide Answer f aluminum fluoride PROBLEM \(\PageIndex{7}\) Name the following compounds: (a) NaF (b) Rb2O (c) BCl3 (d) H2Se (e) P4O6 (f) ICl3 Answer a sodium fluoride Answer b Rubidium oxide Answer c boron trichloride Answer d hydrogen selenide Answer e tetraphosphorous hexaoxide (if you are googling the answers to your homework, google may disagree with you. But we are naming based on the rules we just learned, which is why you shouldn't trust google for the answers to your homework) Answer f Iodine trichloride PROBLEM \(\PageIndex{8}\) Write the formulas of the following compounds: (a) rubidium bromide (b) magnesium selenide (c) sodium oxide (d) calcium chloride (e) hydrogen fluoride (f) gallium phosphide (g) aluminum bromide (h) ammonium sulfate Answer a RbBr Answer b MgSe Answer c Na2O Answer d CaCl2 Answer e HF Answer f GaP Answer g AlBr3 Answer h (NH4)2SO4 PROBLEM \(\PageIndex{9}\) Write the formulas of the following compounds: (a) lithium carbonate (b) sodium perchlorate (c) barium hydroxide (d) ammonium carbonate (e) sulfuric acid (f) calcium acetate (g) magnesium phosphate (h) sodium sulfite Answer a Li2CO3 Answer b NaClO4 Answer c Ba(OH)2 Answer d (NH4)2CO3 Answer e H2SO4 Answer f Ca(C2H3O2)2 Answer g Mg3(PO4)2 Answer h Na2SO3 PROBLEM \(\PageIndex{10}\) Write the formulas of the following compounds: (a) chlorine dioxide (b) dinitrogen tetraoxide (c) potassium phosphide (d) silver(I) sulfide (e) aluminum nitride (f) silicon dioxide Answer a ClO2 Answer b N2O4 Answer c K3P Answer d Ag2S Answer e AlN Answer f SiO2 PROBLEM \(\PageIndex{11}\) Write the formulas of the following compounds: (a) barium chloride (b) magnesium nitride (c) sulfur dioxide (d) nitrogen trichloride (e) dinitrogen trioxide (f) tin(IV) chloride Answer a BaCl2 Answer b Mg3N2 Answer c SO2 Answer d NCl3 Answer e N2O3 Answer f SnCl4 PROBLEM \(\PageIndex{12}\) Each of the following compounds contains a metal that can exhibit more than one ionic charge. Name these compounds: (a) Cr2O3 (b) FeCl2 (c) CrO3 (d) TiCl4 (e) CoO (f) MoS2 Answer a chromium(III) oxide Answer b iron(II) chloride Answer c chromium(VI) oxide Answer d titanium(IV) chloride Answer e cobalt(II) oxide Answer f molybdenum(IV) sulfide PROBLEM \(\PageIndex{13}\) Each of the following compounds contains a metal that can exhibit more than one ionic charge. Name these compounds: (a) NiCO3 (b) MoO3 (c) Co(NO3)2 (d) V2O5 (e) MnO2 (f) Fe2O3 Answer a nickel (II) carbonate Answer b Molybdenum (VI) oxide Answer c cobalt (II) nitrate Answer d vanadium (V) oxide Answer e manganese (IV) oxide Answer f iron (III) oxide PROBLEM \(\PageIndex{14}\) The following ionic compounds are found in common household products. Write the formulas for each compound: (a) potassium phosphate (b) copper(II) sulfate (c) calcium chloride (d) titanium dioxide (e) ammonium nitrate (f) sodium bisulfate (the common name for sodium hydrogen sulfate) Answer a K3PO4 Answer b CuSO4 Answer c CaCl2 Answer d TiO2 Answer e NH4NO3 Answer f NaHSO4 PROBLEM \(\PageIndex{15}\) The following ionic compounds are found in common household products. Name each of the compounds: (a) Ca(H2PO4)2 (b) FeSO4 (c) CaCO3 (d) MgO (e) NaNO2 (f) KI Answer a calcium dihydrogen phosphate Answer b iron (II) sulfate Answer c calcium carbonate Answer d magnesium oxide Answer e sodium nitrite Answer f potassium iodide Contributors If you are trying to find Naming Ionic Compounds Worksheets: Practice Naming and Writing Formulas, you are arriving at the right site. Find what you need about Naming Ionic Compounds Worksheets: Practice Naming and Writing Formulas down below. Naming Ionic Compounds Worksheets - Naming ionic compounds is an essential part of studying Chemistry. Understanding how to name and write formulas for ionic compounds is essential for understanding the properties and reactions of these compounds. In this worksheet, we will cover the basics of naming ionic compounds and writing chemical formulas. What are Ionic Compounds? Ionic compounds are compounds made up of ions. An ion is an atom or a group of atoms that has a net positive or negative charge. Ionic compounds are made up of a positively charged ion (called a cation) and a negatively charged ion (called an anion). The ionic bond is the force of attraction between these oppositely charged ions. Naming Ionic Compounds Naming ionic compounds involves following a set of naming rules. The name of the cation comes first, followed by the name of the anion. The name of the cation is simply the name of the metal element. For the anion, we use the root name of the nonmetal element and add the suffix "-ide". For example, the compound made up of sodium cations and chlorine anions is named sodium chloride. Naming Binary Ionic Compounds Binary ionic compounds are made up of two elements. To name a binary ionic compound, we follow the naming rules mentioned above. For example, the compound made up of calcium cations and oxygen anions is named calcium oxide. Naming Ionic Compounds with Polyatomic Ions Polyatomic ions are groups of atoms that have a net positive or negative charge and act as a single unit in chemical reactions. To name ionic compounds with polyatomic ions, we follow the same naming rules as for binary ionic compounds. For example, the compound made up of ammonium cations and sulfate polyatomic ions is named ammonium sulfate. Naming Ionic Compounds with Transition Metals Transition metals are metals that have multiple oxidation states. To name ionic compounds with transition metals, we use Roman numerals to indicate the oxidation state of the metal ion. The name of the cation is followed by the name of the anion, as in the naming of binary and polyatomic ionic compounds. For example, the compound made up of iron (III) cations and oxide anions is named iron (III) oxide. Writing Ionic Formulas Writing formulas for ionic compounds involves combining the ions to form a neutral compound. The charge on the cation must balance the charge on the anion to form a neutral compound. Writing Formulas for Binary Ionic Compounds To write the formula for a binary ionic compound, we use the charges on the ions to determine the subscripts needed for each ion. The subscript of the cation is the same as the absolute value of the anion's charge, and the subscript of the anion is the same as the absolute value of the cation's charge. For example, the formula for the compound made up of aluminum cations and chloride anions is AlCl3. Writing Formulas for Ionic Compounds with Polyatomic Ions To write the formula for an ionic compound with polyatomic ions, we use the same method as for binary ionic compounds. We balance the charges of the ions to form a neutral compound. For example, the formula for the compound made up of calcium cations and phosphate polyatomic ions is Ca3(PO4)2. Writing Formulas for Ionic Compounds with Transition Metals To write the formula for an ionic compound with transition metals, we use the same method as for binary and polyatomic ionic compounds. We balance the charges of the ions to form a neutral compound, using the Roman numeral to indicate the oxidation state of the transition metal. For example, the formula for the compound made up of iron (III) cations and oxide anions is Fe2O3. Conclusion Naming and writing formulas for ionic compounds is an important skill in Chemistry. This worksheet provides an introduction to the basic concepts of naming ionic compounds and writing chemical formulas for them. By practicing the exercises in this worksheet, students will develop a solid understanding of chemical nomenclature and the properties and reactions of ionic compounds. Naming Ionic Compounds Worksheets Naming Ionic Compound Worksheets Naming Ionic Compounds Worksheets Thank you for visiting our website and searching for Naming Ionic Compounds Worksheets: Practice Naming and Writing Formulas. Use Handwriting Worksheets Generator Below to Create Naming Ionic Compounds Worksheets: Practice Naming and Writing Formulas

Get Complete Alphabet Tracing Worksheets here for free!

Parents whose kids have just started learning reading or writing may need alphabet tracing worksheets so their kids can develop their skills. Not many people understand the importance of the worksheets – which lead to the sheets being neglected and underestimated. These worksheets are often viewed as fun, engaging, and entertaining documents for kids – and their learning process. However, once parents understand the real facts about these worksheets, and how these worksheets can improve their kids' learning abilities better when properly implemented, they can actually improve its functionality and usage. And you may not realize that such a worksheet can have tons of benefits and advantages. Tracing Letter A Worksheets Whereas most people generally think that communication is related to talking and listening, writing and reading are another set of skills that mustn't be underestimated. Kids like to imitate adults. When adults (their parents) talk, they want to imitate it. That's when they start mumbling and form words. When kids see their parents read and write, they want to do it too. They don't really understand the letters of the words – they simply imitate what they see. This is when emergent writing starts. Emergent writing is about how young (kids) learners start to write. Emergent writing is basically about the way these young learners start (writing). The process typically begins with scribbles. Over time, scribbles will lead to letters as these kids hone their skills in writing the letters. When they are able to learn the forms of the letters, they start turning those letters into words. Their communication skills will improve as they start linking written and spoken words. Adults, especially parents, are basically the instrumental part to help their kids to link writing to speaking and also reading – focusing at early years or young age. They can help by encouraging the scribbles – leading and guiding them to letters. As these young learners shift from scribbles to writing (poorly) and then writing well, they basically develop their writing skills. It's related to reading skills too as these learners know how to read from top to the bottom or from left to right. They also learn abot punctuation – and how it affects their reading. So, why should kids start at the early age? It is an indicator about a kid's reading ability. From 0 age to middle school, kids are like sponges. They absorb information and process everything quite fast. They learn about the important life skills as well as positive habits at these periods. That's why it would be effective to teach them writing at this age. And this is also why alphabet tracing worksheets are considered beneficial and handy. With so many different types of exercises and worksheets, learning can be made fun. These kids won't feel being pressured or forced, while learning new stuff in the playful manner. So, why writing is considered very crucial? Everyone uses writing in many areas of life. Many professions and jobs require us to be able to write well. It is safe to say that writing is a crucial and also essential skill in job Writing is also associated with reading. If you want to be a good reader, then you need to learn writing too Writing is one of the primary basis in which an individual's learning, intellect, and work would be judged, such as in the work place, within the community, in school, and in college. Writing equips and helps us with thinking and communication skills Writing enables us to entertain (even help) others Writing fosters and develops our ability to refine (or define) our ideas to ourselves as well as others Writing can help us to understand our own lives It preserves our memories and also ideas It helps to express who we are (as people) It makes our learning and thinking visible – and permanent When it comes to teaching writing, there are 2 major obstacles in the field: Expressing ideas (in writing) In the first problem, messy handwriting is a part of the issue. Even with alphabet tracing worksheets, kids will still struggle with creating the right form or shape. In writing, there is something we call transcription. Moreover, they may struggle with other areas, such as: Writing within a straight line Holding a pencil and controlling it Placing the letters on the page – and then moving to placing the words Making the letters (and also words) within the proper and correct size These are the most common issues related to early writing learning process. Parents or teachers need to reinforce patience to their kids. These issues are basically common and it's pretty normal that the kids would experience it. The adults need to be super patience when they are dealing with the kids. For expressing ideas, it will take place on the next stage. Once the kids have mastered the basic writing skills, then learning how to express ideas will be the next challenge. Teachers or parents can make use of the many available tools to manage this, such as graphic organizers to help them. Teaching how to express ideas would be another level in writing process. Tracing Letter B Worksheets Alphabet tracing is basically a delicate or faint pattern or mark. It usually comes in faint and not-so-bold pattern that kids can follow to form something. They simply copy the pattern to form a form – whether it is a letter, number, or shape. In alphabet tracing worksheets, you will see many forms of them. There are worksheets for numbers, for capital letters, or for small letters. Kids can trace those 'examples' so they know how to properly create a certain form of letter. Tracing Letter C Worksheets You see, toddlers and kids love scribble so much. The seemingly simple activity has a very crucial function – it helps these toddlers to put ideas on paper and to explore their own creativity. Scribble is often referred to as pre-writing because it gets them closer to writing words and letters. When parents add tracing to their kids writing activity, it helps the kids' pre-writing skills. It will lay a solid foundation for future writing and drawing ability. In general, the benefits of tracing are: It helps kids to refine their (pre-writing) skills. Later, it would build strong foundation for writing words (and letters) and also drawing. It helps build fine motor skills, visual spatial skills, and drawing (and also creativity) skills It also helps with focus and concentration It helps kids learn in the most fun manner Tracing Number 1 Worksheets There are more benefits offered by alphabet tracing worksheets: The sources are abundant. You can find them at many educational institutions. If you want to explore the net, you will even see tons of websites and sources that are offering free services. Make use of them! You will never run out of options The worksheets are coming in various types and styles. Some are quite simple and plain. Some, on the other hand, can be quite complicated and complex. Some are in black and white, some are colorful. Basically, there are so many different options for the worksheets. Whether you are looking for the simple and basic, or the colorful and decorative, you should be able to find them all. The worksheets are pretty versatile and flexible. You can edit them. You can include them in various exercises. The worksheets aren't only good for tracing letters or alphabets, but you can also teach them colors and others. Use your creativity and imagination! The alphabet tracing worksheets are coming in various forms. They aren't only available in the general and traditional form on a paper, but they are also available in digital formats. Some websites are offering online system where parents can utilize their devices or gadgets – and create bonds with their kids. Electronic devices aren't always bad. If you know how to make use of them, they can be useful and fruitful. They learn about grip ability and also the proper way to manipulate the writing tools. For us, adults, holding and gripping a pencil or a pen may be easy, but that's not so much for kids Kids will develop hand and eye coordination. This is another skill that is needed for general life and task. Tracing Number 2 Worksheets You need to remember that each kid is different. They are unique in their own way. So, while some kids are okay with sitting down and then trace the numbers or letters or others quietly, some may not be okay with it. Some may be active and require some kind of physical release to be able to start up properly. So, the first thing you want to do is to do big arm movements. They will think of it as playing but it actually strengthens their core and the entire arms. Moreover, kids begin this with 2 common positions: writing on a solid vertical surface or lying on their tummy. You can encourage them by taping sheets of paper on the window or wall. Some people use removable paint or erasable markers to do this. You will see that kids before 2 will love scribbling on the wall. Second, you can teach them about multi-sensory writing. You are able to do it with glitter glue. They have various colors and you can use them to trace letters or shapes. They have subtle texture, but it feels nice for the kids to trace. Some glues are made with nice texture and outcome – just smoothly and fine. You can apply the glue on any surface – on a board on the wall, for instance. Aside from the method with glitter glue, you can also try the tracing cards. The kids can learn to trace the letter. You can even attach the card to a binder ring. It will make the whole learning process convenient and easy. Tracing Number 3 Worksheets Basically, there is no formula or certain ways to find the best worksheets. However, these tips may help you find the best sources that may help you collect the worksheets you want. Determine what kind of files or sources that you want. What kind of alphabet tracing worksheets would be appealing to your kids – the colorful ones, the black and white, or others? In what level of worksheet do you need? Is it for very basic learner or for the advanced one? Do you want the traditional paper form or the digital format? Do you want worksheets that you can download and print, or do you want worksheets where your kids can operate them directly on the tablet or laptop? Don't worry about exploring the internet. They have tons of sources. But don't let this overwhelm you. When you open a site, make sure to focus on it first. Don't be tempted to open another website until you have finished exploring the first website. You don't want to have too many options and then be confused of which one to choose. So, open a website, explore everything, and just focus on that particular website. Make sure that the worksheets are safe to download – and they are available for free. Don't download worksheets that are forbidden. In some websites, it is still okay to download watermarked files, but not for commercial use or purpose. Ask around. You can ask for reference from people you trust and you rely on. If they have educational background, it is even better. Some websites also offer paid services where you can get unlimited access to resources. But ask yourself whether you are willing to spend some money for it. Learning doesn't have to be difficult or lame. For kids, learning needs to be fun while still engaging and useful. The alphabet tracing worksheets can be efficient and also functional – but only if you know how to do it properly and right. We are not the best yet at providing the latest Alphabet tracing worksheets for your children to utilize. Hence, we still provide some basic Alphabet and number tracing worksheets here for free. Download them down below and print it. Alphabet and Number Tracing Worksheets Download If you feel like you want to create your own worksheets such as name tracing worksheets, you can use the handwriting worksheets generator that we have down below. Practise writing formulas for ionic compounds and revise common positive and negative ions using this lesson plan with activities This resource is from the Assessment for learning series, which contains lesson plans and associated resources to actively involve students in their learning. Writing formulas for ionic compounds, for age range 14–16 Downloads include lesson slides and teaching sequence; interactive ion cards to print and cut out; standard and challenge student worksheets; teacher guidance and answers. In this activity, ion formula cards help learners check, consolidate and demonstrate their ability to write correct formulas for ionic compounds. Learners work cooperatively in groups to demonstrate their mastery of the ideas. Once one group has had their work checked they will peer assess other groups so learning cascades around the classroom. Learning objectives Recall the names and formulas of common positive ions and negative ions. Write formulas of ionic compounds. Sequence of activities Introduction (slides 2–4) Display the images of magnesium nitride and magnesium nitrate. Ask learners the differences between the compounds. Prompt them to go beyond the images, to think about what the names mean. Encourage learners to recall other examples of '-ides' and '-ates' e.g. sulfide, slafate. Why doesn't oxygen have 'oxate'? Discuss the difference between the two formulas. Learners may discuss the different elements and how many there are. Guide learners to think about the ions - both contain Mg2+ ions, but what is different about the negative ion? How does this impact the overall ionc formula? Activity 1: ion formulas (slides 6–7) Organise learners into groups of four and ask them to complete Activity 1 on their student sheets by adding the names of the ions listed. You can give learners the standard student sheet (MS Word | PDF) or the challenge sheet (MS Word | PDF). When one group believes it has completed this task successfully, check their work. If successful, designate them an 'expert group'. Authorise these group members to check the work of other groups. Allow the checking to cascade. Ask learners to self-assess their work using the answers displayed on the screen. Combining formulas (slides 8–13) Give each learner a mini-whiteboard. For each of the three examples, ask learners to: Write the formulas of the positive and negative ions. Write the formulas of the ionic compounds. Use the shapes to help explain to learners. Emphasise the use of subscript numbers and when brackets are needed. Activity 2: formulas for ionic compounds (slides 14–15) Provide learners with the Ion formula cards (at the end of the teacher guidance, MS Word | PDF) Ask them to: arrange the cards to form the formulas of the ionic compounds on their sheet then write down the formulas of the ionic compounds. As before, when one group has finished, check their work using random questions. If five questions are correctly answered, designate them an 'expert group' Authorise these group members to check the work of other groups and to designate then as an 'expert group'. Allow the checking to cascade. Ask learners to self-asses their work using the answers displayed on the screen. Note: the student sheet includes the ionic compound sodium hydrogen carbonate, which does not appear on some specifications. Learners should be able to complete the activity by applying the same principles as they have to the other samples but you can choose to replace the ionic compound with an alternative depending on the exam board and specification e.g. ammonium carbonate. Review (slide 16) With the whole class, ask learners to: Write down the ions contained in magnesium nitride and then magnesium nitrate (review from introduction). Compare this with what was discussed at the start of the lesson. Ask learners to write a brief explanation of the differences between the formulas of magnesium nitride and magnesium nitrate. Encourage learners to draw diagrams, similar to those used in Activity 2. Get learners who completed the extension in the starter to do the same for any other 'ides' and 'ates' they listed. Use the 'nitrate vs nitride' introduction to show learners how compounds are different based on their names and formulas, and the importance of 'ide' vs 'ate' in chemical formulas. In the two main activities get learners to support and assess each other, while using visual prompts such as ion cards to support their understanding. By using the task of personal evaluation, asking learners to use the mini whiteboards, as well as returning to the introduction task at the end of the lesson, you will promote learners' confidence that they can improve. Scaffolding Provide learners with the ionic formula of magnesium nitride and magnesium nitrate (slide 3) during the introduction to encourage them to spot the differences in the elements they contain. For Activity 1, you can give learners the standard sheet (MS Word | PDF), which gives learners the ion formulas, requiring only the names to be completed. Alternatively, give them the challenge sheet (MS Word | PDF), which requires learners to complete a mixture of ion names and their formulas. For Activity 2, you can decide whether learners need to use the ion cards, based on their understanding of the three whole-class examples. You can ask learners to create further ionic formulas using the cards as an extension opportunity. Answers The formulas featured in the resource are: Magnesium carbonate – MgCO3 Silver nitrate – AgNO3 Calcium bromide – CaBr2 Copper hydroxide – Cu(OH)2 Iron(II) nitrate – Fe(NO3)2 Iron(III) iodide – FeI3 Lead sulfate – PbSO4 Zinc nitrate – Zn(NO3)2 Potassium sulfate – K2SO4 Magnesium sulfide – MgS Aluminium hydroxide – Al(OH)3 Ammonium chloride – NH4Cl Sodium hydrogen carbonate – NaHCO3 Iron(III) carbonate – Fe2(CO3)3 Page 2 Registration is open to all teachers and technicians at secondary schools, colleges and teacher training institutions in the UK and Ireland. Get all this, plus much more: unlimited access to resources, core practical videos and Education in Chemistry articles teacher well-being toolkit, personal development resources and online assessments applications for funding to support your lessons Set up your Teach Chemistry account Already a Teach Chemistry member? Sign in now. Not a science teacher or technician based in the UK or Ireland? Don't worry – you can also access all our resources with Royal Society of Chemistry membership.