

Grade 11U/12C Chemistry

Review Portfolio

Instructions

For getting ready for grade 11 chemistry, review of the essential concepts of grade 10 chemistry is important.

While you are working on review of grade 10 chemistry, your task is to fill in this template with screenshots or photos of the work you are doing. This could be review work posted by your teacher, or from our grade 11 textbook review.

You do not need to include everything that you did for review. You may add additional slides as needed. Questions on the review slides are just sample questions. I am looking for you to post review work questions and answers.

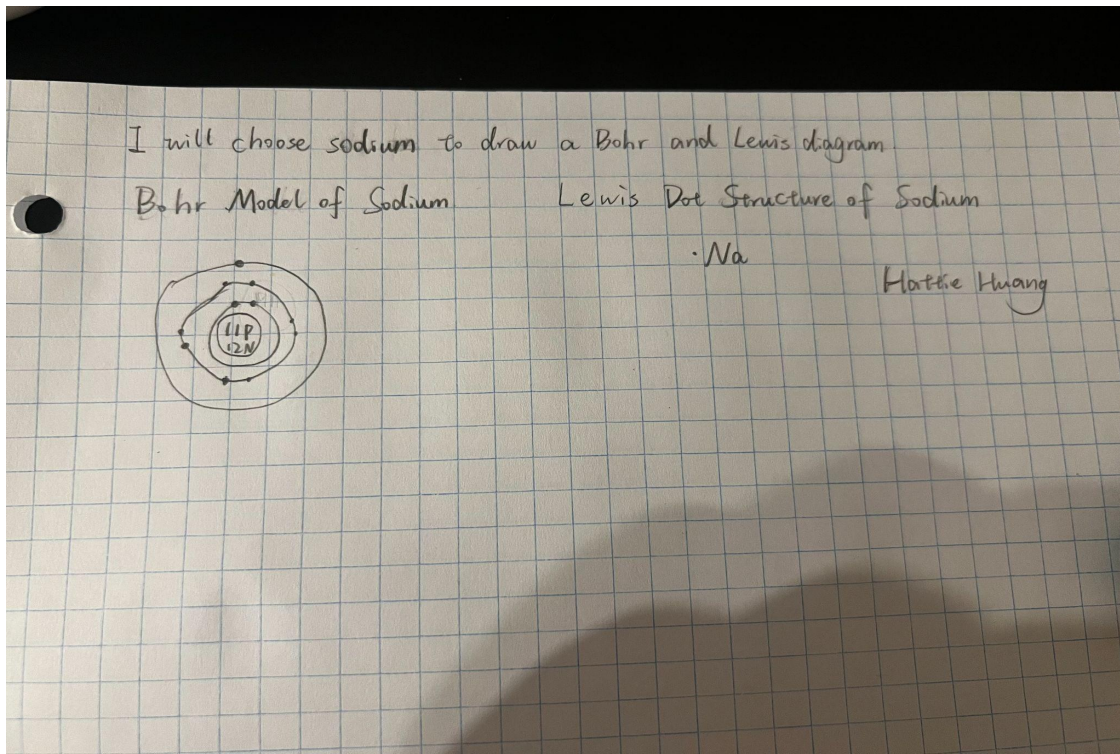
In addition to posting work, you must include an **ONE MINUTE MAX** audio or video recording explaining how you solved TWO different types of problems in this portfolio (ie you can't explain two Bohr-R diagrams as they are the same type of problem).

Once you are done, complete the questions posed on the last slide.

Slide 1 - Bohr and Lewis Structure and Subatomic Particle Basics Review

For example, show the following assignment:

- Draw a Bohr and Lewis diagram for any element between 8 and 18.



Slide 2 - Bohr and Lewis Structure and Subatomic Particle Basics Review

- State its atomic mass and atomic number

Atomic Number :11

Atomic Mass: 23

- State the number of protons and the number of electrons - explain how you know these numbers

Sodium has 11 protons because its atomic number is 11, and it also has 11 electrons since the number of electrons equals the number of protons in a neutral atom.

Slide 3 - Bohr and Lewis Structure and Subatomic Particle Basics Review

- Demonstrate that you can calculate the number of neutrons. Briefly explain the calculation in writing

Neutrons = atomic Mass - Atomic Number = $23 - 11 = 12$.

- What are the similarities and differences between your Bohr and Lewis diagrams?

The similarities between Bohr and Lewis Diagrams is both diagram represent in some way, and the difference between Bohr and Lewis Diagrams is the Bohr model shows all electrons, while the Lewis diagram only focuses on valence electrons.

- Raise the level! Explain what happens when that atom forms an ion!

I think sodium will become more stable because it has a full outer shell when it forms an ion.

Slide 4 - Balanced (Simple) Chemical Equations Review

For example, balancing a synthesis reaction or a double replacement reaction, etc. Show the balancing steps, unless you made a video for this purpose. Please provide a brief written explanation of how you know **is balanced**.

- **A: "Balanced":** A balanced chemical equation follows the Law of Conservation of Mass, which states that matters cannot be created or destroyed in a chemical reaction. This means the number of atoms of each element must be the same on both side of the equation.

Slide 5 - Review Naming/Formulas for Molecules and Compounds

Provide names/formulas for the following categories, or choose three categories of your choice from the following. Briefly describe the rules associated with each category. What is

a) ION: Magnesium chloride ₂



b) HOFBrINCl: Name O₂. Explain the meaning of abbreviations and their significance

Name of O₂ is Oxygen Gas, and the meaning of HOFBrINCl is these element always exist as pairs(diatomic molecules) in their natural state.

Slide 6 - Review Naming/Formulas for Molecules and Compounds

c) Calculate the chemical formula of a polyatomic or multivalent compound: iron(II) chloride. Explain your understanding of identifying subscripts and using brackets.

This formula is FeCl_2 . I think subscripts are used to show the number of atoms or ions needed to balance the overall charge, and brackets are used when a polyatomic ion needs a subscript to indicate multiple groups.

Slide 7 - Taking It Further

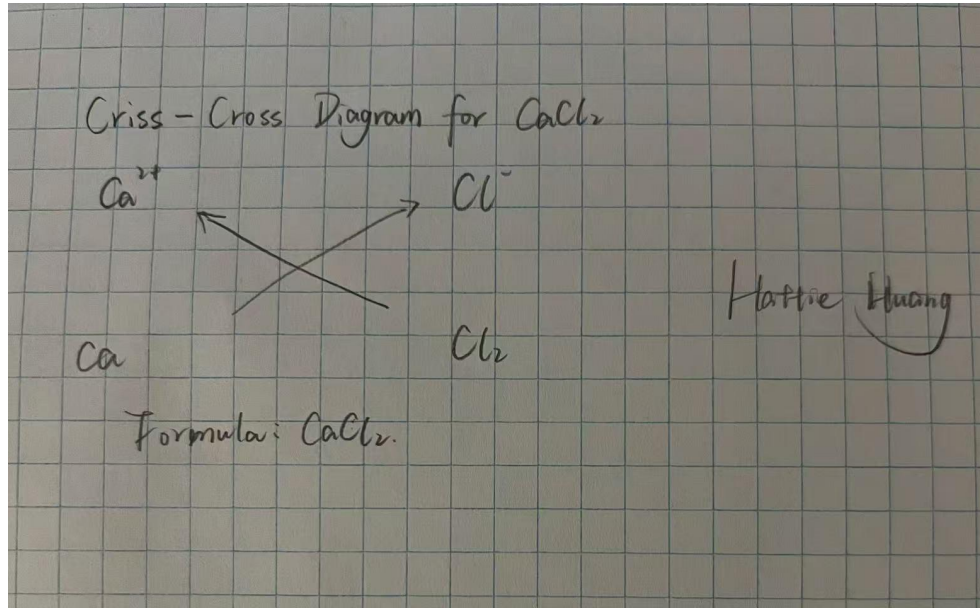
(you may write your answer & insert a photo, please use another font colour)

- Explain the link between the group of the periodic table (aka family) an atom is in with the bohr diagrams of the elements in this group :
 - **Ans:** Elements in the same group(family)of the periodic table have the same number of valence electrons, which determines their chemical properties.In a Bohr diagram, this is represented by the number of electrons in the outermost energy level(shell).
- Explain how the Bohr diagrams of this group relate to the ions they form .
 - **Ans:** Atoms form ions by gaining or losing electrons to achieve a full outer shell(usually 8 electrons, known as the octet rule).
 - Metals lose electrons to form positive ions.
 - Nonmetals gain electrons to form negative ions.
 - However, the noble gases don't form ions because they already have a full outer shell.

Slide 9 - Taking It Further

For one element in that family, draw a criss-cross diagram showing it forming an ionic compound with an element in a different family. Write the final formula of the compound .

- **Ans:**



Slide 5 - Reflective Questions

(you may write your answer, please use another font colour)

- What part of your review did you find freshest or easiest to recall? Explain why.
 - **Ans:** The easiest part for me was naming ionic compounds and using the criss-cross method. I didn't have to think too hard about it because the pattern is really repetitive — once you know how to balance charges, it's the same process every time.
- What part of your review work did you find the most difficult to recall or what did you spend the most time on? Explain why.
 - **Ans:** The hardest part for me was significant figures. There are so many small rules, especially with zeros, and sometimes I second-guess whether I'm rounding correctly. It also gets confusing when doing multi-steps calculations because I have to keep track of sig figs at understood when to keep the digits.

The following list must be completed in full to be selected (no partial entries).

First name and last initial must be handwritten on each page of photos to prove it is your work.

- Add photos of hand-drawn artwork related to the theme on each of the 3 slides
- Demonstrate clear understanding (include two audio explanations)
- Quality of answers to reflective questions (Slide 4)
- Going Further Slide