

Naming Compounds

Question Trails – Print & Digital

ACTIVITY

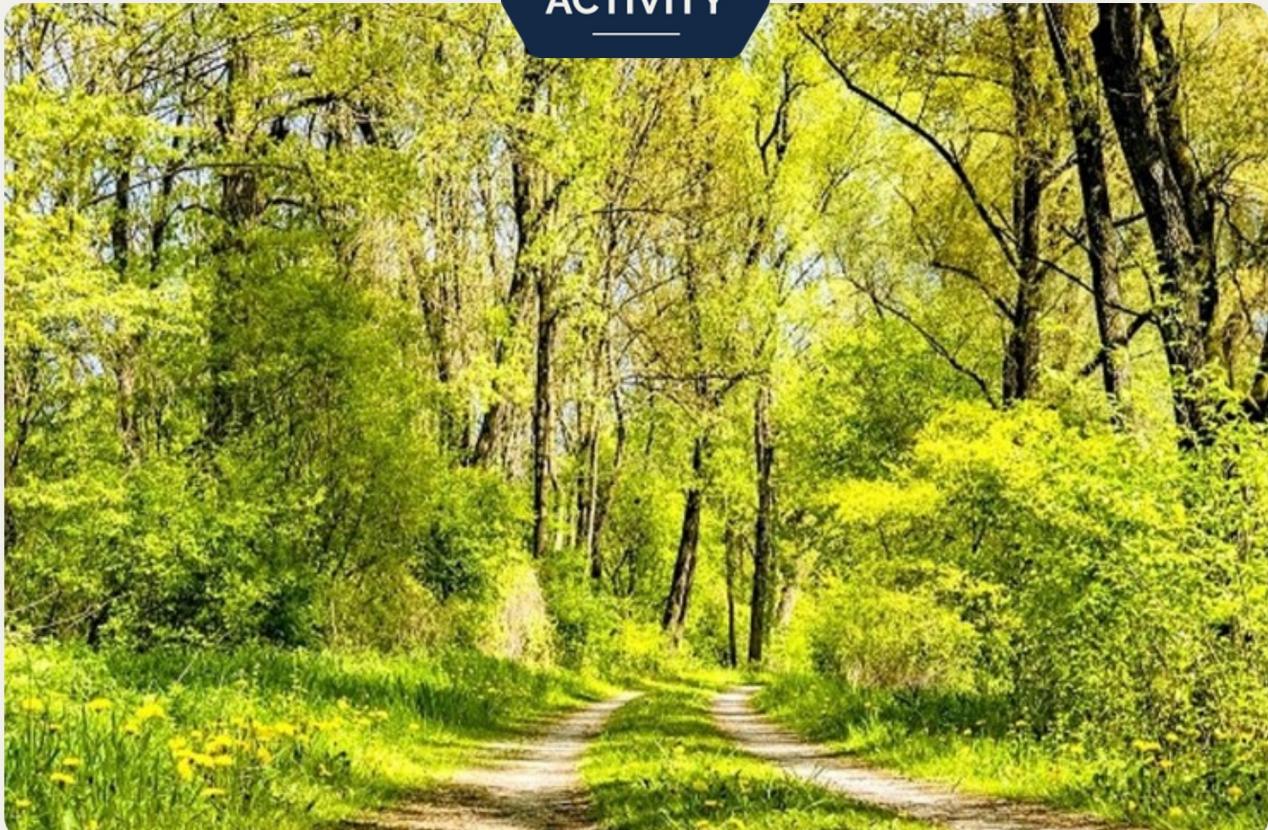


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Naming Compounds Question Trails – Print & Digital

Thank you for your download! You might also be interested in the linked images below:

Mole Conversions

This activity involves mole conversions, likely using a periodic table and various pieces of glassware.

Polyatomic Ions Escape Room

An escape room activity focused on polyatomic ions, specifically mentioning sulfide (S²⁻) and phosphate (PO₄³⁻).

Ionic Compound Bonding

A bonding activity involving monatomic and polyatomic ions such as Al³⁺, NO₃⁻, and PO₄³⁻.

Classification of Matter

Print & Digital

A flowchart for classifying matter into elements, homogeneous mixtures, and heterogeneous mixtures based on composition.

VSEPR Theory

A VSEPR theory activity showing various molecular models composed of black, white, red, and blue spheres.

Stoichiometry Flipbook and Notes

A stoichiometry resource including a flipbook and notes on topics like mole ratios, percent yield, and limiting reagents.

A *no-prep digital or print and go* engaging review of naming ionic and covalent compounds in this “Choose Your Own Adventure” activity covering naming of ionic and covalent compounds with versions that do and do not include polyatomic ions while giving you the opportunity to provide one-on-one help to those who need it and students to self- or group-monitor their work. Additional Google slide decks allow you to edit the printable or digital question trails.

Included in these files:

4 similar versions, which only vary in quantity & poly/monatomic ion used:

Print Version

- Two 10-Question Trails: one with monatomic ions and one with a mix of monatomic and polyatomic ions. 10-Question trails take 10-15 minutes depending on your students' familiarity with naming.
- Two 20-Question Trails: one with monatomic ions and one with a mix of monatomic and polyatomic ions. 10-Question trails take 10-15 minutes depending on your students' familiarity with naming.
- Student Answer Sheets for 10- or 20- question trails
- Teacher Answer Keys with trail order

Naming Compounds Question Trails cont.

Digital Versions

- Google Slides™ presentation of question trails
 - Google Form Quiz™ - for students to submit their question trail – 2 versions. Answer check with formative ViewForm or a form quiz you can edit by limiting the number of responses, how data returns to your students.

♦ This is available in the cost-savings [Naming Bundle](#) - visit it to see more great naming resources, such as a naming flowchart & naming stations, the [Chemistry Question Trails Bundle](#) and save *time and assurance* with all the activities found in this [Chemistry I MEGA Bundle](#) ♦

How to get your students trailblazing' [Print Version] :

1. Print out these slides single-sided and tape them around your room in order. Start on one side of your room and circle around the walls in so that it is easy for a student to locate the station they are to go to next. Printing them on colored paper is not required but will make them easier to locate. Students may work in small groups or individually to complete these.
 2. Students can begin anywhere on their trail. Their answer choice will direct them to a new station. If they make a full circuit through all the questions, and end at the station where they began, they will have gotten them all correct. Students may ask you to check their work after they have visited all stations, however, if they were directed back to their first question, then they got them all correct. There is only one trail for this to happen and they will have completed them successfully. This will provide you the time to help those who need it.
 3. If students repeat any station, it means they have made a mistake. They will need to backtrack to find their mistake. If they have troubles finding their way back onto the trail, then they are directed to ask you to help get them back onto the correct trail once again.
 4. As students move around the room, they keep record of their trail [question order], their answer choice, and their work/notes to self on their provided student half-sheet.

For students who get off track – Time saving trick:

Sometimes students get off trail and can't figure out which one they missed. They will come to you to help them figure out which problem they missed, and you can send them back to make their correction. Once they correct it (or ask for further help), they will either continue a new trail or pick up where they have already visited. To save time, they do not need to erase their previous correct trail, they can continue their trail in the remaining boxes. If they draw arrows, that helps identify their trail, as seen in the *generic* example below:

This student above, missed number 7, but didn't catch the mistake until she got to #15. Once corrected, this lead her back onto her trail. Students can do this with any mistake they make so that they visit all problems.

Naming Compounds Question Trails cont.

Accessing the Digital Activities

1. Be sure you 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 the assignment. Select "Make a Copy".



Preview	Digital Files	
	<u>10-Question Trail – Monatomic Ions Only</u>	<u>10-Question Trail – Mixed Monatomic & Polyatomic Ions</u>
	<u>10-Question Trail Answer Check – for Answer Check Practice</u>	<u>10-Question Trail Answer Check – for Teacher Data</u>
	Posting this View Form link allows your students to check & correct their trail on their own. It will give them corrective feedback, but you won't have access to their submissions. I prefer to run my digital question trails formatively this way, but if you would like to see their data, see the next column.	Answers are built in and you will have access to student entries. This is currently set to allow students to view their accuracy after submitting and submit another response. The last portion encourages them to fix their own mistakes. For more help with how to edit google forms, select the Google link here .
	<u>20-Question Trail – Monatomic Ions Only</u>	<u>20-Question Trail – Mixed Monatomic & Polyatomic Ions</u>
	<u>20-Question Trail Answer Check – for Answer Check Practice</u>	<u>20-Question Trail Answer Check – for Teacher Data</u>
	Posting this View Form link allows your students to check & correct their trail on their own. It will give them corrective feedback, but you won't have access to their submissions. I prefer to run my digital question trails formatively this way, but if you would like to see their data, see the next column.	Answers are built in and you will have access to student entries. This is currently set to allow students to view their accuracy after submitting and submit another response. The last portion encourages them to fix their own mistakes. For more help with how to edit google forms, select the Google link here .

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

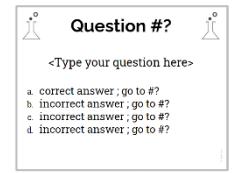
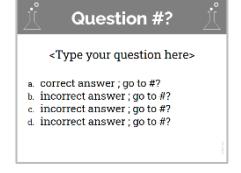
Naming Compounds Question Trails cont.

How to Edit:

When you replace a question with a new question, be sure that:

- the same correct answer choice is used.
- the trail number order is the same.

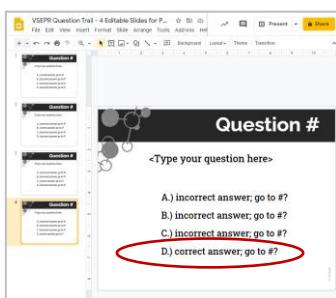
More details below:

Preview	Digital Files + Description
	4 Editable Slides for Digital Trail
	10-Question Trail 4 Editable Slides for Printable PDFs The link above is to a Google slide deck. If you prefer to work in PowerPoint, once copied and opened, you can download it to PowerPoint by selecting File > Download > Microsoft PowerPoint (.pptx).
	20-Question Trail 4 Editable Slides for Printable PDFs

How to Edit Printable PDF Version:

For example, if you don't teach bond angles and want to replace this question:

You will want to replace it with the 4th Google Slide question from the link above. The 4th Google Slide question from the slide deck has letter D as the correct answer, which matches the replaceable PDF Question #3.



Question 3

Identify the VSEPR shape that has a bond angle of 90°.

A.) bent; go to #2
B.) linear; go to #7
C.) tetrahedral; go to #9
D.) none of the above; go to #1

Naming Compounds Question Trails cont.

Edit the Google slide deck question by replacing the question number, the question, the incorrect/correct answer choices and make the "go to #" the same choices as the replaceable Question #3. See example below:

Question 3

Identify the VSEPR shape that has a bond angle of 90°.

A.) bent; go to #2
B.) linear; go to #7
C.) tetrahedral; go to #9
D.) none of the above; go to #1

could be replaced with this question:

Question 3

What is VSEPR theory used to predict?

A.) polarity ; go to #2
B.) electronegativity ; go to #7
C.) bond strength ; go to #9
D.) molecular shape ; go to #1

Notice that not only did I replace the question and the answer choices, keeping letter D as the correct answer, but the red circled changes use *the same "go to #" order as before*. This question can now be printed and used to replace the original bond angle PDF Question #3.

How to Edit the Digital Version:

For example, if you don't teach bond angles and want to replace this digital question:

QUESTION 3

Identify the VSEPR shape that has a bond angle of 90°.

Select your trail path below:

A.) bent; go to #2 C.) tetrahedral; go to #9
B.) linear; go to #7 D.) none of these; go to #1

Similar to editing the PDF version, you want to replace it with the 4th question slide from the link on the previous page. The 4th question from the slide deck has letter D as your correct answer, which matches the replaceable Question #3.

QUESTION #

<Type question here>

Select your trail path below:

A. Incorrect answer ; go to # C. Incorrect answer ; go to #
B. Incorrect answer ; go to # D. Correct answer ; go to #

Edit the slide deck question to a new question, replacing the question number, the question, the incorrect/correct answer choices and make the "go to #" the same choices as the replaceable Question #3. See example below:

QUESTION 3

Identify the VSEPR shape that has a bond angle of 90°.

Select your trail path below:

A.) bent; go to #2 C.) tetrahedral; go to #9
B.) linear; go to #7 D.) none of these; go to #1

could be replaced with this question:

QUESTION #2

What is VSEPR theory used to predict?

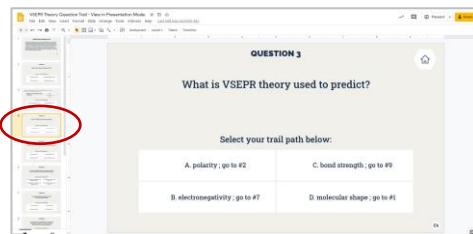
Select your trail path below:

A. polarity ; go to # C. bond strength ; go to #
B. electronegativity ; go to # D. molecular shape ; go to #

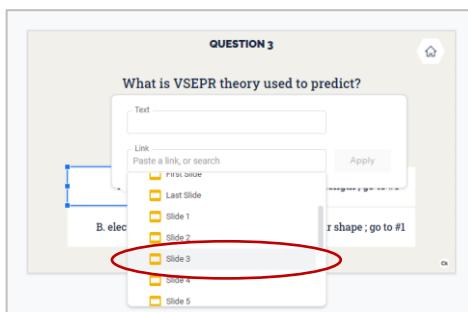
Naming Compounds Question Trails cont.

Notice that not only did I replace the question and the answer choices, keeping letter D as the correct answer, but the red circled changes use *the same "go to #"* order as before were also made.

Next, copy and paste this new slide into your digital question trail replacing the original question #3. If Google prompts you to link the two slide decks, select "do not link".

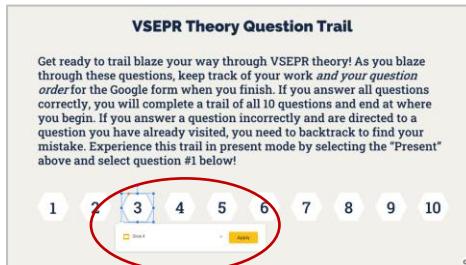


Next, you will need to hyperlink the answer choices to their corresponding slide in the trail. To do so, select an answer choice and right-click. Then select "Link". This will open a field for you to select "Slides in this presentation". After selecting this, scroll down to the slide you want it to go to. For this slide deck, because the first slide is for directions, you will want to *choose the slide that is one number higher than the "go to #"*. For example, answer choice A tells a student to "go to #2". You will want to link this answer choice to *slide #3*. Select "Apply" after the correct slide # has been chosen.



Repeat this for each of the answer choices. I would also recommend you check the slide links by presenting the slide deck and selecting your new links.

Next, you will need to relink the first slide to the new slide you just added. Select the hexagon question and right-click. Then select "Link". This will open a field for you to select "Slides in this presentation". After selecting this, scroll down to the slide you want it to go to. For this slide deck, because the first slide is for directions, you will want to *choose the slide that is one number higher than the question slide*. For example, hexagon 3 needs to link to question 3, but will need to be linked to *slide 4*. Select "Apply" after the correct slide has been chosen.



Naming Compounds Question Trails cont.

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Naming

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Thank you!



- Periodic table needed.

Begin your trailblazing at any question and then based on your answer choice, travel to the question number it directs you to. Fill in your trail below, keeping record of your answer choices and work in the space below. If you answer all questions correctly, you will complete a full circuit of all 10 questions, ending your trail at the station where you started. If you answer a question incorrectly and are told to visit a station you already have visited, you need to backtrack to the question you first missed. Try your best to backtrack and correct your mistakes, but if you get too far off the trail, ask for help! Keep track of your trail below:

→ Your trail →

Q:									
A:									

Reflection/Notes to self: Add notes to self here – what topics do you need to review?

- Periodic table needed.

Begin your trailblazing at any question and then based on your answer choice, travel to the question number it directs you to. Fill in your trail below, keeping record of your answer choices and work in the space below. If you answer all questions correctly, you will complete a full circuit of all 10 questions, ending your trail at the station where you started. If you answer a question incorrectly and are told to visit a station you already have visited, you need to backtrack to the question you first missed. Try your best to backtrack and correct your mistakes, but if you get too far off the trail, ask for help! Keep track of your trail below:

→ Your trail →

Q:									
A:									

Reflection/Notes to self: Add notes to self here – what topics do you need to review?

Naming Compounds 20-Question Trail

- Periodic table needed.

Name: _____ Pd_____

Begin your trailblazing at any question and then based on your answer choice, travel to the question number it directs you to. Fill in your trail below, keeping record of your answer choices and work in the space below. If you answer all questions correctly, you will complete a full circuit of all 20 questions, ending your trail at the station where you started. If you answer a question incorrectly and are told to visit a station you already have visited, you need to backtrack to the question you first missed. Try your best to backtrack and correct your mistakes, but if you get too far off the trail, ask for help! Keep track of your trail below:

→ Your trail →

Q:																			
A:																			

Reflection/Notes to self: Add notes to self here – what topics do you need to review?

Naming Compounds 20-Question Trail

- Periodic table needed.

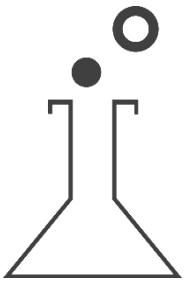
Name: _____ Pd_____

Begin your trailblazing at any question and then based on your answer choice, travel to the question number it directs you to. Fill in your trail below, keeping record of your answer choices and work in the space below. If you answer all questions correctly, you will complete a full circuit of all 20 questions, ending your trail at the station where you started. If you answer a question incorrectly and are told to visit a station you already have visited, you need to backtrack to the question you first missed. Try your best to backtrack and correct your mistakes, but if you get too far off the trail, ask for help! Keep track of your trail below:

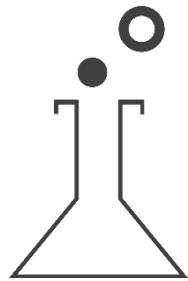
→ Your trail →

Q:																			
A:																			

Reflection/Notes to self: Add notes to self here – what topics do you need to review?

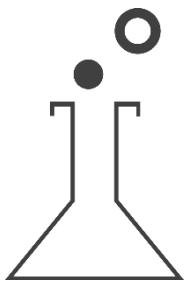


Question #1

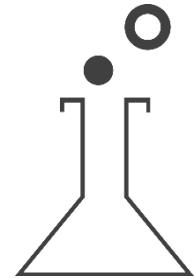


What is the name of the
 N^{3-} anion?

- a. nitrite ion ; go to #8
- b. nitrogen ion ; go to #9
- c. nitride ion ; go to #5
- d. nitrogen(III) ion ; go to #3

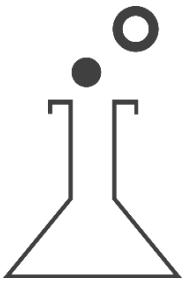


Question #2

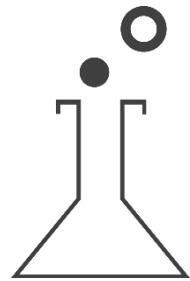


When naming a transition metal ion that can have more than one common ionic charge, the numerical value of the charge is indicated by a ____.

- a. prefix ; go to #4
- b. suffix ; go to #5
- c. Roman numeral following the name ; go to #8
- d. superscript after the name ; go to #7

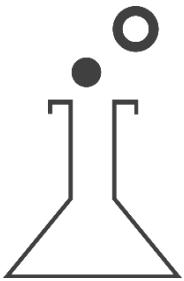


Question #3

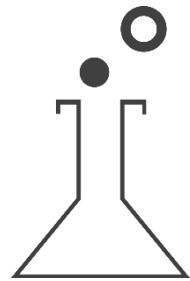


In which of the following are the symbol and name for the ions given correctly?

- a. Fe^{2+} : iron(III); Na^+ : sodium; go to #1
- b. S^{2-} : sulfide; O^{2-} : oxide; go to #4
- c. Cl^- : chlorine; P^{3-} : phosphorus; go to #10
- d. Mg^{2+} : magnesium(II) ; Cu^{2+} : copper(II); go to #6

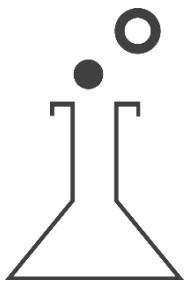


Question #4

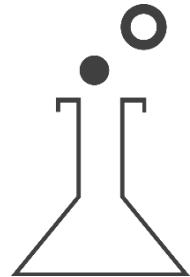


Which of the following formulas represent an ionic compound?

- a. CS_2 ; go to #2
- b. BaI_2 ; go to #10
- c. N_2O_4 ; go to #6
- d. PCl_3 ; go to #8

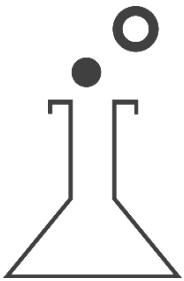


Question #5

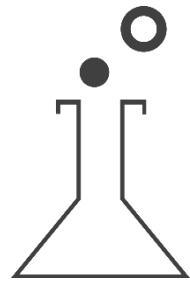


Which element, when combined with fluorine, would form an ionic compound?

- a. lithium; go to #9
- b. carbon; go to #7
- c. phosphorus; go to #2
- d. chlorine; go to #3

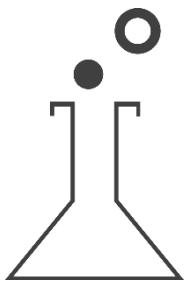


Question #6

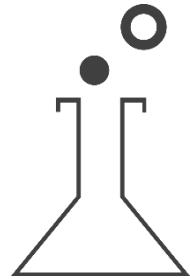


From the given ions, which of the following correct compound would form?

- a. $\text{Ca}^{2+}, \text{F}^- : \text{CaF}_2$; go to #1
- b. $\text{Na}^+, \text{Cl}^- : \text{NaCl}_2$; go to #3
- c. $\text{Ba}^{2+}, \text{O}^{2-} : \text{Ba}_2\text{O}_2$; go to #7
- d. $\text{Pb}^{4+}, \text{O}^{2-} : \text{Pb}_2\text{O}_4$; go to #10

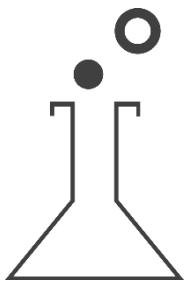


Question #7

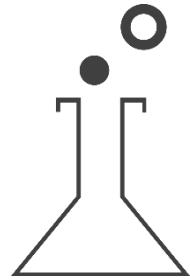


Which of the following compounds contains the lead(II) ion?

- a. PbO ; go to #3
- b. PbCl₄ ; go to #9
- c. Pb₂O ; go to #6
- d. Pb₂S ; go to #4

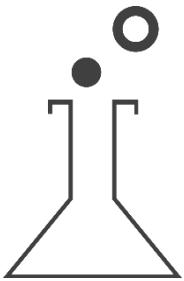


Question #8

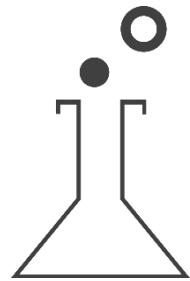


Which anion forms a neutral compound when combined with a group 1 monatomic cation in a 1:1 ratio?

- a. lithium; go to #2
- b. oxide; go to #7
- c. chloride; go to #6
- d. phosphide; go to #1

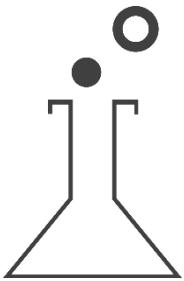


Question #9

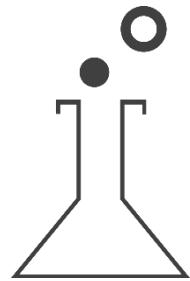


What is the correct formula for barium chloride?

- a. BaCl; go to #5
- b. Ba₂Cl; go to #1
- c. BaCl₂; go to #7
- d. BaCl₃; go to #10

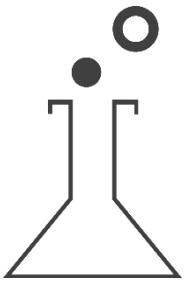


Question #10

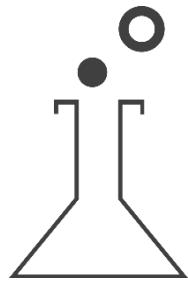


Which of the following is the correct name for N_2O_5 ?

- a. nitrous oxide; go to #8
- b. dinitrogen pentoxide; go to #2
- c. nitrogen dioxide; go to #4
- d. pentanitrogen dioxide; go to #3

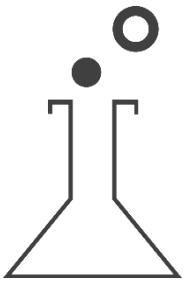


Question #1

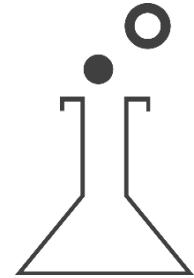


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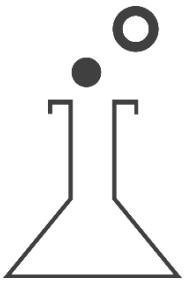


Question #2

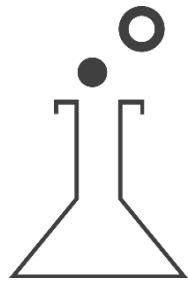


When naming a transition metal ion that can have more than one common ionic charge, the numerical value of the charge is indicated by a ____.

- a. prefix ; go to #4
- b. suffix ; go to #5
- c. Roman numeral following the name ; go to #8
- d. superscript after the name ; go to #7

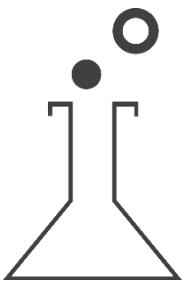


Question #3

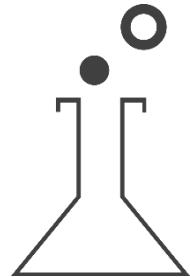


In which of the following are the symbol and name for the ions given correctly?

- a. NH_4^+ : ammonia; Na^+ : sodium; go to #1
- b. OH^- : hydroxide; O^{2-} : oxide; go to #4
- c. CH_3COO^- : acetate; CO_3^{2-} : carbonite; go to #10
- d. PO_3^{3-} : phosphate; PO_4^{3-} : phosphite; go to #6

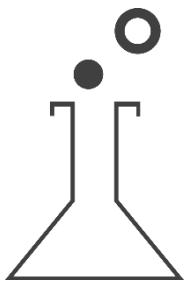


Question #4

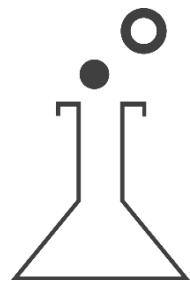


Which of the following formulas represent an ionic compound?

- a. CS_2 ; go to #2
- b. BaI_2 ; go to #10
- c. N_2O_4 ; go to #6
- d. PCl_3 ; go to #8

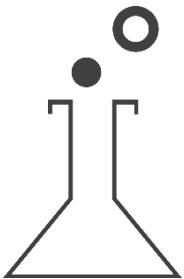


Question #5

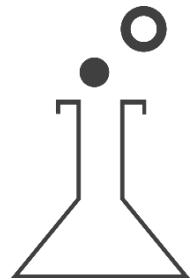


Which element, when combined with fluorine, would form an ionic compound?

- a. lithium; go to #9
- b. carbon; go to #7
- c. phosphorus; go to #2
- d. chlorine; go to #3

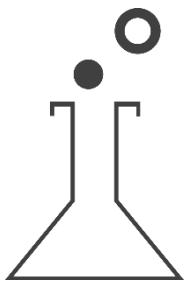


Question #6

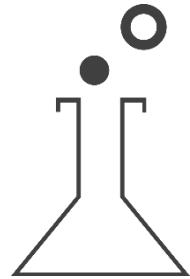


From the given ions, which of the following correct compound would form?

- a. $\text{Ca}^{2+}, \text{F}^- : \text{CaF}_2$; go to #1
- b. $\text{Na}^+, \text{Cl}^- : \text{NaCl}_2$; go to #3
- c. $\text{Ba}^{2+}, \text{O}^{2-} : \text{Ba}_2\text{O}_2$; go to #7
- d. $\text{Pb}^{4+}, \text{O}^{2-} : \text{Pb}_2\text{O}_4$; go to #10

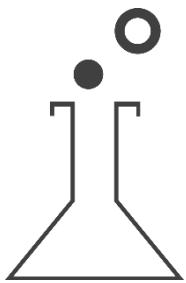


Question #7

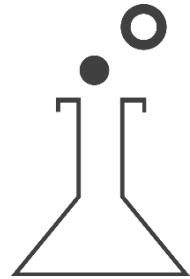


Which of the following compounds contains the lead(II) ion?

- a. PbSO_4 ; go to #3
- b. PbCl_4 ; go to #9
- c. Pb_2O ; go to #6
- d. Pb_2S ; go to #4

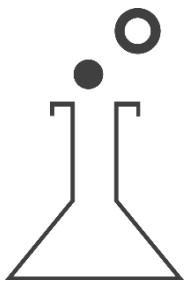


Question #8

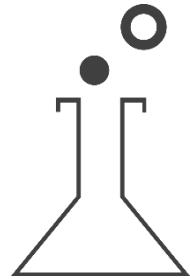


Which anion forms a neutral compound when combined with a group 1 monatomic cation in a 1:1 ratio?

- a. ammonium; go to #2
- b. carbonate; go to #7
- c. nitrate; go to #6
- d. phosphate; go to #1

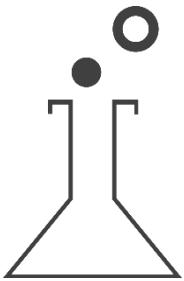


Question #9

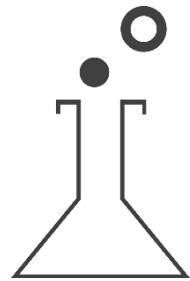


What is the correct formula for barium chloride?

- a. Ba_2Cl_2 ; go to #5
- b. ClBa_2 ; go to #1
- c. BaCl_2 ; go to #7
- d. BaCl ; go to #10

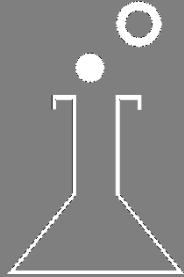
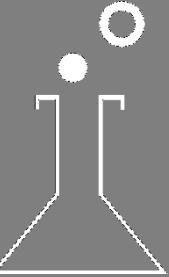


Question #10



Which of the following is the correct name for N_2O_5 ?

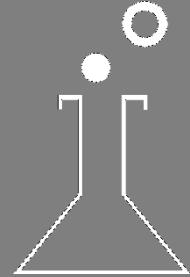
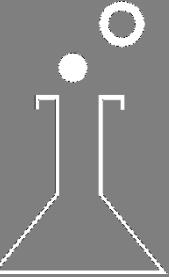
- a. nitrous oxide; go to #8
- b. dinitrogen pentoxide; go to #2
- c. nitrogen dioxide; go to #4
- d. pentanitrogen dioxide; go to #3



Question #1

Which of the following formulas represent a covalent molecule?

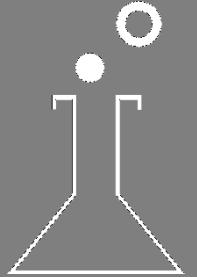
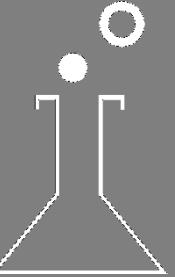
- a. CaS ; go to #8
- b. CO₂; go to #19
- c. Na₂O; go to #20
- d. FeCl₃; go to #4



Question #2

When naming the second nonmetal in a covalent molecule, the numerical value is indicated by a ____.

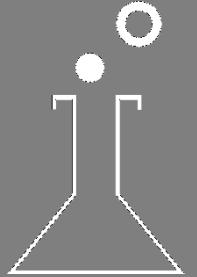
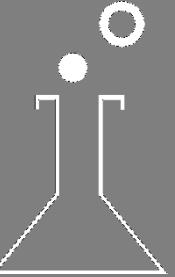
- a. Roman numeral following the name ; go to #3
- b. suffix ; go to #15
- c. prefix ; go to #9
- d. superscript after the name ; go to #11



Question #3

Which of the following compounds contains the iron(III) ion?

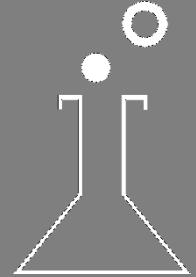
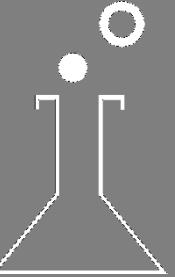
- a. FeN ; go to #17
- b. FeS ; go to #6
- c. FeCl₂ ; go to #16
- d. FeS ; go to #10



Question #4

Which element, when combined with phosphorus, would form an ionic compound?

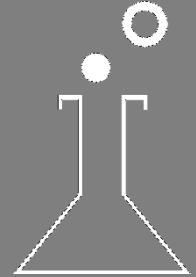
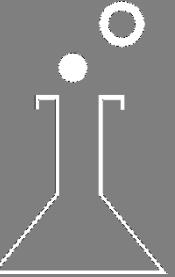
- a. carbon ; go to #14
- b. oxygen ; go to #7
- c. magnesium ; go to #20
- d. boron ; go to #18



Question #5

Which anion forms a neutral compound when combined with a group 2 monatomic cation in a 1:1 ratio?

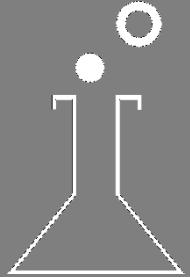
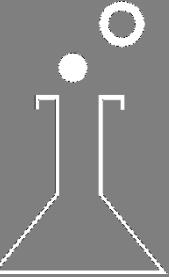
- a. fluoride ; go to #8
- b. nitride ; go to #1
- c. phosphide ; go to #19
- d. sulfide ; go to #13



Question #6

From the given ions, which of the following correct compound would form?

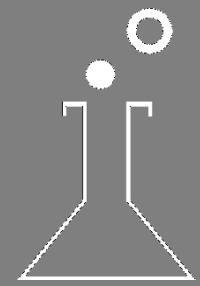
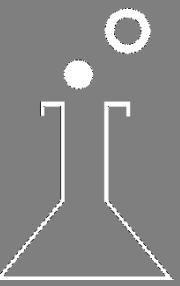
- a. Fe^{2+} , Cl^- : FeCl ; go to #10
- b. Al^{3+} , O^{2-} : Al_3O_2 ; go to #12
- c. Ni^{2+} , O^{2-} : Ni_2O_2 ; go to #5
- d. Li^+ , N^{3-} : Li_3N ; go to #16



Question #7

In which of the following are the symbol and name for the ions given correctly?

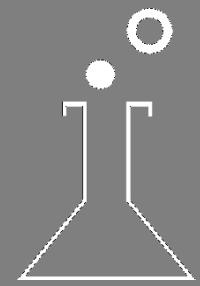
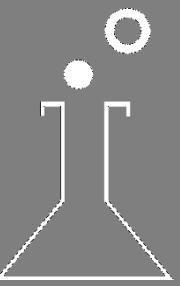
- a. S²⁻ : sulfide; Li⁺ : lithium ; go to #18
- b. N⁻ : nitride; Na⁺ : sodium ; go to #9
- c. O⁻ : oxide; Br²⁻ : bromide ; go to #2
- d. Al³⁻ : aluminum; P³⁻ : phosphide ; go to #15



Question #8

What is the name of the P^{3-} anion?

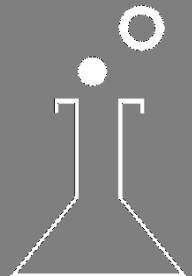
- a. phosphide ion ; go to #4
- b. phosphorus(III) ion ; go to #20
- c. phosphate ion ; go to #14
- d. phosphite ion ; go to #7



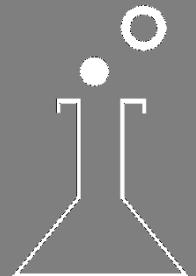
Question #9

What type of bond is formed between carbon and oxygen?

- a. ionic ; go to #11
- b. antibonding ; go to #3
- c. covalent ; go to #15
- d. metallic ; go to #17

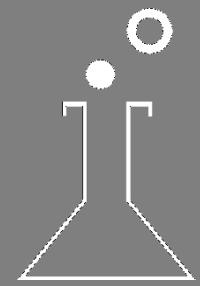
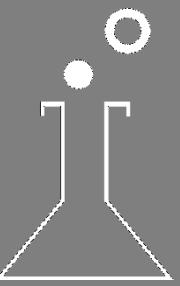


Question #10



How many oxygen atoms should bond with one magnesium atom?

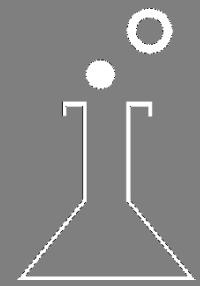
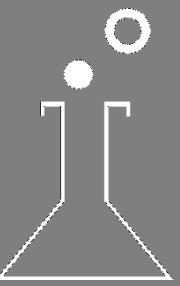
- a. two ; go to #5
- b. three ; go to #1
- c. one ; go to #12
- d. four ; go to #13



Question #11

What is the formula for selenium tetrafluoride?

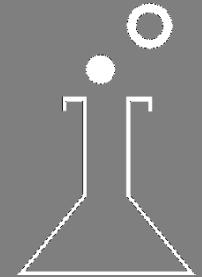
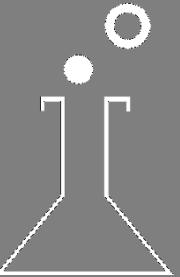
- a. Se_4F ; go to #17
- b. SeF_4 ; go to #3
- c. F_4Se ; go to #6
- d. SeFl_4 ; go to #16



Question #12

What type of bonding exists within a carbon dioxide molecule?

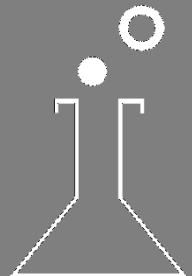
- a. covalent ; go to #5
- b. metallic ; go to #1
- c. metalloidic ; go to #13
- d. ionic ; go to #19



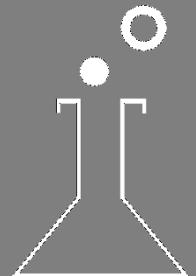
Question #13

What is the name for SO_3 ?

- a. sulfate; go to #19
- b. sulfite ; go to #4
- c. sulfur trioxide ; go to #1
- d. sulfur oxide ; go to #8

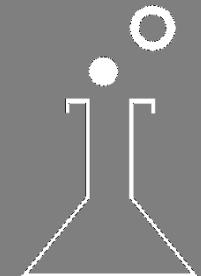


Question #14

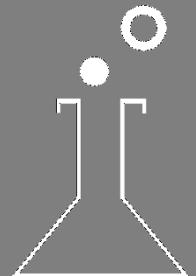


What is the formula for dinitrogen pentoxide?

- a. NO_5 ; go to #9
- b. N_5O_2 ; go to #18
- c. N_2O_5 ; go to #7
- d. N_2O_7 ; go to #2

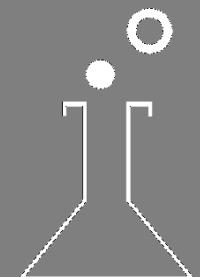
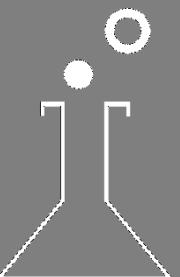


Question #15



In the compound VO_2 , vanadium has the charge of

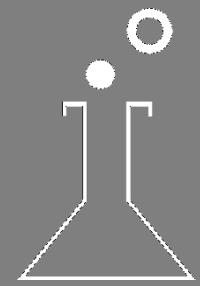
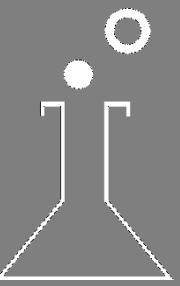
- a. 2+ ; go to #6
- b. 1+ ; go to #3
- c. 2- ; go to #17
- d. 4+ ; go to #11



Question #16

The chemical formula for aluminum bromide is

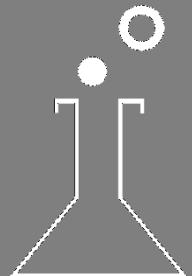
- a. AlBr_3 ; go to #10
- b. Al_3Br_3 ; go to #5
- c. Al_3Br_3 ; go to #12
- d. AlBr_2 ; go to #1



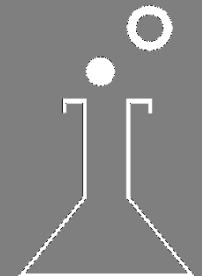
Question #17

The chemical name for Cu_3N_2 is

- a. copper(I) nitride ; go to #16
- b. copper nitride ; go to #10
- c. copper(II) nitride ; go to #6
- d. copper(I) nitride ; go to #12

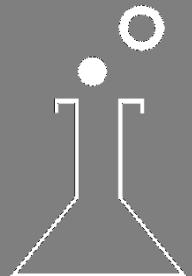


Question #18

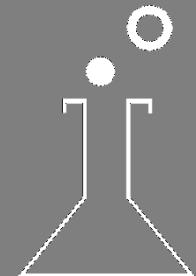


The chemical name for H_2O is

- a. hydrogen dioxide ; go to #9
- b. dihydrogen monoxide ; go to #2
- c. hydrogen oxide ; go to #15
- d. dihydrogen oxide ; go to #11

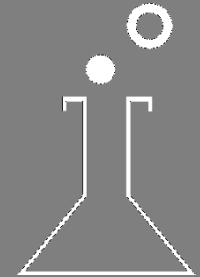
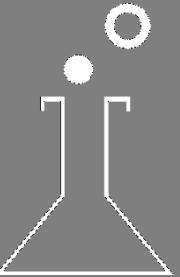


Question #19



What type of bond would form between aluminum and fluorine?

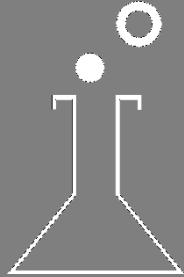
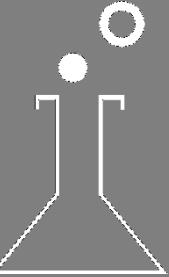
- a. metallic ; go to #20
- b. covalent ; go to #4
- c. metalloidic ; go to #14
- d. ionic ; go to #8



Question #20

Identify the element whose ion can exist as 2+ or 4+?

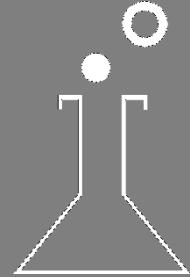
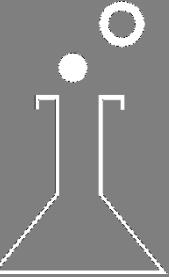
- a. sodium ; go to #7
- b. lead ; go to #14
- c. sulfur ; go to #18
- d. calcium ; go to #2



Question #1

Which of the following formulas represent a covalent molecule?

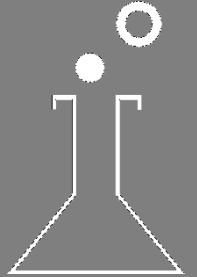
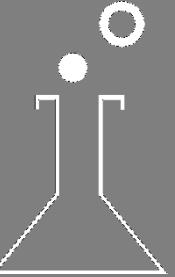
- a. CaS ; go to #8
- b. CO₂; go to #19
- c. Na₂O; go to #20
- d. FeCl₃; go to #4



Question #2

When naming the second nonmetal in a covalent molecule, the numerical value is indicated by a ____.

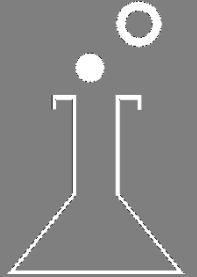
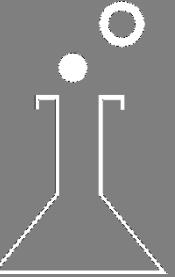
- a. Roman numeral following the name ; go to #3
- b. suffix ; go to #15
- c. prefix ; go to #9
- d. superscript after the name ; go to #11



Question #3

Which of the following compounds contains the iron(III) ion?

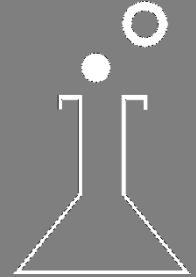
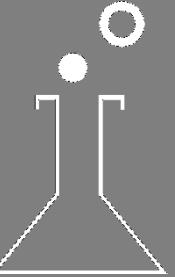
- a. FeN ; go to #17
- b. FeSO₄; go to #6
- c. FeCl₂; go to #16
- d. FeS ; go to #10



Question #4

Which element, when combined with phosphorus, would form an ionic compound?

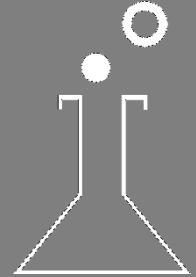
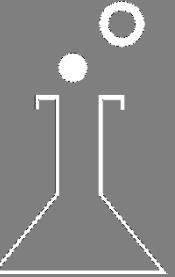
- a. carbon ; go to #14
- b. oxygen ; go to #7
- c. magnesium ; go to #20
- d. boron ; go to #18



Question #5

Which anion forms a neutral compound when combined with a group 2 monatomic cation in a 1:1 ratio?

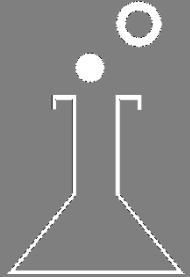
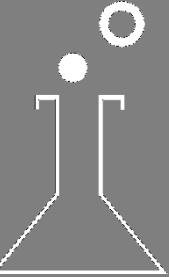
- a. ammonium ; go to #8
- b. nitrate ; go to #1
- c. phosphite ; go to #19
- d. sulfate; go to #13



Question #6

From the given ions, which of the following correct compound would form?

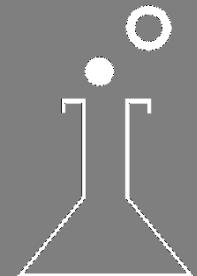
- a. Fe^{2+} , Cl^- : FeCl ; go to #10
- b. Al^{3+} , O^{2-} : Al_3O_2 ; go to #12
- c. Ni^{2+} , O^{2-} : Ni_2O_2 ; go to #5
- d. Li^+ , N^{3-} : Li_3N ; go to #16



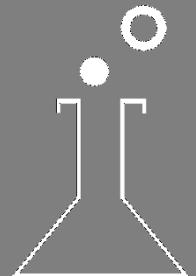
Question #7

In which of the following are the symbol and name for the ions given correctly?

- a. SO_4^{2-} : sulfate; Li^+ : lithium ; go to #18
- b. NO_3^- : nitrite; NO_4^- : nitrate; go to #9
- c. O^- : oxide; HCO_3^{2-} : carbonate ; go to #2
- d. PO_3^{3-} : phosphate; PO_2^{3-} : phosphite ; go to #15

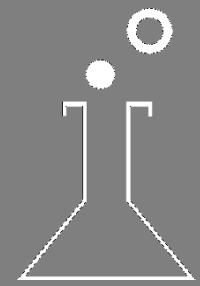
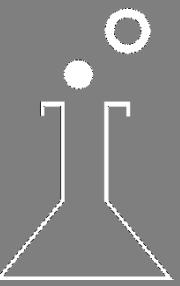


Question #8



What is the name of the P^{3-} anion?

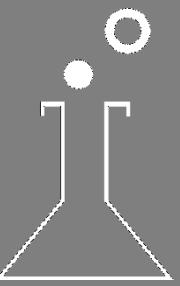
- a. phosphide ion ; go to #4
- b. phosphorus(III) ion ; go to #20
- c. phosphate ion ; go to #14
- d. phosphite ion ; go to #7



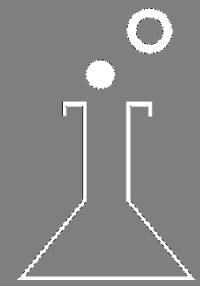
Question #9

What type of bond is formed between carbon and oxygen?

- a. ionic ; go to #11
- b. antibonding ; go to #3
- c. covalent ; go to #15
- d. metallic ; go to #17

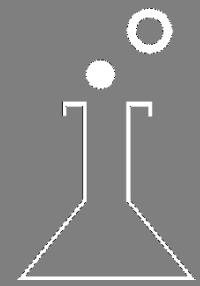
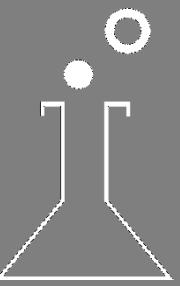


Question #10



How many oxygen atoms should bond with one magnesium atom?

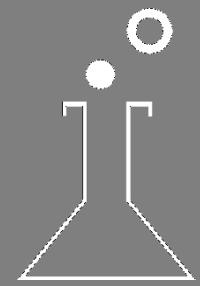
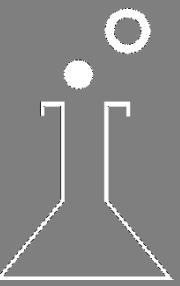
- a. two ; go to #5
- b. three ; go to #1
- c. one ; go to #12
- d. four ; go to #13



Question #11

What is the formula for selenium tetrafluoride?

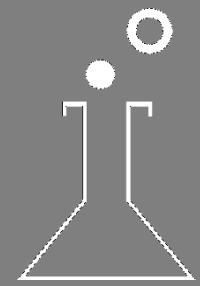
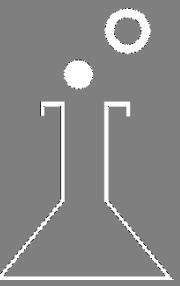
- a. Se_4F ; go to #17
- b. SeF_4 ; go to #3
- c. F_4Se ; go to #6
- d. SeFl_4 ; go to #16



Question #12

What type of bonding exists within a carbon dioxide molecule?

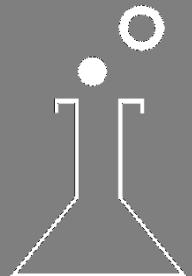
- a. covalent ; go to #5
- b. metallic ; go to #1
- c. metalloidic ; go to #13
- d. ionic ; go to #19



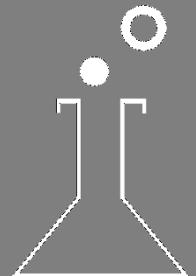
Question #13

What is the name for SO_3 ?

- a. sulfate; go to #19
- b. sulfite ; go to #4
- c. sulfur trioxide ; go to #1
- d. sulfur oxide ; go to #8

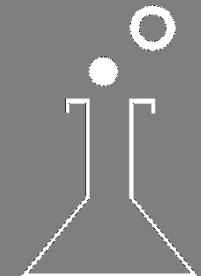


Question #14

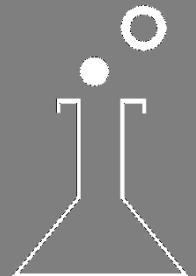


What is the formula for dinitrogen pentoxide?

- a. NO_5 ; go to #9
- b. N_5O_2 ; go to #18
- c. N_2O_5 ; go to #7
- d. N_2O_7 ; go to #2

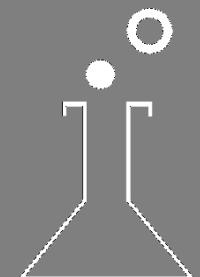
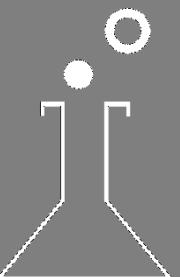


Question #15



In the compound VO_2 , vanadium has the charge of

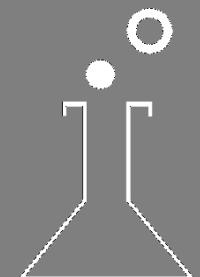
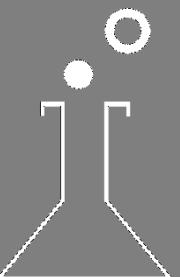
- a. 2+ ; go to #6
- b. 1+ ; go to #3
- c. 2- ; go to #17
- d. 4+ ; go to #11



Question #16

The chemical formula for aluminum bromide is

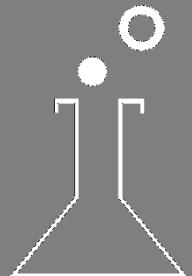
- a. AlBr_3 ; go to #10
- b. Al_3Br_3 ; go to #5
- c. Al_3Br_3 ; go to #12
- d. AlBr_2 ; go to #1



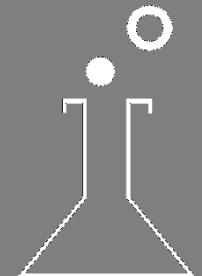
Question #17

The chemical name for $\text{Cu}(\text{NO}_3)_2$ is

- a. copper(I) nitrite ; go to #16
- b. copper nitrate ; go to #10
- c. copper(II) nitrate ; go to #6
- d. copper(I) nitrate ; go to #12

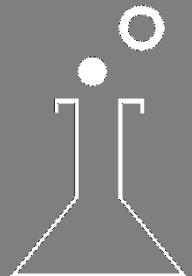


Question #18

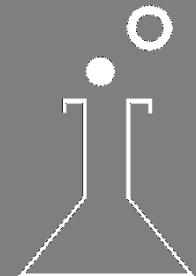


The chemical name for H_2O is

- a. hydrogen dioxide ; go to #9
- b. dihydrogen monoxide ; go to #2
- c. hydrogen oxide ; go to #15
- d. dihydrogen oxide ; go to #11

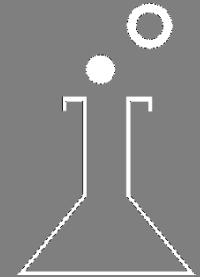
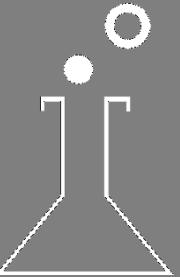


Question #19



What type of bond would form between aluminum and fluorine?

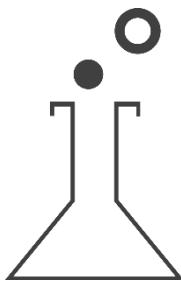
- a. metallic ; go to #20
- b. covalent ; go to #4
- c. metalloidic ; go to #14
- d. ionic ; go to #8



Question #20

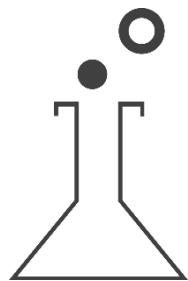
Identify the element whose ion can exist as 2+ or 4+?

- a. sodium ; go to #7
- b. lead ; go to #14
- c. sulfur ; go to #18
- d. calcium ; go to #2



Naming Compounds

10-Question Trail Answer Key



Version 1 - With Monatomic Ions

Begin anywhere

Q:	1	5	9	7	3	4	10	2	8	6
A:	C	A	C	A	B	B	B	C	C	A

Loops back to 1



Question #1

What is the name of the N^{3-} anion?

- a. nitrite ion ; go to #8
- b. nitrogen ion ; go to #9
- c. nitride ion ; go to #5
- d. nitrogen(III) ion ; go to #3



Question #5

Which element, when combined with fluorine, would form an ionic compound?

- a. lithium; go to #9
- b. carbon; go to #7
- c. phosphorus; go to #2
- d. chlorine; go to #3



Question #2

When naming a transition metal ion that can have more than one common ionic charge, the numerical value of the charge is indicated by a _____.

- a. prefix ; go to #4
- b. suffix ; go to #5
- c. Roman numeral following the name ; go to #8
- d. superscript after the name ; go to #7



Question #6

From the given ions, which of the following **correct** compound would form?

- a. Ca^{2+} , F^- : CaF_2 ; go to #1
- b. Na^+ , Cl^- : NaCl_2 ; go to #3
- c. Ba^{2+} , O^{2-} : Ba_2O_2 ; go to #7
- d. Pb^{4+} , O^{2-} : Pb_2O_4 ; go to #10



Question #9

What is the correct formula for barium chloride?

- a. BaCl ; go to #5
- b. Ba_2Cl ; go to #1
- c. BaCl_2 ; go to #7
- d. BaCl_3 ; go to #10



Question #3

In which of the following are the symbol and name for the ions given **correctly**?

- a. Fe^{2+} : iron(III); Na^+ : sodium; go to #1
- b. S^{2-} : sulfide; O^{2-} : oxide; go to #4
- c. Cl^- : chlorine; P^{3-} : phosphorus; go to #10
- d. Mg^{2+} : magnesium(II); Cu^{2+} : copper(II); go to #6



Question #7

Which of the following compounds contains the lead(II) ion?

- a. PbO ; go to #3
- b. PbCl_4 ; go to #9
- c. Pb_2O ; go to #6
- d. Pb_2S ; go to #4



Question #10

Which of the following is the correct name for N_2O_5 ?

- a. nitrous oxide; go to #8
- b. dinitrogen pentoxide; go to #2
- c. nitrogen dioxide; go to #4
- d. pentanitrogen dioxide; go to #3



Question #4

Which of the following formulas represent an ionic compound?

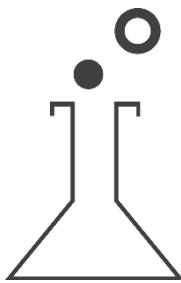
- a. CS_2 ; go to #2
- b. BaI_2 ; go to #10
- c. N_2O_4 ; go to #6
- d. PCl_3 ; go to #8



Question #8

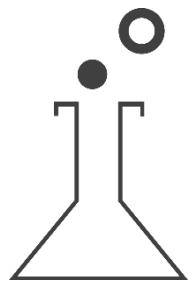
Which anion forms a neutral compound when combined with a group 1 monatomic cation in a 1:1 ratio?

- a. lithium; go to #2
- b. oxide; go to #7
- c. chloride; go to #6
- d. phosphide; go to #1



Naming Compounds

10-Question Trail Answer Key



Version 2 - With Polyatomic Ions

Begin anywhere

Q:	1	5	9	7	3	4	10	2	8	6
A:	C	A	C	A	B	B	B	C	C	A

Loops back to 1



Question #1

What is the name of the N^{3-} anion?

- a. nitrite ion; go to #8
- b. nitrogen ion; go to #9
- c. nitride ion; go to #5
- d. nitrogen(III) ion; go to #3



Question #2

When naming a transition metal ion that can have more than one common ionic charge, the numerical value of the charge is indicated by a _____.

- a. prefix; go to #4
- b. suffix; go to #5
- c. Roman numeral following the name; go to #8
- d. superscript after the name; go to #7



Question #3

In which of the following are the symbol and name for the ions given **correctly**?

- a. NH_4^+ : ammonia; Na^+ : sodium; go to #1
- b. OH^- : hydroxide; O^{2-} : oxide; go to #4
- c. CH_3COO^- : acetate; CO_3^{2-} : carbonite; go to #10
- d. PO_4^{3-} : phosphate; PO_3^{3-} : phosphite; go to #6



Question #4

Which of the following formulas represent an ionic compound?

- a. CS_2 ; go to #2
- b. BaI_2 ; go to #10
- c. N_2O_4 ; go to #6
- d. PCl_3 ; go to #8



Question #5

Which element, when combined with fluorine, would form an ionic compound?

- a. lithium; go to #9
- b. carbon; go to #7
- c. phosphorus; go to #2
- d. chlorine; go to #3



Question #6

From the given ions, which of the following **correct** compound would form?

- a. $\text{Ca}^{2+}, \text{F}^-$: CaF_2 ; go to #1
- b. Na^+, Cl^- : NaCl_2 ; go to #3
- c. $\text{Ba}^{2+}, \text{O}^{2-}$: Ba_2O_2 ; go to #7
- d. $\text{Pb}^{4+}, \text{O}^{2-}$: Pb_2O_4 ; go to #10



Question #7

Which of the following compounds contains the lead(II) ion?

- a. PbSO_4 ; go to #3
- b. PbCl_4 ; go to #9
- c. Pb_2O ; go to #6
- d. Pb_2S ; go to #4



Question #8

Which anion forms a neutral compound when combined with a group 1 monatomic cation in a 1:1 ratio?

- a. ammonium; go to #2
- b. carbonate; go to #7
- c. nitrate; go to #6
- d. phosphate; go to #1



Question #9

What is the correct formula for barium chloride?

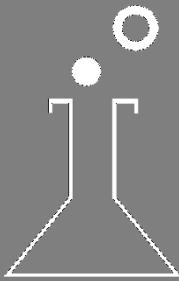
- a. Ba_2Cl_2 ; go to #5
- b. ClBa_2 ; go to #1
- c. BaCl_2 ; go to #7
- d. BaCl ; go to #10



Question #10

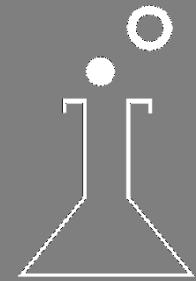
Which of the following is the correct name for N_2O_5 ?

- a. nitrous oxide; go to #8
- b. dinitrogen pentoxide; go to #2
- c. nitrogen dioxide; go to #4
- d. pentanitrogen dioxide; go to #3



Naming Compounds

20-Question Trail Answer Key



Version 1 - With Monatomic Ions

Begin anywhere

Q:	12	5	13	1	19	8	4	20	14	7	18	2	9	15	11	3	17	6	16	10
A:	A	D	C	B	D	A	C	B	C	A	B	C	C	D	B	A	C	D	A	C

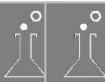
Loops back to 12



Question #1

Which of the following formulas represent a covalent molecule?

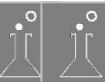
- a. CaS ; go to #8
- b. CO₂ ; go to #19
- c. Na₂O ; go to #20
- d. FeCl₃ ; go to #4



Question #2

When naming the second nonmetal in a covalent molecule, the numerical value is indicated by a ____.

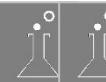
- a. Roman numeral following the name ; go to #3
- b. suffix ; go to #15
- c. prefix ; go to #9
- d. superscript after the name ; go to #11



Question #3

Which of the following compounds contains the iron(III) ion?

- a. FeN ; go to #17
- b. FeS ; go to #6
- c. FeCl₂ ; go to #16
- d. FeS ; go to #10



Question #4

Which element, when combined with phosphorus, would form an ionic compound?

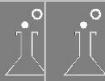
- a. carbon ; go to #14
- b. oxygen ; go to #7
- c. magnesium ; go to #20
- d. boron ; go to #18



Question #5

Which anion forms a neutral compound when combined with a group 2 monatomic cation in a 1:1 ratio?

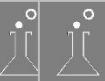
- a. fluoride ; go to #8
- b. nitride ; go to #1
- c. phosphide ; go to #19
- d. sulfide ; go to #13



Question #6

From the given ions, which of the following **correct** compound would form?

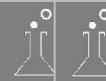
- a. Fe²⁺, Cl⁻: FeCl ; go to #10
- b. Al³⁺, O²⁻: Al₂O₃ ; go to #12
- c. Ni²⁺, O²⁻: Ni₂O₂ ; go to #5
- d. Li⁺, N³⁻: Li₃N ; go to #16



Question #7

In which of the following are the symbol and name for the ions given **correctly**?

- a. S²⁻: sulfide; Li⁺: lithium ; go to #18
- b. N⁻: nitride; Na⁺: sodium ; go to #9
- c. O⁻: oxide; Br²⁻: bromide ; go to #2
- d. Al³⁺: aluminum; P³⁻: phosphide ; go to #15



Question #8

What is the name of the P³⁻ anion?

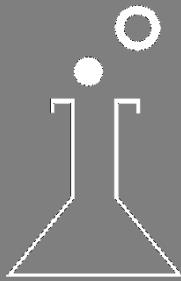
- a. phosphide ion ; go to #4
- b. phosphorus(III) ion ; go to #20
- c. phosphate ion ; go to #14
- d. phosphite ion ; go to #7

Answer Key Continued

Question #9	Question #10	Question #11	Question #12
<p>What type of bond is formed between carbon and oxygen?</p> <p>a. ionic ; go to #11 b. antibonding ; go to #3 c. covalent ; go to #15 d. metallic ; go to #17</p>	<p>How many oxygen atoms should bond with one magnesium atom?</p> <p>a. two ; go to #5 b. three ; go to #1 c. one ; go to #12 d. four ; go to #13</p>	<p>What is the formula for selenium tetrafluoride?</p> <p>a. Se_4F ; go to #17 b. SeF_4 ; go to #3 c. F_4Se ; go to #6 d. SeFl_4 ; go to #16</p>	<p>What type of bonding exists within a carbon dioxide molecule?</p> <p>a. covalent ; go to #5 b. metallic ; go to #1 c. metalloidic ; go to #13 d. ionic ; go to #19</p>

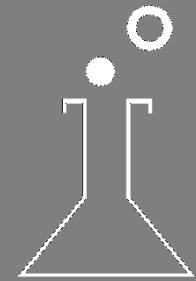
Question #13	Question #14	Question #15	Question #16
<p>What is the name for SO_3?</p> <p>a. sulfate ; go to #19 b. sulfite ; go to #4 c. sulfur trioxide ; go to #1 d. sulfur oxide ; go to #8</p>	<p>What is the formula for dinitrogen pentoxide?</p> <p>a. NO_5 ; go to #9 b. N_5O_2 ; go to #18 c. N_2O_5 ; go to #7 d. N_2O_7 ; go to #2</p>	<p>In the compound VO_2, vanadium has the charge of</p> <p>a. 2+ ; go to #6 b. 1+ ; go to #3 c. 2- ; go to #17 d. 4+ ; go to #11</p>	<p>The chemical formula for aluminum bromide is</p> <p>a. AlBr_3 ; go to #10 b. Al_3Br_3 ; go to #5 c. Al_3Br_3 ; go to #12 d. AlBr_2 ; go to #1</p>

Question #17	Question #18	Question #19	Question #20
<p>The chemical name for Cu_3N_2 is</p> <p>a. copper(I) nitride ; go to #16 b. copper nitride ; go to #10 c. copper(II) nitride ; go to #6 d. copper(I) nitride ; go to #12</p>	<p>The chemical name for H_2O is</p> <p>a. hydrogen dioxide ; go to #9 b. dihydrogen monoxide ; go to #2 c. hydrogen oxide ; go to #15 d. dihydrogen oxide ; go to #11</p>	<p>What type of bond would form between aluminum and fluorine?</p> <p>a. metallic ; go to #20 b. covalent ; go to #4 c. metalloidic ; go to #14 d. ionic ; go to #8</p>	<p>Identify the element whose ion can exist as 2+ or 4+?</p> <p>a. sodium ; go to #7 b. lead ; go to #14 c. sulfur ; go to #18 d. calcium ; go to #2</p>



Naming Compounds

20-Question Trail Answer Key



Begin anywhere

Q:	12	5	13	1	19	8	4	20	14	7	18	2	9	15	11	3	17	6	16	10
A:	A	D	C	B	D	A	C	B	C	A	B	C	C	D	B	A	C	D	A	C

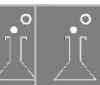
Loops back to 12



Question #1

Which of the following formulas represent a covalent molecule?

- a. CaS ; go to #8
- b. CO₂ ; go to #19
- c. Na₂O ; go to #20
- d. FeCl₃ ; go to #4



Question #2

When naming the second nonmetal in a covalent molecule, the numerical value is indicated by a ____.

- a. Roman numeral following the name ; go to #3
- b. suffix ; go to #15
- c. prefix ; go to #9
- d. superscript after the name ; go to #11



Question #3

Which of the following compounds contains the iron(III) ion?

- a. FeN ; go to #17
- b. FeSO₄ ; go to #6
- c. FeCl₂ ; go to #16
- d. FeS ; go to #10



Question #4

Which element, when combined with phosphorus, would form an ionic compound?

- a. carbon ; go to #14
- b. oxygen ; go to #7
- c. magnesium ; go to #20
- d. boron ; go to #18



Question #5

Which anion forms a neutral compound when combined with a group 2 monatomic cation in a 1:1 ratio?

- a. ammonium ; go to #8
- b. nitrate ; go to #1
- c. phosphite ; go to #19
- d. sulfate; go to #13



Question #6

From the given ions, which of the following **correct** compound would form?

- a. Fe²⁺, Cl⁻: FeCl ; go to #10
- b. Al³⁺, O²⁻: Al₂O₃; go to #12
- c. Ni²⁺, O²⁻: Ni₂O₂; go to #5
- d. Li⁺, N³⁻: Li₃N ; go to #16



Question #7

In which of the following are the symbol and name for the ions given **correctly**?

- a. SO₄²⁻: sulfate; Li⁺: lithium ; go to #18
- b. NO₃⁻: nitrite; NO₄⁻: nitrate; go to #9
- c. O⁻: oxide; HCO₃²⁻: carbonate ; go to #2
- d. PO₃³⁻: phosphate; PO₂³⁻: phosphite ; go to #15



Question #8

What is the name of the P³⁻ anion?

- a. phosphide ion ; go to #4
- b. phosphorus(III) ion ; go to #20
- c. phosphate ion ; go to #14
- d. phosphite ion ; go to #7

Answer Key Continued

Question #9	Question #10	Question #11	Question #12
<p>What type of bond is formed between carbon and oxygen?</p> <p>a. ionic ; go to #11 b. antibonding ; go to #3 c. covalent ; go to #15 d. metallic ; go to #17</p>	<p>How many oxygen atoms should bond with one magnesium atom?</p> <p>a. two ; go to #5 b. three ; go to #1 c. one ; go to #12 d. four ; go to #13</p>	<p>What is the formula for selenium tetrafluoride?</p> <p>a. Se_4F ; go to #17 b. SeF_4 ; go to #3 c. F_4Se ; go to #6 d. SeFl_4 ; go to #16</p>	<p>What type of bonding exists within a carbon dioxide molecule?</p> <p>a. covalent ; go to #5 b. metallic ; go to #1 c. metalloidic ; go to #13 d. ionic ; go to #19</p>

Question #13	Question #14	Question #15	Question #16
<p>What is the name for SO_3?</p> <p>a. sulfate; go to #19 b. sulfite ; go to #4 c. sulfur trioxide ; go to #1 d. sulfur oxide ; go to #8</p>	<p>What is the formula for dinitrogen pentoxide?</p> <p>a. NO_5 ; go to #9 b. N_5O_2 ; go to #18 c. N_2O_5 ; go to #7 d. N_2O_7 ; go to #2</p>	<p>In the compound VO_2, vanadium has the charge of</p> <p>a. 2+ ; go to #6 b. 1+ ; go to #3 c. 2- ; go to #17 d. 4+ ; go to #11</p>	<p>The chemical formula for aluminum bromide is</p> <p>a. AlBr_3 ; go to #10 b. Al_3Br_3 ; go to #5 c. Al_3Br_3 ; go to #12 d. AlBr_2 ; go to #1</p>

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