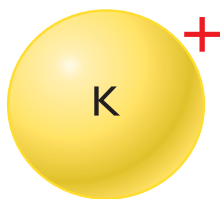


POLYATOMIC IONS

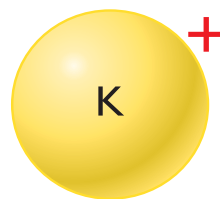
Ionic Grid game

1. Play in groups of four with one deck of Polyatomic Ions cards. Shuffle the deck and place all the cards face up on the table in a grid five cards high and eight cards wide.
2. Take turns forming ionic compounds with the cards. Use two, three, or four cards to create a compound. Remove the cards you used from the grid.
3. State the name of your compound. Write the name and the correct chemical formula on your sheet. Earn 1 point for each card used.
4. You can challenge the chemical formula written by anyone in your group. Your teacher must settle the challenge. If the formula is written incorrectly, the compound becomes yours. If your challenge is incorrect, your opponent scores double points.
5. When you use a Wild Card, you must identify the cation or anion it represents and identify its charge.

Potassium



Potassium

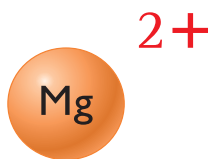


POLYATOMIC IONS

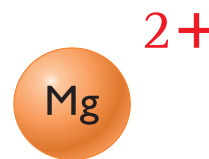
Three-Minute Bonding game

1. Your teacher will hand out one Polyatomic Ions card to each student.
2. When the game begins, move around the room to find another student whose card can combine with yours to form a compound. Some compounds may require more than two people. The goal is to create as many correct compounds as possible.
3. In the table, write down the chemical formula of each compound you create.
4. At some point during the game, the teacher will say "Switch!" and you must trade cards with whoever is closest. Once you have traded, continue creating compounds until your teacher announces that time is up.
5. At the end of the game, determine your score. Compounds made from two cards are worth 2 points, three cards are worth 3 points, and four cards are worth 4 points. (The chemical formula must be correctly written.)

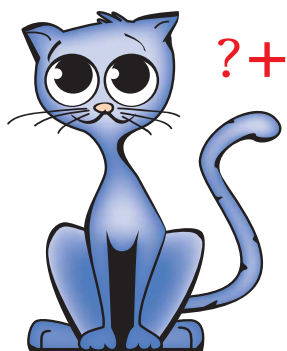
Magnesium



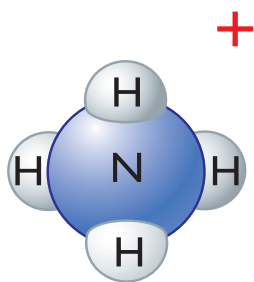
Magnesium



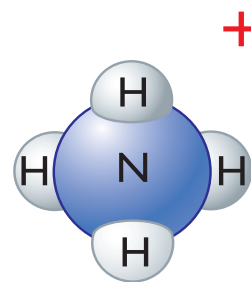
Wild cation!

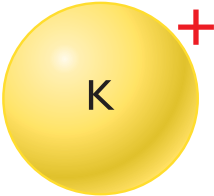
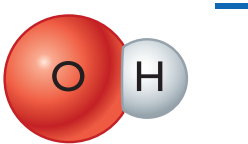
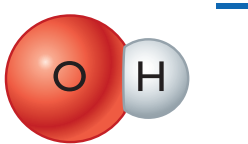
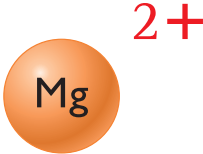
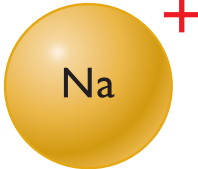
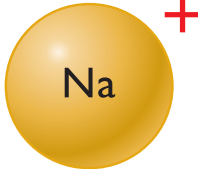
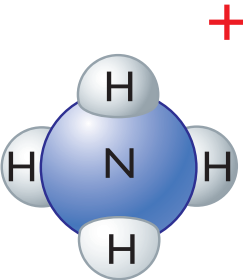
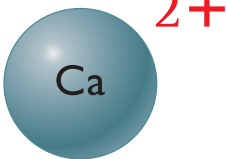
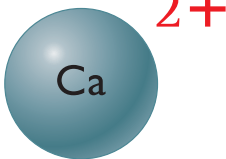


Ammonium

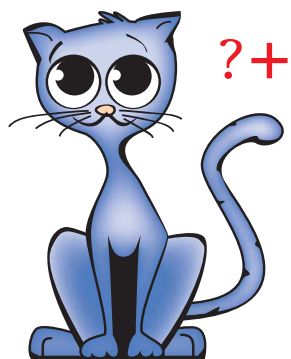


Ammonium



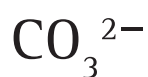
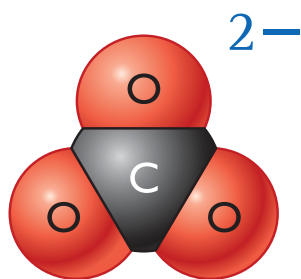
| | | |
|---|--|--|
| <p>Potassium</p>  <p>K^+</p> | <p>Hydroxide</p>  <p>OH^-</p> | <p>Hydroxide</p>  <p>OH^-</p> |
| <p>Magnesium</p>  <p>Mg^{2+}</p> | <p>Sodium</p>  <p>Na^+</p> | <p>Sodium</p>  <p>Na^+</p> |
| <p>Ammonium</p>  <p>NH_4^+</p> | <p>Calcium</p>  <p>Ca^{2+}</p> | <p>Calcium</p>  <p>Ca^{2+}</p> |

Wild cation!

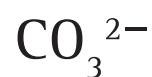
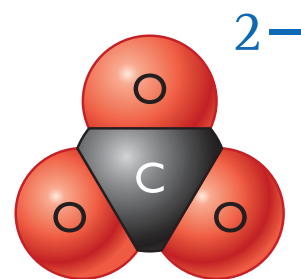


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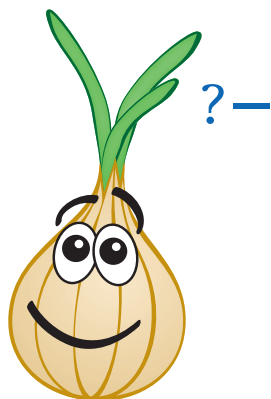
Carbonate



Carbonate

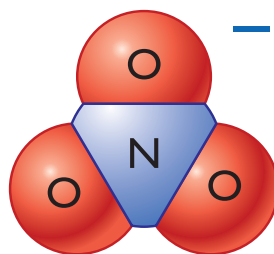


Wild anion!

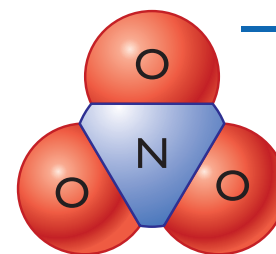


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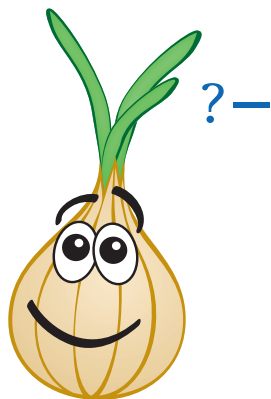
Nitrate



Nitrate

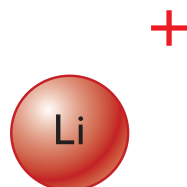


Wild anion!

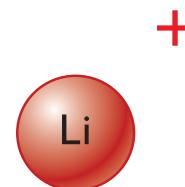


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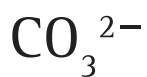
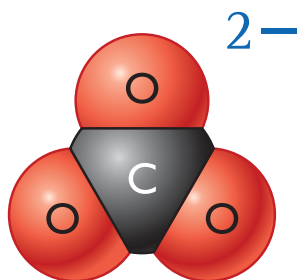
Lithium



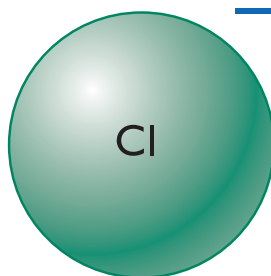
Lithium



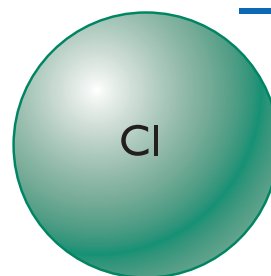
Carbonate



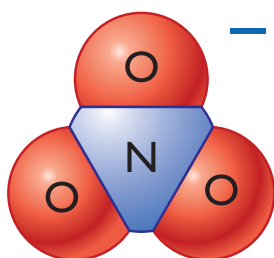
Chloride



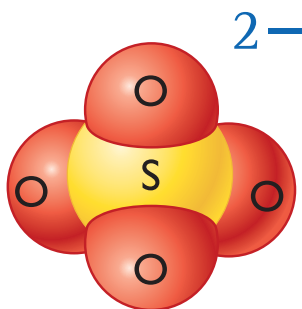
Chloride



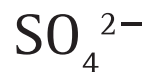
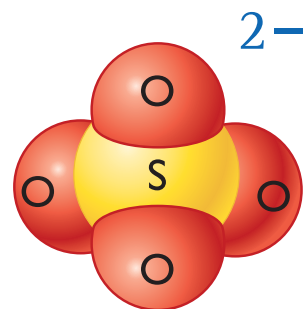
Nitrate



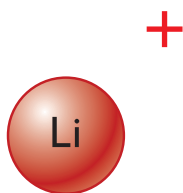
Sulfate



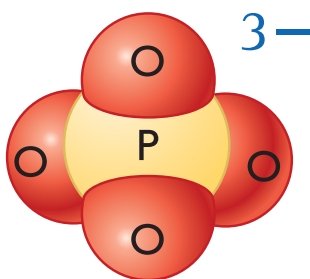
Sulfate



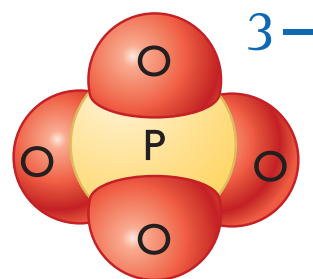
Lithium



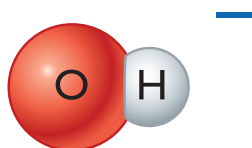
Phosphate



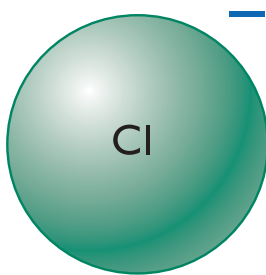
Phosphate



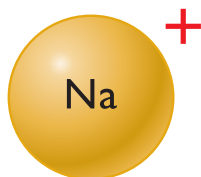
Hydroxide



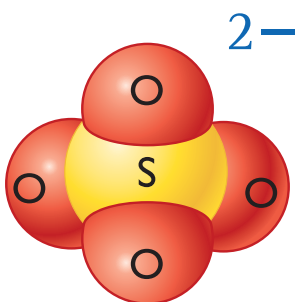
Chloride



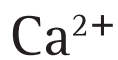
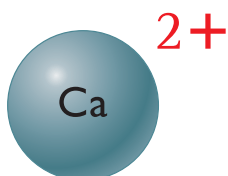
Sodium



Sulfate



Calcium



Phosphate

