

04 VSEPR Lab Pre-AP (3332150)

Question

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Obtain the following for your group:

4 white (hydrogen) 1-prong model parts

3 green (chlorine) 4-prong model parts

3 red (oxygen) 4-prong model parts

2 blue (nitrogen) 4-prong model parts

1 black (carbon) 4-prong model part

4 long thin clear tubes (double or triple bonds)

4 short thick clear tubes (single bonds)

Only one student in each group will turn in this assignment. Use one iPad for Webassign and one iPad for Show Me. Create a Lewis dot structure for each molecule using the iPad app: Show Me.

Make a model of the molecule and show it to the instructor for verification.

Use the model and Lewis dot structure to answer the questions.

For number of bonds: a single bond counts as one bond, a double bond also counts as one bond, and a triple bond counts as one bond.

1. Question Details

Lab Partners [1837468]

Enter the name(s) of your lab partner(s). (If you worked by yourself, enter "none").

2. Question Details

VSEPR Lab H [740164]

Using the Lewis structure and a model, answer the following questions about a hydrogen molecule: H₂

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

3. Question Details

VSEPR Lab Cl2 [2525236]

Using the Lewis structure and a model, answer the following questions about a chlorine molecule: Cl₂

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

4. Question Details

VSEPR Lab HCl [2525237]

Using the Lewis structure and a model, answer the following questions about a hydrogen chloride molecule: HCl

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

5. Question Details

VSEPR Lab O2 [2525238]

Using the Lewis structure and a model, answer the following questions about an oxygen molecule: O₂

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

6. Question Details

VSEPR Lab N2 [2525343]

Using the Lewis structure and a model, answer the following questions about a nitrogen molecule: N₂

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

7. Question Details

VSEPR Lab H2O [2525344]

Using the Lewis structure and a model, answer the following questions about a water molecule: H₂O

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many lone pairs are on the central atom in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

8. Question Details

VSEPR Lab CO₂ [2525345]

Using the Lewis structure and a model, answer the following questions about a carbon dioxide molecule: CO₂

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many lone pairs are on the central atom in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

What is the formal charge on the carbon?

What is the formal charge on each oxygen?

9. Question Details

VSEPR Lab NH₃ [2525347]

Using the Lewis structure and a model, answer the following questions about an ammonia molecule: NH₃

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many lone pairs are on the central atom in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

10. Question Details

VSEPR Lab CH4 [2525515]

Using the Lewis structure and a model, answer the following questions about a methane molecule: CH₄

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many lone pairs are on the central atom in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

11. Question Details

VSEPR Lab HCN [2525530]

Using the Lewis structure and a model, answer the following questions about a hydrogen cyanide molecule: HCN

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the H-C bond in the molecule?

What is the bond polarity for the C-N bond in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many lone pairs are on the central atom in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

What is the formal charge on the carbon?

What is the formal charge on the nitrogen?

12. Question Details

VSEPR Lab NO3- [2525557]

Using the Lewis structure and a model, answer the following questions about a nitrate ion: NO₃⁻

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many lone pairs are on the central atom in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

What is the formal charge on the nitrogen?

What is the formal charge on the oxygen with the double bond?

What is the formal charge on the oxygens with the single bonds?

13. Question Details

VSEPR Lab NH4+ [2526086]

Using the Lewis structure and a model, answer the following questions about an ammonium ion: NH_4^+

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many lone pairs are on the central atom in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

What is the formal charge on the nitrogen?

What is the formal charge on the hydrogens?

14. Question Details

VSEPR Lab O3 [2526088]

Using the Lewis structure and a model, answer the following questions about an ozone molecule: O_3

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many lone pairs are on the central atom in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

15. Question Details

VSEPR Lab Cl3+ [2526089]

Using the Lewis structure and a model, answer the following questions about the trichloride ion: Cl_3^+

What is the shape of the molecule?

What is the angle between the atoms in the molecule?

What is the bond polarity for the bonds in the molecule?

What is the molecule polarity for the molecule?

How many bonds are in the molecule?

How many lone pairs are on the central atom in the molecule?

How many total lone pairs are in the molecule?

Does this molecule have resonance?

Assignment Details

Name (AID): 04 VSEPR Lab Pre-AP (3332150)

Submissions Allowed: 5

Category: Lab

Code:

Locked: Yes

Author: Ryan, Matt (mryan@allsaintsschool.org)

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