How do N, O, C, & H combine in living and non-living things?

[Title this next section with the above question]

Snag your iPad, choose any browser, and go to scienceofagriculture.org/nitrogen/

1. From the home page, write down *7* different transformations listed for nitrogen (N)

Then, click 'Nitrogen in Feed'

2. Draw out the connection between animal muscle and amino acids

    A. Briefly define protein and amino acid

    B. What are the most common elements amino acids are made from?

3. What is atomic mass? What is molecular mass?

4. Draw the models of H, C, O, & N atoms

5. Draw out two of the three amino acid models, including their names (proline, alanine, &/or lysine)

    A. How many different amino acids are there?

    B. What is the average percentage of nitrogen?

Click on 'Nitrogen in Fertilizer'

6. Draw the models of urea and ammonium nitrate, including charges

    A. What is the connection between urea and ammonium nitrate?

    B. What is a cation? what is an anion?

7. In the urea model, how many bonds do H, C, O, & N make each? How many valence electrons does each atom have?

    A. Is there a pattern?

8. What is the cost/benefit analysis of urea vs. ammonium nitrate as fertilizers? (what is one advantage and one disadvantage for each)

Click on 'Nitrogen in Pollutants'

9. If nitrogen is important to plant and animal growth, can there be 'too much'?

    A. Provide an example of 'too much' nitrogen.

10. Draw the models of ammonium, nitrate, and nitrite

    A. Why does nitrate leach? What is leaching?

    B. Where does the excess nitrate typically end up? Is this ok? why or why not?