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| What are the patterns in the elements?  How was Mendeleev’s periodic table organized?  How are new elements predicted?  How is the modern periodic table organized?  How does the periodic table help?  What is the difference between periods and groups?  How are elements formed in the stars?  How does nuclear fusion make new elements?  Summary: | The pattern is elements have the same property according to their atomic mass.  Mendeleev’s periodic table was organized from increasing atomic mass.  All elements in the same group are the same.  The modern periodic table is organized by the atomic number.  The properties of an element can be predicted from its location in the periodic table.  Periods are organized horizontally and groups are organized vertically.  In the stars, the pressure is so high, that nuclei are squeezed close together and collide.  Nuclear fusion, which occurs in stars on a huge scale, combines smaller nuclei into larger nuclei, creating heavier elements. |