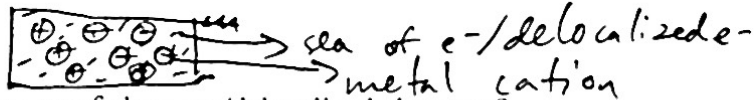


Name:
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4.2 Tracked Assignment

1. What is metallic bonding? Draw a picture as part of your explanation.

attraction between metal cations & sea of e^- /delocalized e^-



2. What is meant by sea of electrons/delocalized electrons?

e^- can move freely throughout the piece of metal

3. How do metallic bonds achieve the octet rule?

sea of e^- /delocalized e^- that spend time with metals

4. How does electronegativity affect metallic bonds?

low value of electronegativity means e^- have low attraction to e^- so can move freely

5. What properties do metals have?

high melting point, insoluble, crystalline structure, malleable, ductile, good conductors of heat & electricity, shiny/lustrous

6. Why are metals malleable and ductile?

sea of e^- allow bonds to move without breaking

7. Both ionic compounds and metals have crystalline structures, but ionic compounds are brittle not malleable. Explain why.

when the ions move $+ \begin{matrix} - \\ \vdots \\ + \end{matrix} +$ end up next to each other which repel & break the bond

8. Why are metals shiny?

e^- can move to dif. orbitals easily

9. Why are metals good conductors of heat? Why are they good conductors of electricity?

e^- move & vibrate easily

e^- move easily throughout metal & can be moved

Name:

Date:

Period:

4.2 Tracked Assignment

10. Label the following properties as being that of ionic or metallic compounds. Some properties may apply to both types of compound.

- a. shiny m
- b. brittle i
- c. high melting point i & m
- d. generally soluble in water neither i
- e. conducts electricity by itself m

11. Fill in the following Venn diagram comparing ionic and metallic bonds.

