**5.8 HONORS CLASS WORKSHEET – SIMPLE REDOX REACTIONS**

This worksheet builds directly onto Worksheet 5.6, which was the work for March 18th.

Questions 1 and 2 are a repeat of the first two questions on Worksheet 5.6:

* you may copy your answers from 5.6 into this worksheet or look at the answer sheet on the website and write those answers in here
* make sure you show your arrows, subscripts and superscripts correctly; I have shown you how to do this in the video

1. Explain the meaning of the following terms:

|  |  |
| --- | --- |
| OXIDATION |  |
| REDUCTION |  |
| REDOX REACTION |  |

1. Write half-equations to show the following changes, and indicate whether they represent oxidation or reduction:

|  |  |  |  |
| --- | --- | --- | --- |
| a | Mg losing two electrons | Mg 🡪 Mg2+ + 2e- | oxidation |
| b | Cl2 turning into 2Cl- | Cl2 + 2e- 🡪 2Cl- | reduction |
| c | Sn4+ gaining two electrons |  |  |
| d | Fe2+ losing one electron |  |  |
| e | 2I- becoming I2 |  |  |
| f | O atoms in O2 each gaining two electrons |  |  |
| g | Ag+ becoming Ag |  |  |

1. Combine the following pairs of half-equations from question 2 to make a redox reaction:

|  |  |  |
| --- | --- | --- |
| (i) | Equations a and b | |
|  | Answer: | Mg 🡪 Mg2+ + ~~2e~~~~-~~  Cl2 + ~~2e~~~~-~~ 🡪 2Cl-  **Mg + Cl2 🡪 Mg2+ + 2Cl-** |
| (ii) | Zn 🡪 Zn2+ + 2e- (ox) and Fe3 + e- 🡪 Fe2+ (red) | |
|  | Answer: | Zn 🡪 Zn2+ + ~~2e~~~~-~~ (ox)  2Fe3 + ~~2e~~~~-~~ 🡪 2Fe2+ (red) (must multiply half-equation by 2 to cancel e-)  **Zn + 2Fe3+** 🡪 **Zn2+ + 2Fe2+** |
| (iii) | Equations b and e | |
|  | Answer: |  |
| (iii) | Equations a and g | |
|  | Answer: |  |
| (iii) | Equations e and f | |
|  | Answer: |  |