

## TEACHER DIRECTIONS:

1. Print the Battle Ship rules and the battle ships, one per student.
2. Print one periodic tables student.
3. On the file folder, open it like the battleship game. Glue the Rules on the top side of the file folder. Glue the periodic table on the bottom side.
4. Laminate the file folders.
5. Print two battleships per person. Print one "hit/miss" markers per person. Laminate them separately. These are the playing pieces.
6. Cut out the markers and the ships.
7. Store the playing pieces and the battleships in flat envelopes inside each file folder.

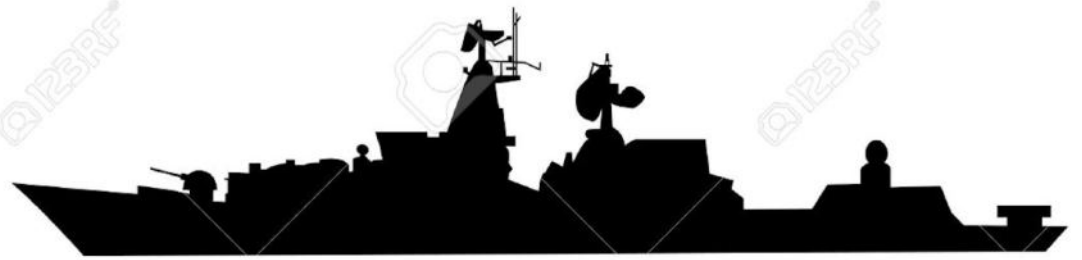
### Battleship Rules:

1. Place your game board against the back of your opponents game board.
2. Place your battleships on the flat Periodic Table of Elements.
3. Call out the atomic number, the name, or the group number and period number.
4. If your partner calls out the element that your battleship is on, you must say "Hit" and then mark your battleship with a hit marker.
5. When you have three hits on the bottom of your battleship, you say "You sunk my battleship!"
6. The winner will have sunk two battleships. The loser will have had at least six hit markers.



|      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|
| HIT! | HIT! | HIT! | HIT! | HIT! | HIT! | HIT! |
| HIT! | HIT! | HIT! | HIT! | HIT! | HIT! | HIT! |
| miss | miss | miss | miss | miss | miss | miss |
| miss | miss | miss | miss | miss | miss | miss |
| HIT! | HIT! | HIT! | HIT! | HIT! | HIT! | HIT! |
| miss | miss | miss | miss | miss | miss | miss |

|      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|
| HIT! | HIT! | HIT! | HIT! | HIT! | HIT! | HIT! |
| HIT! | HIT! | HIT! | HIT! | HIT! | HIT! | HIT! |
| miss | miss | miss | miss | miss | miss | miss |
| miss | miss | miss | miss | miss | miss | miss |
| HIT! | HIT! | HIT! | HIT! | HIT! | HIT! | HIT! |
| miss | miss | miss | miss | miss | miss | miss |



|                                |                                 |               |                                  |                                     |                                |                                  |                                 |                                 |                                  |                                 |                                |                                 |                                |                                    |                                |                                 |                               |                              |
|--------------------------------|---------------------------------|---------------|----------------------------------|-------------------------------------|--------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------------------|---------------------------------|--------------------------------|---------------------------------|--------------------------------|------------------------------------|--------------------------------|---------------------------------|-------------------------------|------------------------------|
| hydrogen<br>1<br>H<br>1.0079   |                                 |               |                                  |                                     |                                |                                  |                                 |                                 |                                  |                                 |                                | helium<br>2<br>He<br>4.0026     |                                |                                    |                                |                                 |                               |                              |
| lithium<br>3<br>Li<br>6.941    | beryllium<br>4<br>Be<br>9.0122  |               |                                  |                                     |                                |                                  |                                 |                                 |                                  |                                 |                                | boron<br>5<br>B<br>10.811       | carbon<br>6<br>C<br>12.011     | nitrogen<br>7<br>N<br>14.007       | oxygen<br>8<br>O<br>15.999     | fluorine<br>9<br>F<br>18.998    | neon<br>10<br>Ne<br>20.180    |                              |
| sodium<br>11<br>Na<br>22.990   | magnesium<br>12<br>Mg<br>24.305 |               |                                  |                                     |                                |                                  |                                 |                                 |                                  |                                 |                                | aluminium<br>13<br>Al<br>26.982 | silicon<br>14<br>Si<br>28.086  | phosphorus<br>15<br>P<br>30.974    | sulfur<br>16<br>S<br>32.065    | chlorine<br>17<br>Cl<br>35.453  | argon<br>18<br>Ar<br>39.948   |                              |
| potassium<br>19<br>K<br>39.098 | calcium<br>20<br>Ca<br>40.078   |               | scandium<br>21<br>Sc<br>44.956   | titanium<br>22<br>Ti<br>47.867      | vanadium<br>23<br>V<br>50.942  | chromium<br>24<br>Cr<br>51.996   | manganese<br>25<br>Mn<br>54.938 | iron<br>26<br>Fe<br>55.845      | cobalt<br>27<br>Co<br>58.933     | nickel<br>28<br>Ni<br>58.693    | copper<br>29<br>Cu<br>63.546   | zinc<br>30<br>Zn<br>65.39       | gallium<br>31<br>Ga<br>69.723  | germanium<br>32<br>Ge<br>72.61     | arsenic<br>33<br>As<br>74.922  | selenium<br>34<br>Se<br>78.96   | bromine<br>35<br>Br<br>79.904 | krypton<br>36<br>Kr<br>83.80 |
| rubidium<br>37<br>Rb<br>85.468 | strontium<br>38<br>Sr<br>87.62  |               | yttrium<br>39<br>Y<br>88.906     | zirconium<br>40<br>Zr<br>91.224     | niobium<br>41<br>Nb<br>92.906  | molybdenum<br>42<br>Mo<br>95.94  | technetium<br>43<br>Tc<br>[98]  | ruthenium<br>44<br>Ru<br>101.07 | rhodium<br>45<br>Rh<br>102.91    | palladium<br>46<br>Pd<br>106.42 | silver<br>47<br>Ag<br>107.87   | cadmium<br>48<br>Cd<br>112.41   | indium<br>49<br>In<br>114.82   | tin<br>50<br>Sn<br>118.71          | antimony<br>51<br>Sb<br>121.76 | tellurium<br>52<br>Te<br>127.60 | iodine<br>53<br>I<br>126.90   | xenon<br>54<br>Xe<br>131.29  |
| caesium<br>55<br>Cs<br>132.91  | barium<br>56<br>Ba<br>137.33    | 57-70<br>★    | lutetium<br>71<br>Lu<br>174.97   | hafnium<br>72<br>Hf<br>178.49       | tantalum<br>73<br>Ta<br>180.95 | tungsten<br>74<br>W<br>183.84    | rhenium<br>75<br>Re<br>186.21   | osmium<br>76<br>Os<br>190.23    | iridium<br>77<br>Ir<br>192.22    | platinum<br>78<br>Pt<br>195.08  | gold<br>79<br>Au<br>196.97     | mercury<br>80<br>Hg<br>200.59   | thallium<br>81<br>Tl<br>204.38 | lead<br>82<br>Pb<br>207.2          | bismuth<br>83<br>Bi<br>208.98  | polonium<br>84<br>Po<br>[209]   | astatine<br>85<br>At<br>[210] | radon<br>86<br>Rn<br>[222]   |
| francium<br>87<br>Fr<br>[223]  | radium<br>88<br>Ra<br>[226]     | 89-102<br>★ ★ | lawrencium<br>103<br>Lr<br>[262] | rutherfordium<br>104<br>Rf<br>[261] | dubnium<br>105<br>Db<br>[262]  | seaborgium<br>106<br>Sg<br>[266] | bohrium<br>107<br>Bh<br>[264]   | hassium<br>108<br>Hs<br>[269]   | meitnerium<br>109<br>Mt<br>[268] | ununnium<br>110<br>Uun<br>[271] | ununium<br>111<br>Uuu<br>[272] | unubium<br>112<br>Uub<br>[277]  |                                | ununquadium<br>114<br>Uuq<br>[289] |                                |                                 |                               |                              |

\* Lanthanide series

\*\* Actinide series

|  |                                      |   |  |  |                                       |                                       |   |                                       |   |   |                                      |  |  |
|--|--------------------------------------|---|--|--|---------------------------------------|---------------------------------------|---|---------------------------------------|---|---|--------------------------------------|--|--|
| lanthanum<br>57<br><b>La</b><br>138.91 | cerium<br>58<br><b>Ce</b><br>140.12  | praseodymium<br>59<br><b>Pr</b><br>140.91 | neodymium<br>60<br><b>Nd</b><br>144.24 | promethium<br>61<br><b>Pm</b><br>[145] | samarium<br>62<br><b>Sm</b><br>150.36 | europium<br>63<br><b>Eu</b><br>151.96 | gadolinium<br>64<br><b>Gd</b><br>157.25 | terbium<br>65<br><b>Tb</b><br>158.93  | dysprosium<br>66<br><b>Dy</b><br>162.50 | holmium<br>67<br><b>Ho</b><br>164.93    | erbium<br>68<br><b>Er</b><br>167.26  | thulium<br>69<br><b>Tm</b><br>168.93     | ytterbium<br>70<br><b>Yb</b><br>173.04 |
| actinium<br>89<br><b>Ac</b><br>[227]   | thorium<br>90<br><b>Th</b><br>232.04 | protactinium<br>91<br><b>Pa</b><br>231.04 | uranium<br>92<br><b>U</b><br>238.03    | neptunium<br>93<br><b>Np</b><br>[237]  | plutonium<br>94<br><b>Pu</b><br>[244] | americium<br>95<br><b>Am</b><br>[243] | curium<br>96<br><b>Cm</b><br>[247]      | berkelium<br>97<br><b>Bk</b><br>[247] | californium<br>98<br><b>Cf</b><br>[251] | einsteinium<br>99<br><b>Es</b><br>[252] | fermium<br>100<br><b>Fm</b><br>[257] | mendelevium<br>101<br><b>Md</b><br>[258] | nobelium<br>102<br><b>No</b><br>[259]  |