

## Stealth learning – how chemical card games can improve student participation

### Activity 1: Element bingo

#### Bingo cards



|           |           |           |
|-----------|-----------|-----------|
| <b>Ni</b> | <b>N</b>  | <b>Zn</b> |
| <b>P</b>  | <b>He</b> | <b>Ag</b> |
| <b>Br</b> | <b>C</b>  | <b>S</b>  |

|           |           |           |
|-----------|-----------|-----------|
| <b>Zn</b> | <b>Ne</b> | <b>Ar</b> |
| <b>Au</b> | <b>Mg</b> | <b>Cu</b> |
| <b>Fe</b> | <b>Na</b> | <b>O</b>  |

|           |           |          |
|-----------|-----------|----------|
| <b>K</b>  | <b>W</b>  | <b>U</b> |
| <b>Mg</b> | <b>Si</b> | <b>P</b> |
| <b>Cl</b> | <b>Na</b> | <b>O</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>S</b>  | <b>Ni</b> | <b>Cl</b> |
| <b>W</b>  | <b>N</b>  | <b>Hg</b> |
| <b>Au</b> | <b>P</b>  | <b>Ar</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>N</b>  | <b>Sn</b> | <b>I</b>  |
| <b>Au</b> | <b>Zn</b> | <b>Ni</b> |
| <b>Cu</b> | <b>Pb</b> | <b>Cl</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>C</b>  | <b>Zn</b> | <b>Ar</b> |
| <b>N</b>  | <b>U</b>  | <b>He</b> |
| <b>Au</b> | <b>O</b>  | <b>H</b>  |



|           |           |          |
|-----------|-----------|----------|
| <b>C</b>  | <b>I</b>  | <b>O</b> |
| <b>Be</b> | <b>Pb</b> | <b>B</b> |
| <b>Sn</b> | <b>He</b> | <b>P</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>Cu</b> | <b>Na</b> | <b>K</b>  |
| <b>Si</b> | <b>Mg</b> | <b>Ne</b> |
| <b>N</b>  | <b>He</b> | <b>P</b>  |

|           |           |           |
|-----------|-----------|-----------|
| <b>K</b>  | <b>Cl</b> | <b>Mg</b> |
| <b>Be</b> | <b>Ag</b> | <b>W</b>  |
| <b>B</b>  | <b>O</b>  | <b>N</b>  |

|           |           |           |
|-----------|-----------|-----------|
| <b>P</b>  | <b>S</b>  | <b>Cl</b> |
| <b>Sn</b> | <b>He</b> | <b>K</b>  |
| <b>Ni</b> | <b>Pb</b> | <b>C</b>  |

|           |           |           |
|-----------|-----------|-----------|
| <b>Hg</b> | <b>O</b>  | <b>H</b>  |
| <b>Li</b> | <b>Cu</b> | <b>I</b>  |
| <b>W</b>  | <b>Si</b> | <b>Zn</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>Br</b> | <b>Fe</b> | <b>Na</b> |
| <b>Au</b> | <b>Ar</b> | <b>Al</b> |
| <b>Ca</b> | <b>Co</b> | <b>Tl</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>I</b>  | <b>U</b>  | <b>C</b>  |
| <b>Al</b> | <b>Li</b> | <b>Fe</b> |
| <b>Sn</b> | <b>Au</b> | <b>Ar</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>P</b>  | <b>Hg</b> | <b>Cu</b> |
| <b>Ag</b> | <b>Ar</b> | <b>Ca</b> |
| <b>Si</b> | <b>Al</b> | <b>S</b>  |



|           |           |           |
|-----------|-----------|-----------|
| <b>I</b>  | <b>U</b>  | <b>C</b>  |
| <b>Al</b> | <b>Li</b> | <b>Fe</b> |
| <b>Sn</b> | <b>Au</b> | <b>Ar</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>P</b>  | <b>Hg</b> | <b>Cu</b> |
| <b>Ag</b> | <b>Ar</b> | <b>Ca</b> |
| <b>Si</b> | <b>Al</b> | <b>S</b>  |

|           |           |           |
|-----------|-----------|-----------|
| <b>K</b>  | <b>W</b>  | <b>Li</b> |
| <b>O</b>  | <b>Mg</b> | <b>Hg</b> |
| <b>Cl</b> | <b>P</b>  | <b>Si</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>Ca</b> | <b>Co</b> | <b>Pb</b> |
| <b>Br</b> | <b>Ti</b> | <b>Ag</b> |
| <b>H</b>  | <b>Hg</b> | <b>Ni</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>Be</b> | <b>N</b>  | <b>Br</b> |
| <b>Si</b> | <b>Zn</b> | <b>O</b>  |
| <b>S</b>  | <b>Ag</b> | <b>U</b>  |

|           |           |           |
|-----------|-----------|-----------|
| <b>Sn</b> | <b>Al</b> | <b>Br</b> |
| <b>Ne</b> | <b>Co</b> | <b>Ti</b> |
| <b>N</b>  | <b>Ca</b> | <b>Be</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>Be</b> | <b>Cl</b> | <b>U</b>  |
| <b>O</b>  | <b>Sn</b> | <b>Ti</b> |
| <b>Ni</b> | <b>C</b>  | <b>Ar</b> |

|           |           |           |
|-----------|-----------|-----------|
| <b>Ne</b> | <b>Si</b> | <b>C</b>  |
| <b>Br</b> | <b>N</b>  | <b>Co</b> |
| <b>Fe</b> | <b>O</b>  | <b>Na</b> |