# Essential Element, Linkage Levels, and Mini-Map

## Math: Grade 3

### M.EE.3.OA.9

<table>
<thead>
<tr>
<th>Grade-Level Standard</th>
<th>DLM Essential Element</th>
<th>Linkage Levels</th>
</tr>
</thead>
</table>
| M.3.OA.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends | M.EE.3.OA.9 Identify arithmetic patterns | **Initial Precursor**  
- Recognize same  
- Recognize different  

**Distal Precursor**  
- Order objects  
- Classify  
- Contrast objects  

**Proximal Precursor**  
- Recognize patterns  

**Target**  
- Recognize repeating patterns  
- Recognize symbolic patterns  
- Recognize growing patterns  

**Successor**  
- Extend a symbolic pattern by applying the rule  
- Recognize the pattern rule in a growing pattern

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<table>
<thead>
<tr>
<th>How is the Initial Precursor related to the Target?</th>
<th>How is the Distal Precursor related to the Target?</th>
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</thead>
<tbody>
<tr>
<td><strong>Initial Precursor:</strong> Recognizing patterns is an important building block to many mathematical concepts and skills such as skip counting, repeated addition, and multiplication. In order to build toward arithmetic patterns, students need to engage in activities that compare at least two items. Calling attention to both how they are the same and how they are different. This type of instruction should include but may not be limited to quantities, shapes, and attributes across the school day so students have many opportunities to experience same and different.</td>
<td><strong>Distal Precursor:</strong> Building on same and different, educators can use some of the other mathematical concepts like working with sets or recognizing a whole and parts to help students identify same and different. For instance, students may create a set and then create a second set that has the same amount. Then, they can change one of the sets to make it different. As students are learning to create and identify sets that are same and different, educators can draw student attention to the various attributes of an object to teach students to order, classify, and contrast the objects. These understandings will then lead to students having the attentional skills to begin recognizing patterns.</td>
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</tbody>
</table>

A diagram showing the relationship of nodes in the mini-map appears below.

*Key to map codes in upper right corner of node boxes:*

- **IP** Initial Precursor
- **DP** Distal Precursor
- **PP** Proximal Precursor
- **T** Target
- **SP** Supporting
- **S** Successor
- **UN** Untested
M.EE.3.OA.9 Identify arithmetic patterns.