# Essential Element, Linkage Levels, and Mini-Map

**Math: Grade 7**

**M.EE.7.EE.1**

<table>
<thead>
<tr>
<th>Grade-Level Standard</th>
<th>DLM Essential Element</th>
<th>Linkage Levels</th>
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</thead>
</table>
| **M.7.EE.1** Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients | **M.EE.7.EE.1** Use the properties of operations as strategies to demonstrate that expressions are equivalent | **Initial Precursor**  
- Partition sets  
- Combine sets  

**Distal Precursor**  
- Model associativity of multiplication  
- Model additive commutativity  
- Model associativity of addition  
- Model multiplicative commutativity  

**Proximal Precursor**  
- Apply the associative property of multiplication  
- Apply commutative property of addition  
- Apply associative property of addition  
- Apply the commutative property of multiplication  

**Target**  
- Use properties of operations to generate equivalent expressions involving subtraction  
- Use properties of operations to generate equivalent expressions involving addition  

**Successor**  
- Use equivalent expressions in real-world context  

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<table>
<thead>
<tr>
<th><strong>How is the Initial Precursor related to the Target?</strong></th>
<th><strong>How is the Distal Precursor related to the Target?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Precursor:</strong> In order to use properties of operations, students begin by counting small units, recognizing that two or more sets or groups of items exist. Work on this skill using a variety of sets. Help students recognize when items are grouped together into a set or separated out. As educators present a set, they label it (e.g., two balls, one marker, three CDs), count the items, label it again, and encourage students to use numerals to label and count the separate sets. The general goal is to explore how the set changes when items are separated out (partitioned) or combined.</td>
<td><strong>Distal Precursor:</strong> As students continue developing their understanding of how sets change, educators can use manipulatives to create sets that model the associative and associative properties of addition and multiplication.</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
- SP Supporting
- DP Distal Precursor
- S Successor
- PP Proximal Precursor
- UN Untested
- T Target
M.EE.7.EE.1 Use the properties of operations as strategies to demonstrate that expressions are equivalent.