ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
MATH: GRADE 3
M.EE.3.NBT.2

Grade-Level Standard	DLM Essential Element	Linkage Levels
M.3.NBT.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction	**M.EE.3.NBT.2** Demonstrate understanding of place value to tens	**Initial Precursor:** • Recognize separateness • Recognize set **Distal Precursor:** • Explain ten as a composition of ten ones **Proximal Precursor:** • Recognize multiple tens and something • Compose numbers based on tens **Target:** • Explain place value for ones and tens **Successor:** • Explain the relationship between rounding and place value • Explain place value for hundreds

© 2018 The Dynamic Learning Maps Essential Elements, linkage levels, and nodes are copyrighted by the University of Kansas Center for Research. Linkage levels and nodes are available for use by educators in DLM states but may not be used by commercial entities without written permission. Linkage level information and nodes may not be altered by anyone without express written permission from the University of Kansas Center for Research.

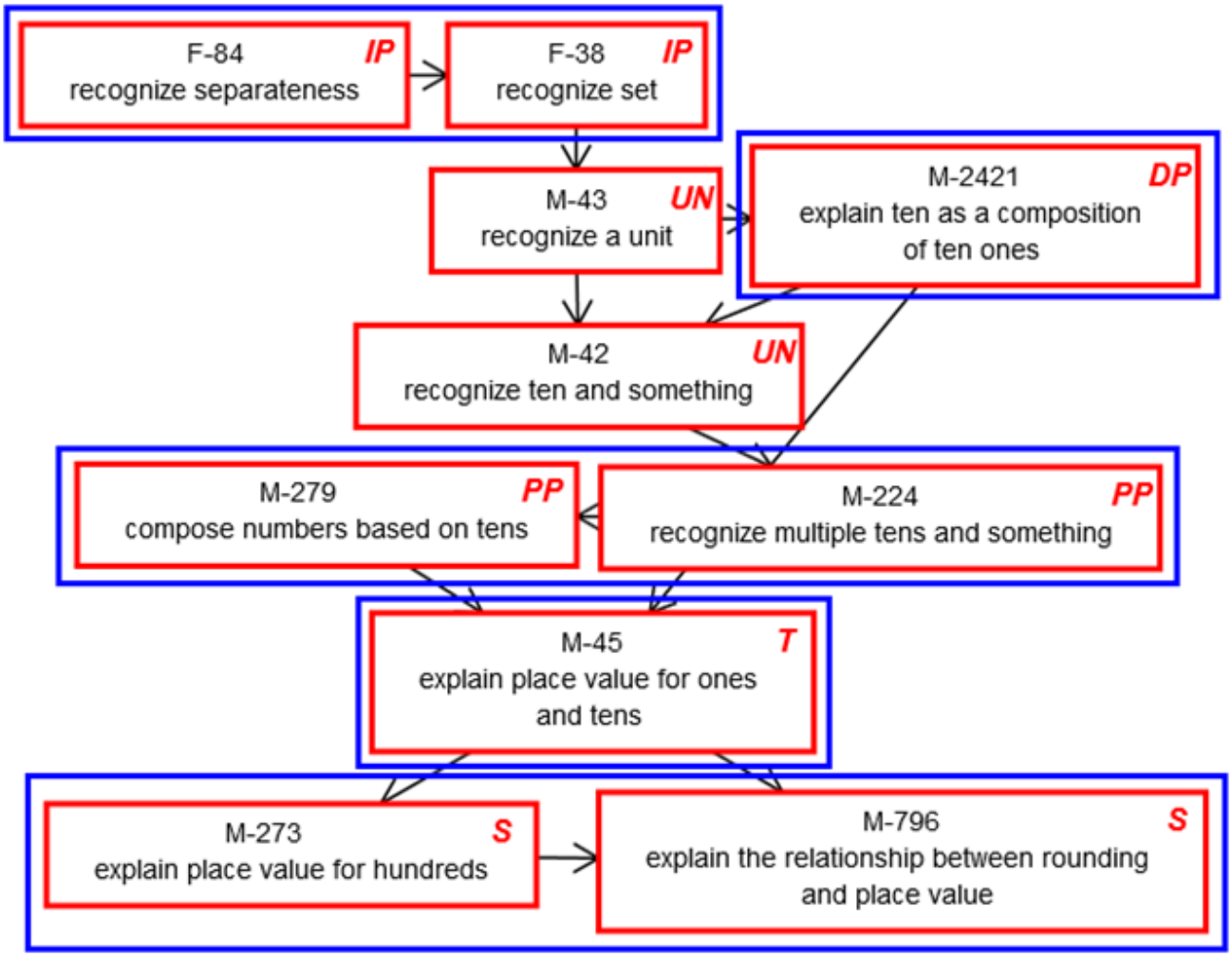
A diagram showing the relationship of nodes in the mini-map appears below.

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		

 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

M.EE.3.NBT.2- Demonstrate understanding of place value to tens



 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
MATH: GRADE 3
M.EE.3.NBT.3

Grade-Level Standard	DLM Essential Element	Linkage Levels
M.3.NBT.3 Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9 x 80, 5 x 60) using strategies based on place value and properties of operations	**M.EE.3.NBT.3** Count by tens using models such as objects, base ten blocks, or money	**Initial Precursor:** • Recognize before • Recognize after **Distal Precursor:** • Explain number sequence pattern **Proximal Precursor:** • Rote count to 30 • Count to 30 **Target:** • Skip count by 10s **Successor:** • Skip count by 10s starting at a multiple of 10 • Count with dimes • Count with 10 dollar bills • Explain repeated addition

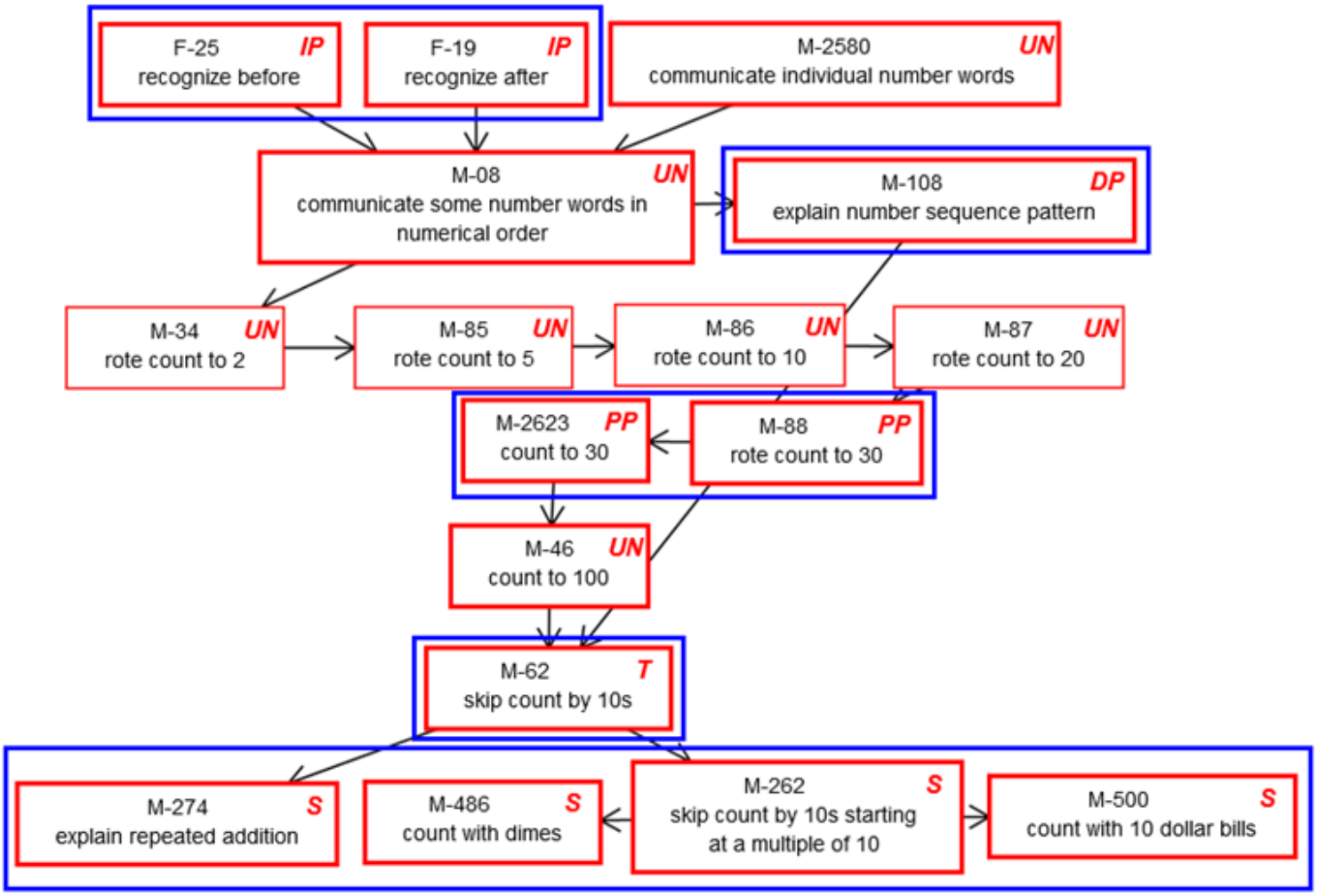
© 2018 The Dynamic Learning Maps Essential Elements, linkage levels, and nodes are copyrighted by the University of Kansas Center for Research. Linkage levels and nodes are available for use by educators in DLM states but may not be used by commercial entities without written permission. Linkage level information and nodes may not be altered by anyone without express written permission from the University of Kansas Center for Research.

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.3.NBT.3 Count by tens using models such as objects, base ten blocks, or money



 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
MATH: GRADE 3
M.EE.3.NF.1-3

Grade-Level Standard	DLM Essential Element	Linkage Levels
M.3.NF.1 Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.**; M.3.NF.2** Understand a fraction as a number on the number line; represent fractions on a number line diagram.**; M.3.NF.3** Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size	**M.EE.3.NF.1-3** Differentiate a fractional part from a whole	**Initial Precursor:** • Recognize some **Distal Precursor:** • Recognize separateness • Recognize wholeness **Proximal Precursor:** • Partition shapes **Target:** • Recognize parts of a given whole or a unit • Explain unit fraction **Successor:** • Recognize fraction • Recognize whole on an area model • Recognize one half on an area model

© 2018 The Dynamic Learning Maps Essential Elements, linkage levels, and nodes are copyrighted by the University of Kansas Center for Research. Linkage levels and nodes are available for use by educators in DLM states but may not be used by commercial entities without written permission. Linkage level information and nodes may not be altered by anyone without express written permission from the University of Kansas Center for Research.

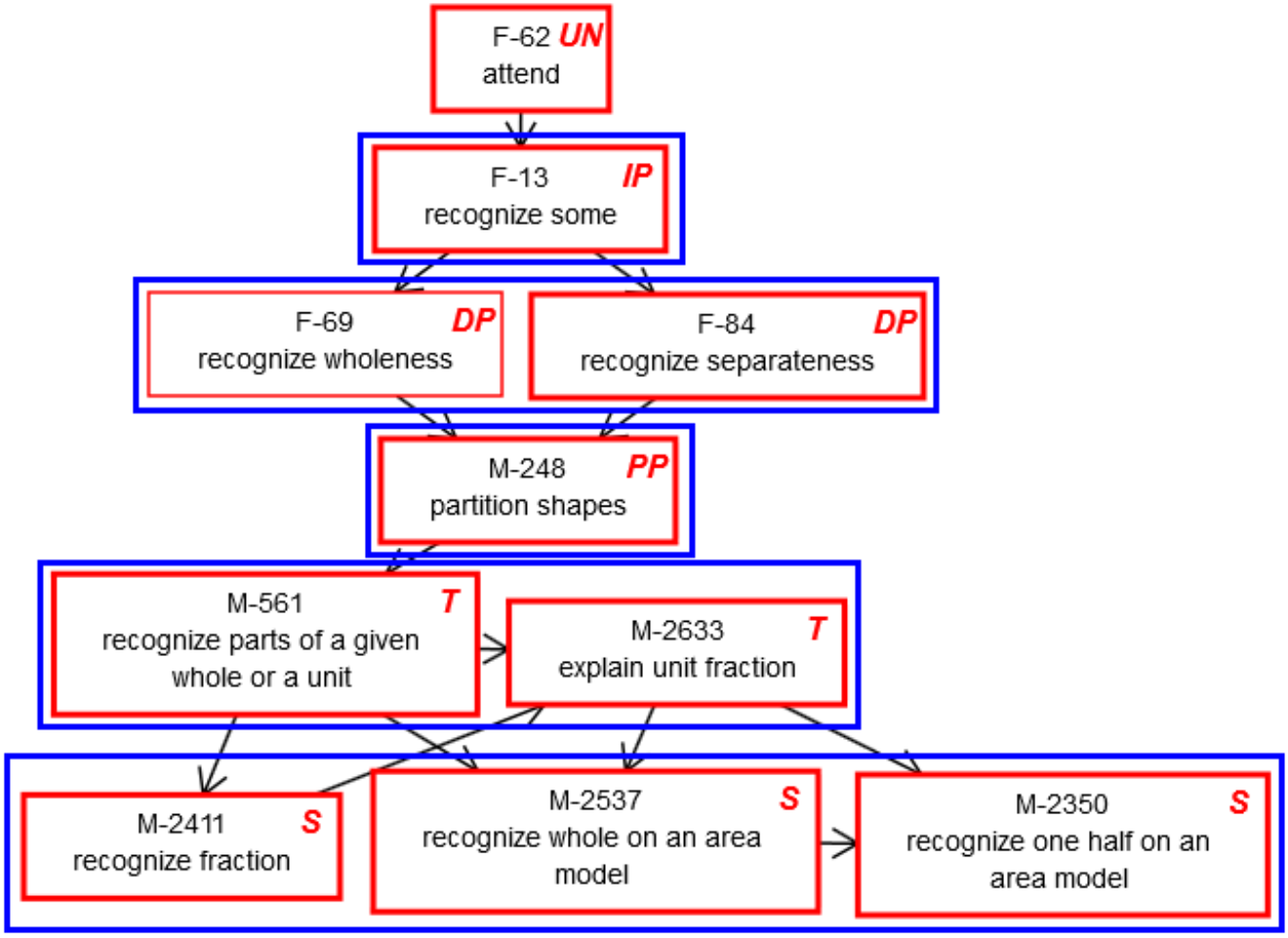
A diagram showing the relationship of nodes in the mini-map appears below.

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		

 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

M.EE.3.NF.1-3 Differentiate a fractional part from a whole



 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
MATH: GRADE 3
M.EE.3.OA.4

Grade-Level Standard	DLM Essential Element	Linkage Levels
M.3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?	**M.EE.3.OA.4** Solve addition and subtraction problems when result is unknown, limited to operands and results within 20	**Initial Precursor:** • Recognize separateness • Recognize set **Distal Precursor:** • Combine sets • Demonstrate the concept of addition • Partition sets • Demonstrate the concept of subtraction **Proximal Precursor:** • Recognize the addition sign • Explain the function of the addition sign • Represent addition with equations • Recognize the subtraction sign • Explain the function of the minus sign • Represent subtraction with equations • Recognize the equal sign • Explain the function of the equal sign **Target:** • Determine the unknown in a subtraction equation • Determine the unknown in an addition equation **Successor:** • Solve join problems • Solve part-part-whole problems • Solve compare problems • Solve separate problems

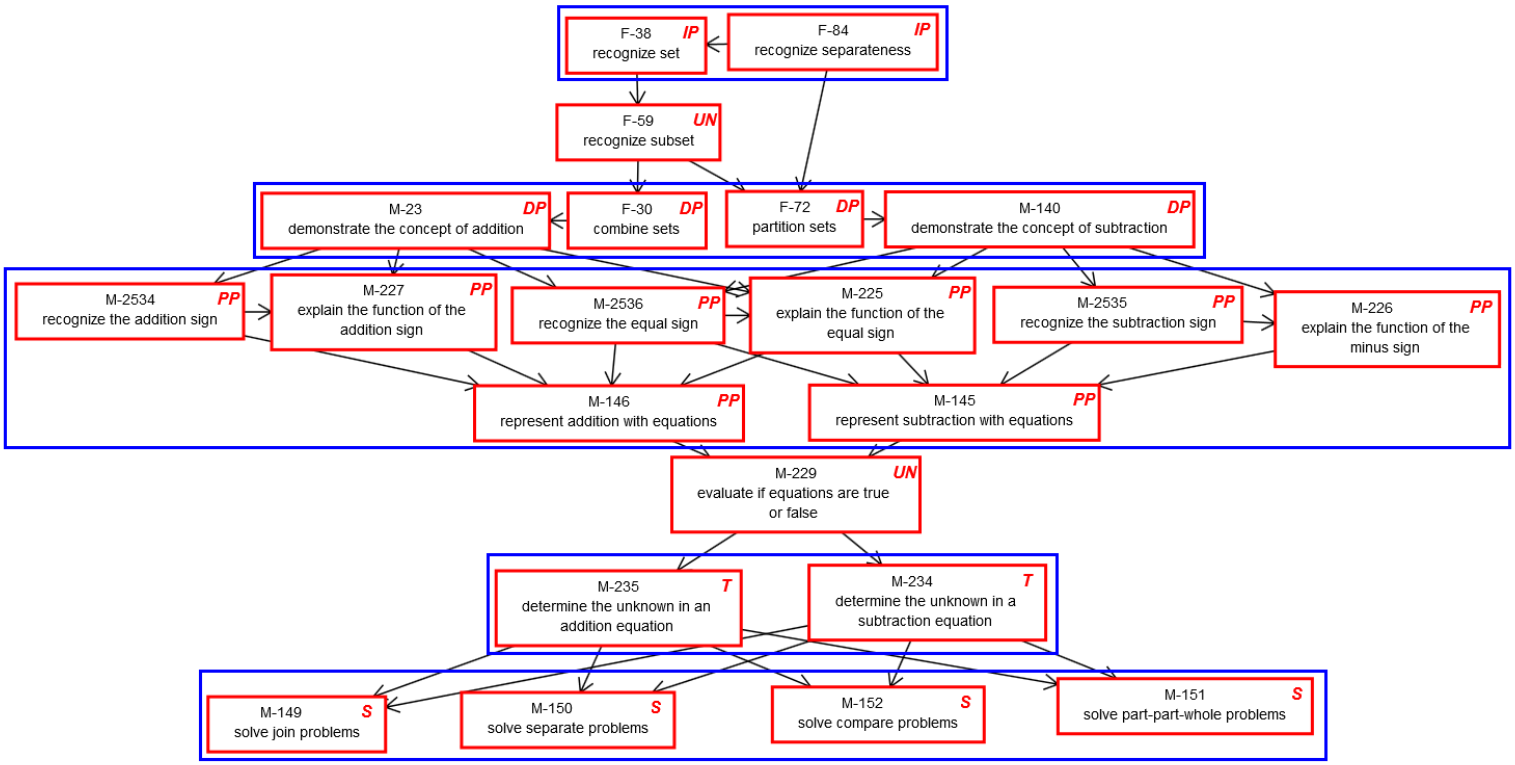
© 2018 The Dynamic Learning Maps Essential Elements, linkage levels, and nodes are copyrighted by the University of Kansas Center for Research. Linkage levels and nodes are available for use by educators in DLM states but may not be used by commercial entities without written permission. Linkage level information and nodes may not be altered by anyone without express written permission from the University of Kansas Center for Research.

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.3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?*



 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
MATH: GRADE 3
M.EE.3.G.2

Grade-Level Standard	DLM Essential Element	Linkage Levels
M. 3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as ¼ of the area of the shape	**M.EE.3.G.2** Recognize that shapes can be partitioned into equal areas	**Initial Precursor:** • Recognize unit • Recognize wholeness • Recognize parts of a given whole or a unit **Distal Precursor:** • Partition shapes **Proximal Precursor:** • Model equal part • Partition circle into 2 equal parts • Partition circle into 3 equal parts • Partition circle into 4 equal parts • Partition a rectangle into rows and columns • Partition rectangle into 2 equal parts • Partition rectangle into 3 equal parts • Partition rectangle into 4 equal parts **Target:** • Partition any shape into equal parts **Successor:** • Recognize one tenth on an area model • Recognize one third on an area model • Recognize one half on an area model • Recognize one fourth on an area model

© 2018 The Dynamic Learning Maps Essential Elements, linkage levels, and nodes are copyrighted by the University of Kansas Center for Research. Linkage levels and nodes are available for use by educators in DLM states but may not be used by commercial entities without written permission. Linkage level information and nodes may not be altered by anyone without express written permission from the University of Kansas Center for Research.

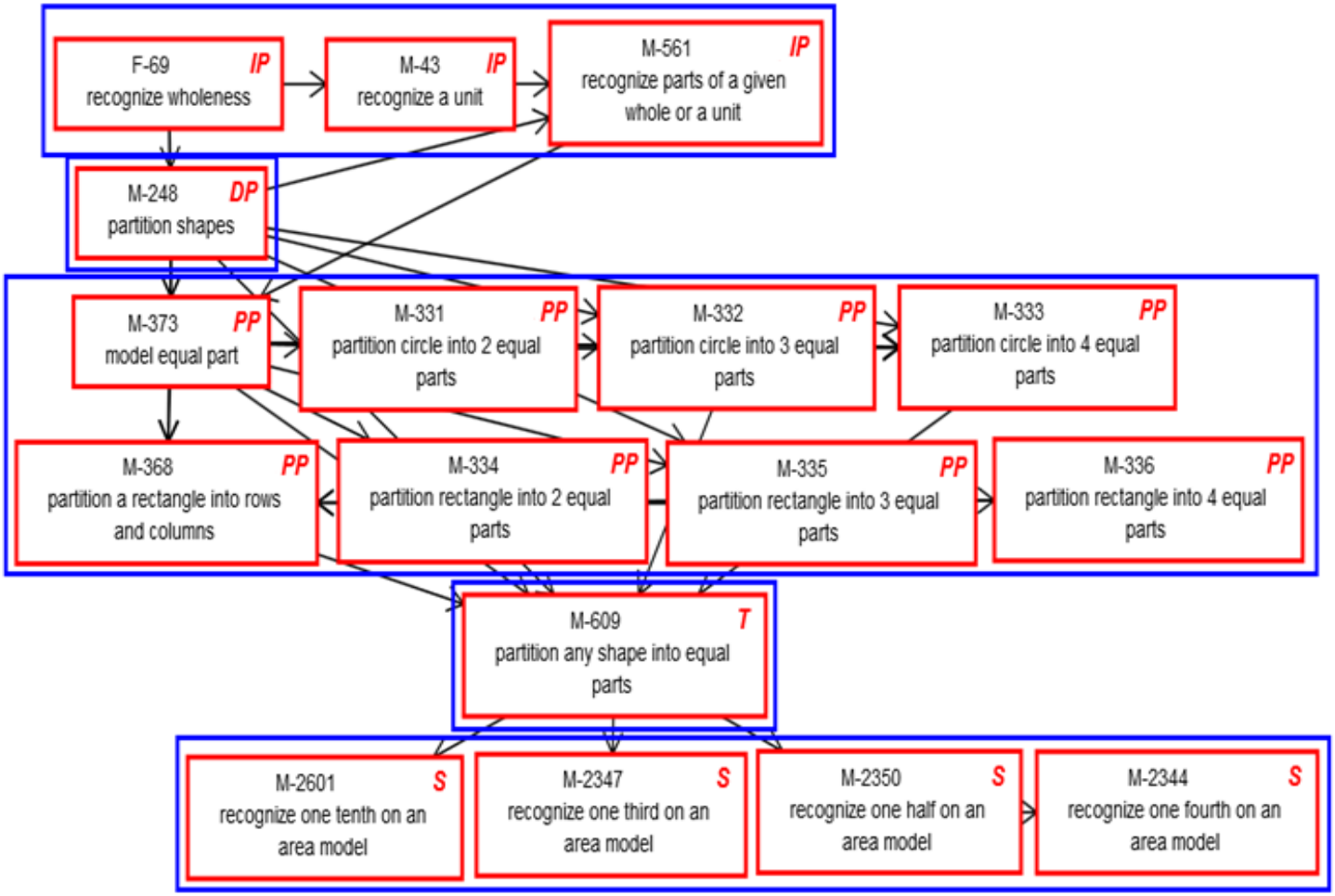
A diagram showing the relationship of nodes in the mini-map appears below.

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		

 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

M.EE. 3.G.2 Recognize attributes of two- dimensional shapes



Copyright © 2018 University of Kansas Center for Research. All rights reserved.

ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
MATH: GRADE 3
M.EE.3.MD.1

Grade-Level Standard	DLM Essential Element	Linkage Levels
M.3.MD.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line	**M.EE.3.MD.1** Tell time to the hour on a digital clock	**Initial Precursor:** • Attend • Recognize different **Distal Precursor:** • Recognize measurable attributes **Proximal Precursor:** • Recognize the hour on a digital clock • Recognize the minute on a digital clock **Target:** • Tell time to the hour **Successor:** • Tell time to the half hour • Tell time to the quarter hour

© 2018 The Dynamic Learning Maps Essential Elements, linkage levels, and nodes are copyrighted by the University of Kansas Center for Research. Linkage levels and nodes are available for use by educators in DLM states but may not be used by commercial entities without written permission. Linkage level information and nodes may not be altered by anyone without express written permission from the University of Kansas Center for Research.

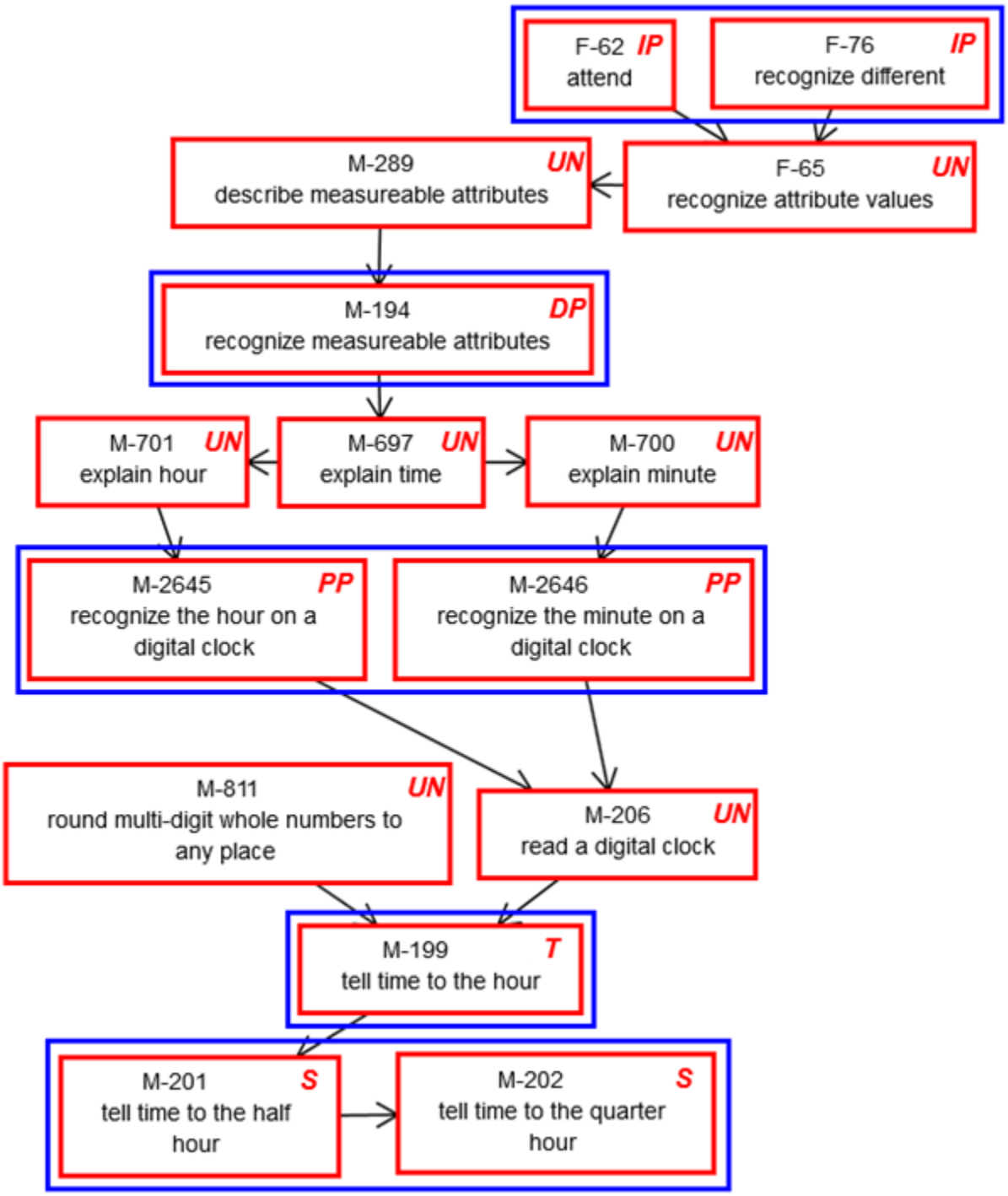
A diagram showing the relationship of nodes in the mini-map appears below.

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		

 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

M.EE. 3.MD.1 Tell time to the hour on a digital clock



 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
MATH: GRADE 3
M.EE.3.MD.4

Grade-Level Standard	DLM Essential Element	Linkage Levels
M.3.MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters	**M.EE.3.MD.4** Measure length of objects using standard tools, such as rulers, yardsticks, and meter sticks	**Initial Precursor:** • Recognize attribute values **Distal Precursor:** • Make direct comparison of 2 lengths **Proximal Precursor:** • Demonstrate iteration of length unit • Measure length using informal units **Target:** • Use an appropriate tool to measure length using inches • Use an appropriate tool to measure length using feet **Successor:** • Compare lengths of 2 or more objects using standard tools

© 2018 The Dynamic Learning Maps Essential Elements, linkage levels, and nodes are copyrighted by the University of Kansas Center for Research. Linkage levels and nodes are available for use by educators in DLM states but may not be used by commercial entities without written permission. Linkage level information and nodes may not be altered by anyone without express written permission from the University of Kansas Center for Research.

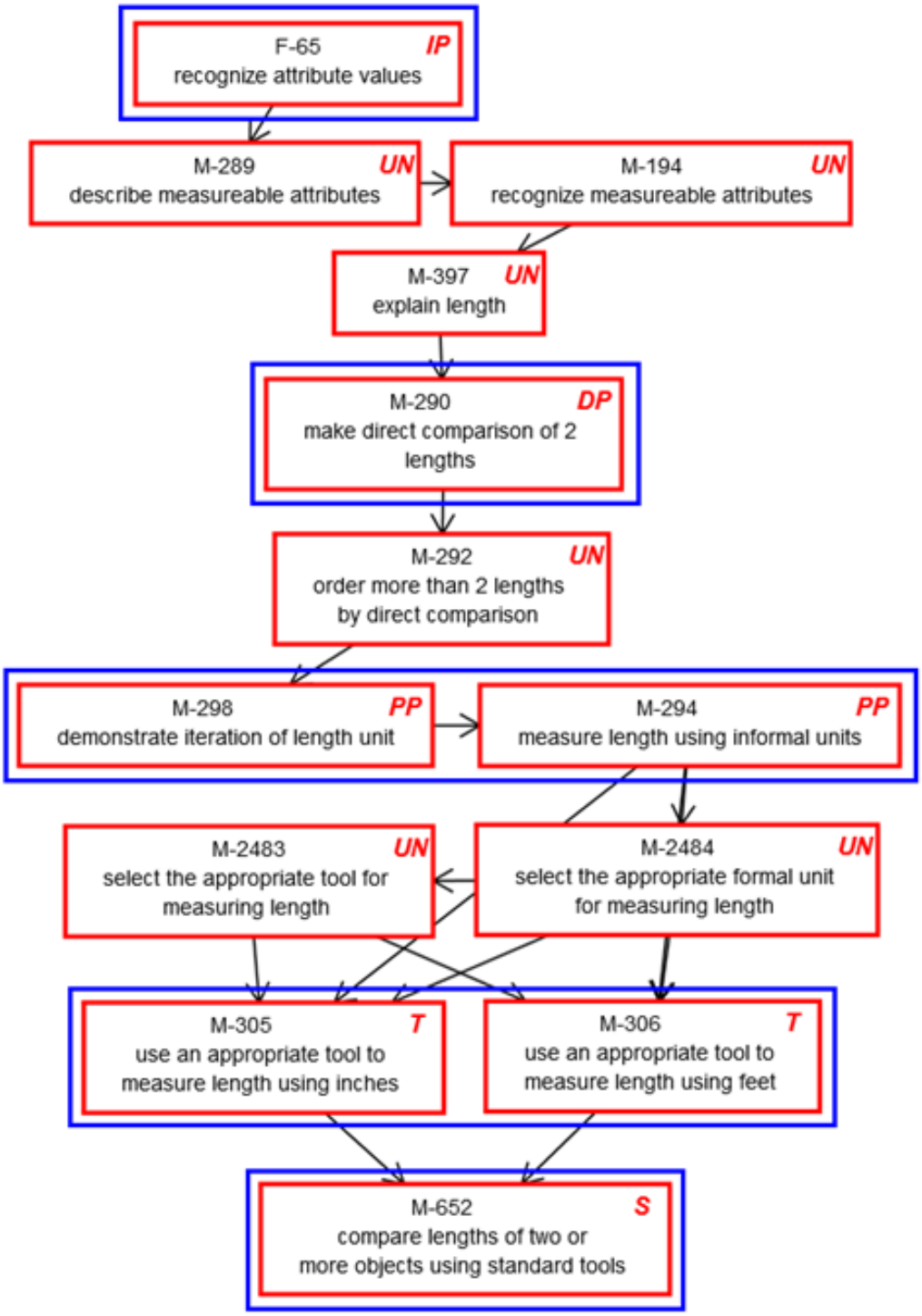
A diagram showing the relationship of nodes in the mini-map appears below.

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		

 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

M.EE.3.MD.4 Measure length of objects using standard tools, such as rulers, yardsticks, and meter sticks



 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
MATH: GRADE 3
M.EE.3.MD.3

Grade-Level Standard	DLM Essential Element	Linkage Levels
M.3.MD.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using pictures presented in scaled bar graphs	**M.EE.3.MD.3** Use picture or bar graph data to answer questions about data	**Initial Precursor:** • Recognize attribute values • Arrange objects in pairs **Distal Precursor:** • Classify • Order objects **Proximal Precursor:** • Recognize the structure of a bar graph • Recognize the structure of a picture graph **Target:** • Use bar graphs to read the data • Use picture graphs to read the data **Successor:** • Use graphs to read between the data

© 2018 The Dynamic Learning Maps Essential Elements, linkage levels, and nodes are copyrighted by the University of Kansas Center for Research. Linkage levels and nodes are available for use by educators in DLM states but may not be used by commercial entities without written permission. Linkage level information and nodes may not be altered by anyone without express written permission from the University of Kansas Center for Research.

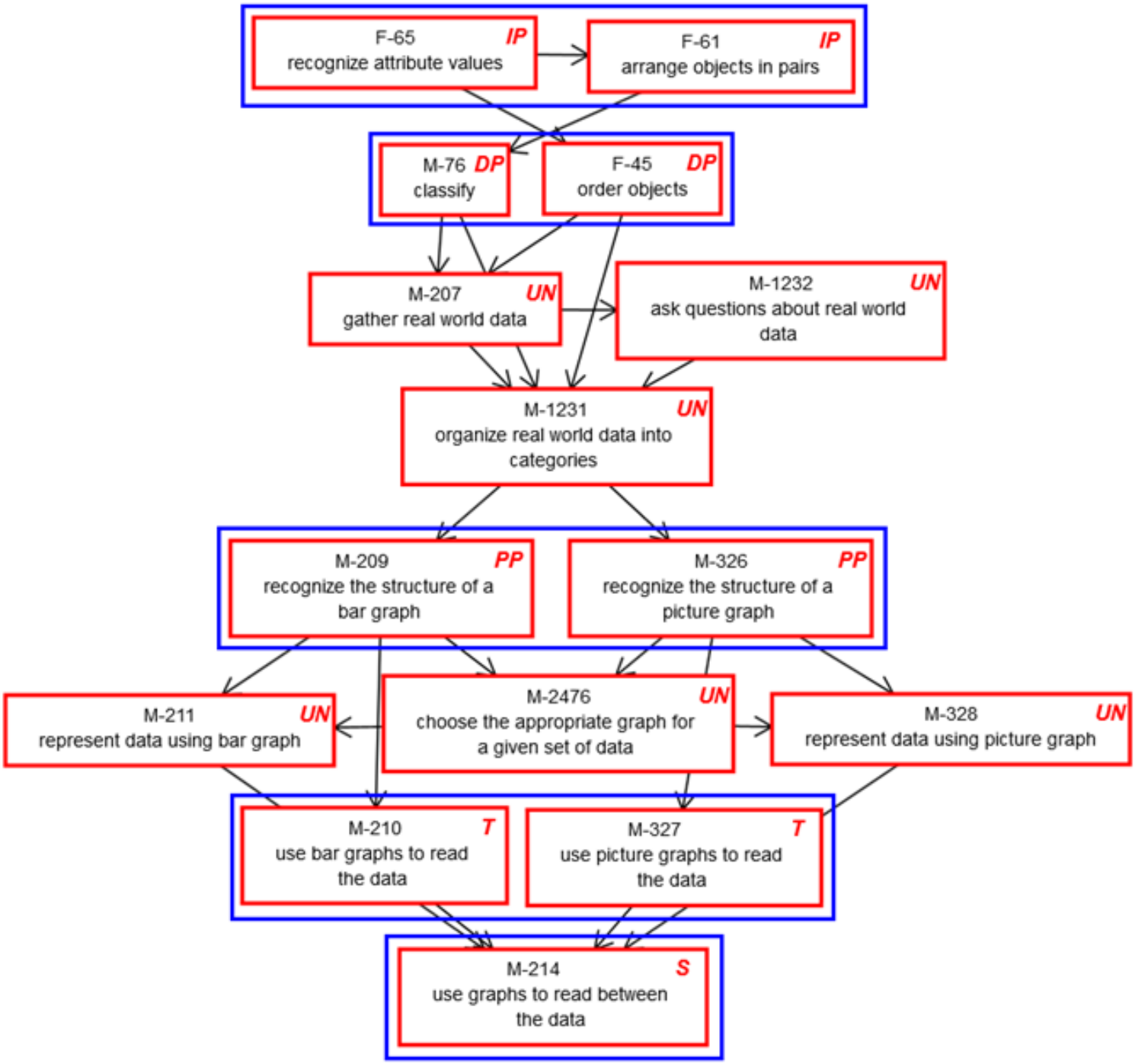
A diagram showing the relationship of nodes in the mini-map appears below.

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		

 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

M.EE.3.MD.3 Use picture or bar graph data to answer questions about data



 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
MATH: GRADE 3
M.EE.3.OA.1-2

Grade-Level Standard	DLM Essential Element	Linkage Levels
M.3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5 × 7**;** **M.3.OA.2** Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each	**M.EE.3.OA.1-2** Use repeated addition to find the total number of objects and determine the sum	**Initial Precursor:** • Recognize subset • Recognize set • Recognize separateness **Distal Precursor:** • Demonstrate the concept of addition • Combine sets • Combine **Proximal Precursor:** • Represent repeated addition with an equation • Represent repeated addition with a model **Target:** • Solve repeated addition problems **Successor:** • Demonstrate the concept of multiplication

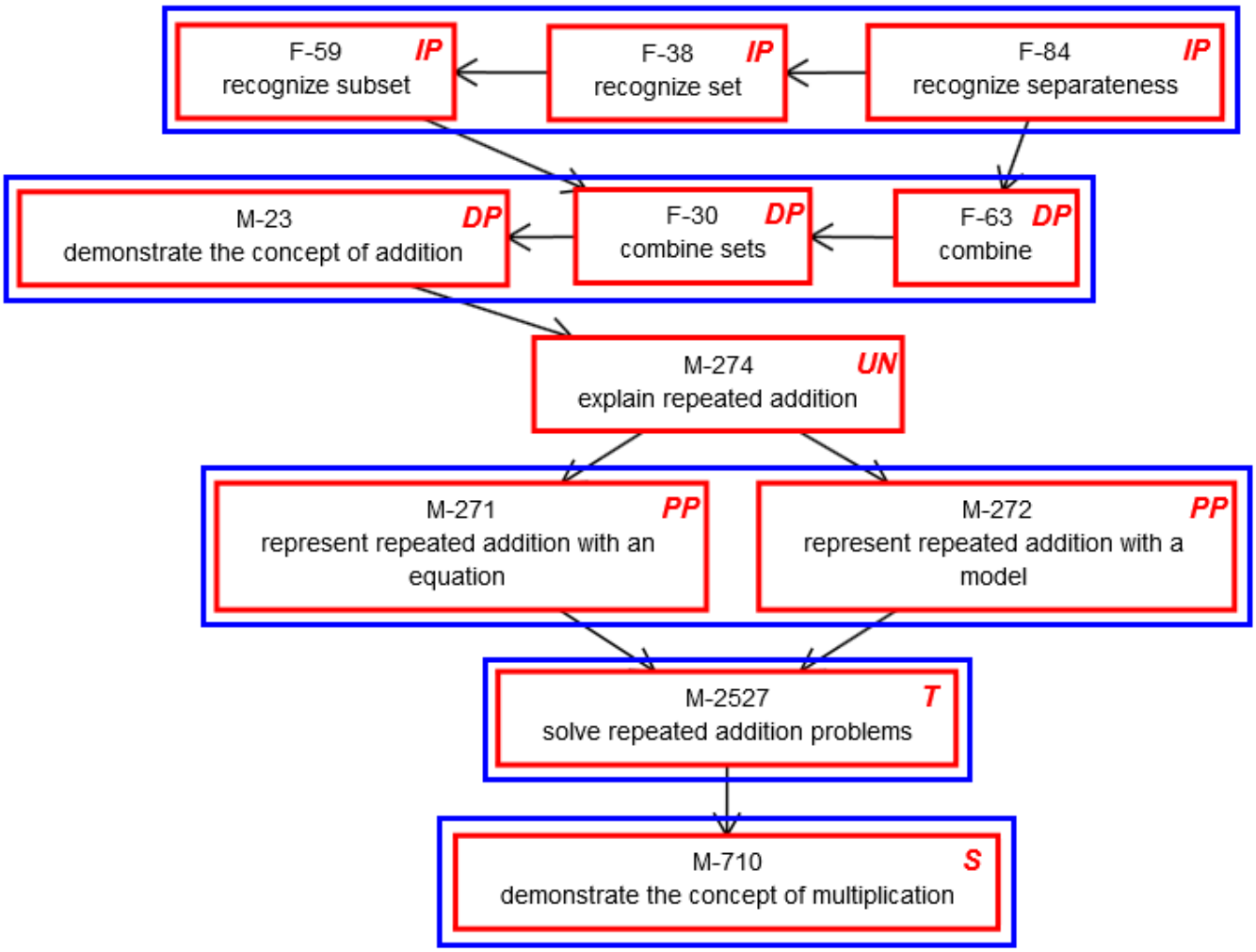
© 2018 The Dynamic Learning Maps Essential Elements, linkage levels, and nodes are copyrighted by the University of Kansas Center for Research. Linkage levels and nodes are available for use by educators in DLM states but may not be used by commercial entities without written permission. Linkage level information and nodes may not be altered by anyone without express written permission from the University of Kansas Center for Research.

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. 3.OA.1-2 Use repeated addition to find the total number of objects and determine the sum



 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
MATH: GRADE 3
M.EE.3.OA.8

Grade-Level Standard	DLM Essential Element	Linkage Levels
M.3.OA.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding	**M.EE. 3.OA.8** Solve one-step real world problems using addition or subtraction within 20	**Initial Precursor:** • Combine sets • Partition sets **Distal Precursor:** • Demonstrate the concept of addition • Demonstrate the concept of subtraction **Proximal Precursor:** • Determine the unknown in an addition equation • Determine the unknown in a subtraction equation **Target:** • Solve subtraction word problems within 100 • Solve addition word problems within 100 **Successor:** • Solve 2-step addition and subtraction word problems

© 2018 The Dynamic Learning Maps Essential Elements, linkage levels, and nodes are copyrighted by the University of Kansas Center for Research. Linkage levels and nodes are available for use by educators in DLM states but may not be used by commercial entities without written permission. Linkage level information and nodes may not be altered by anyone without express written permission from the University of Kansas Center for Research.

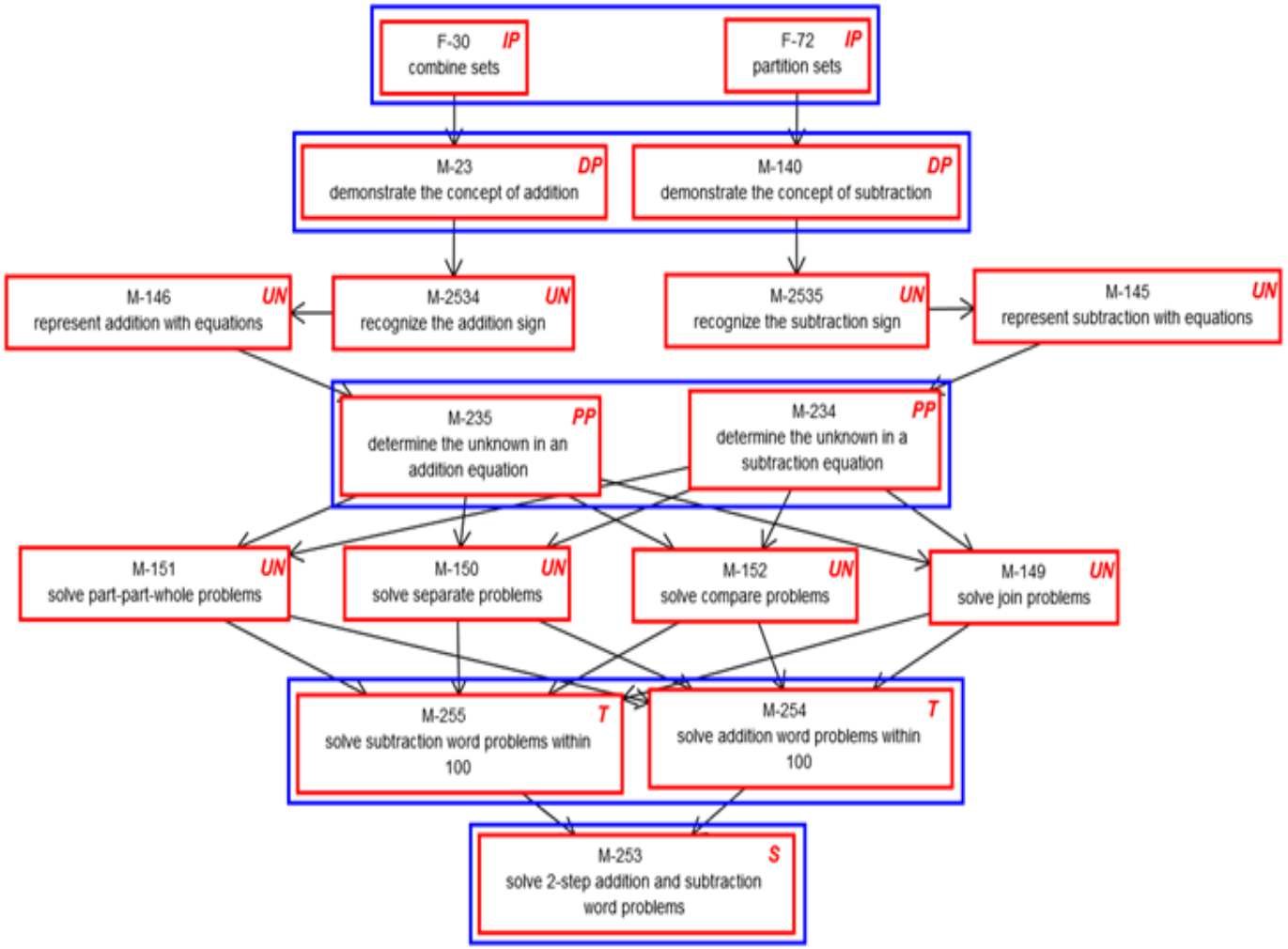
A diagram showing the relationship of nodes in the mini-map appears below.

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		

 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

M.EE. 3.OA.8 Solve one-step real world problems using addition or subtraction within 20



Copyright © 2018 University of Kansas Center for Research. All rights reserved.

ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
MATH: GRADE 3
M.EE.3.OA.9

Grade-Level Standard	DLM Essential Element	Linkage Levels
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, multiplied by any number can be decomposed into two equal addends (4x2 is equal to 4+4).	**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

© 2018 The Dynamic Learning Maps Essential Elements, linkage levels, and nodes are copyrighted by the University of Kansas Center for Research. Linkage levels and nodes are available for use by educators in DLM states but may not be used by commercial entities without written permission. Linkage level information and nodes may not be altered by anyone without express written permission from the University of Kansas Center for Research.

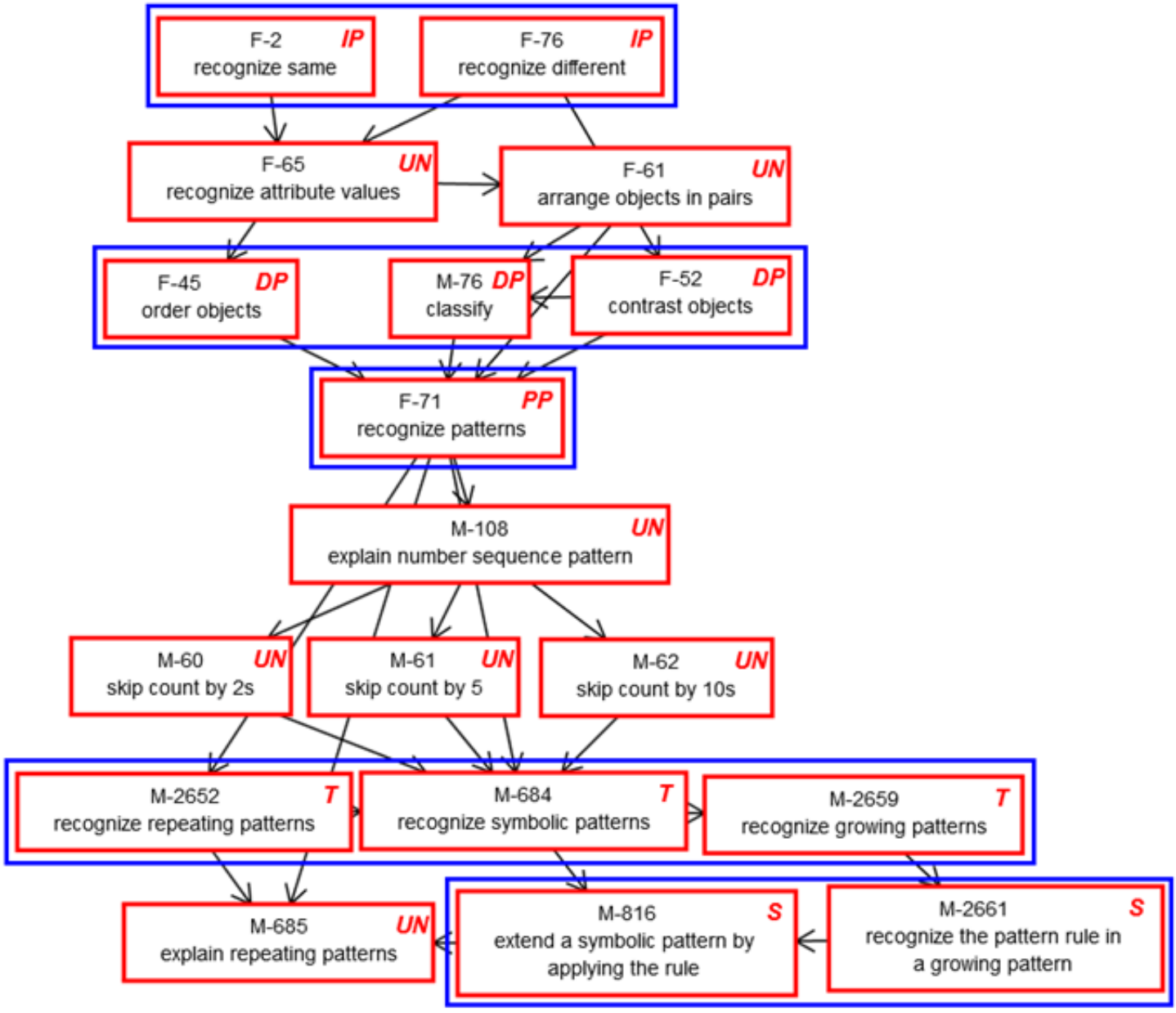
A diagram showing the relationship of nodes in the mini-map appears below.

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		

 Copyright © 2018 University of Kansas Center for Research. All rights reserved.

M.EE.3.OA.9 Identify arithmetic patterns



 Copyright © 2018 University of Kansas Center for Research. All rights reserved.