

## Alignment of OAE Middle Grades Mathematics Assessment Framework with Ohio-specified Standards

This alignment study identifies the national and/or Ohio educational standards that are addressed in whole or in part by each competency of the assessment framework. An indication of alignment does not necessarily imply complete congruence of the content of an OAE test competency with the relevant standard. The information in this document is subject to change if revisions are made to the assessment framework. Any changes will fully supersede the information contained in this document.

| Competencies                       |                        | Ohio Educational Preparation Standards                                                                     | Ohio Educator Standards                    | Ohio Student Standards                                                                                                                                                                                                                                    |
|------------------------------------|------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mathematics (4-9)</b>           |                        | NCATE/NCTM Program Standards (2012): Programs for Initial Preparation of Mathematics Teachers-Middle Level | Ohio Standards for the Teaching Profession | Ohio's Learning Standards: K-12 Mathematics                                                                                                                                                                                                               |
| <u>Number Sense and Operations</u> |                        |                                                                                                            |                                            |                                                                                                                                                                                                                                                           |
| 0001                               | Understand numbers.    | 9                                                                                                          | 2                                          | Number and Operations in Base Ten: Grades 4-5; Number and Operations — Fractions: Grades 4-5; The Number System: Grade 6; Number and Quantity: High School                                                                                                |
| 0002                               | Understand operations. | 9                                                                                                          | 2                                          | Operations and Algebraic Thinking: Grades 4-5; Number and Operations in Base Ten: Grades 4-5; Number and Operations — Fractions: Grades 4-5; Ratios and Proportional Relationships: Grade 6; The Number System: Grade 6; Number and Quantity: High School |
| <u>Algebra and Functions</u>       |                        |                                                                                                            |                                            |                                                                                                                                                                                                                                                           |

| Competencies                    |                                                                  | Ohio Educational Preparation Standards                                                                     | Ohio Educator Standards                    | Ohio Student Standards                                                                                                            |
|---------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Mathematics (4-9)</b>        |                                                                  | NCATE/NCTM Program Standards (2012): Programs for Initial Preparation of Mathematics Teachers-Middle Level | Ohio Standards for the Teaching Profession | Ohio's Learning Standards: K-12 Mathematics                                                                                       |
| 0003                            | Understand patterns, relations, and functions.                   | 10                                                                                                         | 2                                          | Operations and Algebraic Thinking: Grades 4-5; Expressions and Equations: Grade 6-8; Algebra: High School; Functions: High School |
| 0004                            | Understand algebraic techniques and applications.                | 10                                                                                                         | 2                                          | Operations and Algebraic Thinking: Grades 4-5; Expressions and Equations: Grade 6-8; Algebra: High School                         |
| 0005                            | Understand linear relations and applications.                    | 10                                                                                                         | 2                                          | Expressions and Equations: Grade 6-8; Functions: Grade 8-HS                                                                       |
| 0006                            | Understand nonlinear relations.                                  | 12                                                                                                         | 2                                          | Functions: Grade 8- High School                                                                                                   |
| <u>Measurement and Geometry</u> |                                                                  |                                                                                                            |                                            |                                                                                                                                   |
| 0007                            | Understand measurement principles, procedures, and applications. | 15                                                                                                         | 2                                          | Measurement and Data: Grades 4-5                                                                                                  |
| 0008                            | Understand Euclidean geometry in two and three dimensions.       | 11                                                                                                         | 2                                          | Geometry: Grades 4- High School                                                                                                   |

| Competencies                                             |                                                                                  | Ohio Educational Preparation Standards                                                                     | Ohio Educator Standards                    | Ohio Student Standards                                                             |
|----------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------|
| <b>Mathematics (4-9)</b>                                 |                                                                                  | NCATE/NCTM Program Standards (2012): Programs for Initial Preparation of Mathematics Teachers-Middle Level | Ohio Standards for the Teaching Profession | Ohio's Learning Standards: K-12 Mathematics                                        |
| 0009                                                     | Understand coordinate and transformational geometry.                             | 11                                                                                                         | 2                                          | Geometry: Grades 4- High School                                                    |
| <u>Statistics, Probability, and Discrete Mathematics</u> |                                                                                  |                                                                                                            |                                            |                                                                                    |
| 0010                                                     | Understand principles and techniques of statistics.                              | 14                                                                                                         | 2                                          | Measurement and Data: Grades 4-5; Statistics and Probability: Grade 6- High School |
| 0011                                                     | Understand principles of probability and techniques for determining probability. | 14                                                                                                         | 2                                          | Statistics and Probability: Grade 6- High School                                   |