**Mathematics Vertical Articulation Grades 3 – HS VESOL by Strand Concepts**

[***Adapted from 2016 Mathematics Vertical Articulation Grades K-Algebra II SOL by Strand Concepts***](https://www.doe.virginia.gov/instruction/mathematics/middle/algebra_readiness/vmat/static/comprehensive/mvat-compr-k-a2.pdf)

***\* Please see last page for directions for use\****

**NNS = Number and Number Sense; C&E = Computation and Estimation; M&G = Measurement and Geometry; P&S = Probability and Statistics; PFA = Patterns, Functions, and Algebra**

| **NNS- STRAND CONCEPT** |  | **Grade K** | **Grade 1** | **Grade 2** | **Grade 3** | **Grade 4** | **Grade 5** | **Grade 6** | **Grade 7** | **Grade 8** | **HS** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number Identification and Representation | **VESOL** |  |  |  | [**M-3 1**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | [**M-4 1**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) |  |  |  |  |  |
| Number Identification and Representation | SOL | [K.1ab;](https://drive.google.com/file/d/1inscpzzoRBNvc-PhLja12wpUqVScEond/view?usp=sharing) [K.3abcd;](https://drive.google.com/file/d/1MaLWGOuda0VvMeqRsKV1uQjOyF_Vo5qM/view?usp=sharing) [K.4ab](https://drive.google.com/file/d/1cJ1fmOPyvEBNGEjMmASG4pUEjXk-YBa4/view?usp=sharing) | [1.1abcd;](https://drive.google.com/file/d/159CkjY1Xdq1wJ11YLZsfpYkR935DsFtp/view?usp=sharing) [1.2a](https://drive.google.com/file/d/1JDvuk8lDxu9SxCxqQ9SSoMw11zqRBIzM/view?usp=sharing); [1.3;](https://drive.google.com/file/d/1HInoHrf8owRtu5aLFhngK9TvvHOqvX34/view?usp=sharing) [1.5ab](https://drive.google.com/file/d/1OBngydQufsaEIlIIbizMh0bRnEoBbT4L/view?usp=sharing) | [2.1ab](https://drive.google.com/file/d/15n5deyNmIeb7ewuOB9b9tmHJvSfRDWk6/view?usp=sharing); [2.2ab;](https://drive.google.com/file/d/1ZyXjn7eT8pthec0dgUZmZ57YZGBpaYrj/view?usp=sharing) [2.3ab](https://drive.google.com/file/d/1b7G37HHt_rL1iY6gpSttah3ogka_OzDn/view?usp=sharing) | [3.1a](https://drive.google.com/file/d/1b2O2YERU-mBAOm67pyxEV_clR86Mo4oq/view?usp=sharing) | [4.1a](https://drive.google.com/file/d/1DYx0jXeU17FCf4CeHQIV0DRVnFcQh_-9/view?usp=sharing) |  |  |  |  |  |
| Whole Number and Decimal Rounding | **VESOL** |  |  |  | [**M-3 2**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | [**M-4 3**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) | [**M-5 1**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) |  |  |  |  |
| Whole Number and Decimal Rounding | SOL |  |  | [2.1d](https://drive.google.com/file/d/15n5deyNmIeb7ewuOB9b9tmHJvSfRDWk6/view?usp=sharing) | [3.1b](https://drive.google.com/file/d/1b2O2YERU-mBAOm67pyxEV_clR86Mo4oq/view?usp=sharing) | [4.1c;](https://drive.google.com/file/d/1DYx0jXeU17FCf4CeHQIV0DRVnFcQh_-9/view?usp=sharing)[4.3b](https://drive.google.com/file/d/1Gbu80IrS4M86YAgcODDQ6MXaUp4gzrh6/view?usp=sharing) | [5.1](https://drive.google.com/file/d/1MQwIFMKy5CY2Bao-CKbgpVPfooeAEkay/view?usp=sharing) |  |  |  |  |
| Rational Numbers - Compare and Order | **VESOL** |  |  |  | [**M-3 3**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | [**M-4 2**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing)[**M-4 4**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing)[**M-4 6**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) | [**M-5 3**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) | [**M-6 3**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) | [**M-7 1**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing)[**M- 7 2**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing) | [**M-8 1**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) |  |
| Rational Numbers - Compare and Order | SOL | [K.2ab](https://drive.google.com/file/d/1B03e1wVkBZbakbqxw77Nm6lP-ejm-GAT/view?usp=sharing) | [1.2bc](https://drive.google.com/file/d/1JDvuk8lDxu9SxCxqQ9SSoMw11zqRBIzM/view?usp=sharing) | [2.1c](https://drive.google.com/file/d/15n5deyNmIeb7ewuOB9b9tmHJvSfRDWk6/view?usp=sharing); [2.4c](https://drive.google.com/file/d/1QVCpwDn317A0ia1jhtEv4Q5i1qy268Gr/view?usp=sharing) | [3.1c,](https://drive.google.com/file/d/1b2O2YERU-mBAOm67pyxEV_clR86Mo4oq/view?usp=sharing)  [3.2c](https://drive.google.com/file/d/1XnOXeLqST8zL1xYgzo6oytVO4GUUZKSb/view?usp=sharing) | [4.1b;](https://drive.google.com/file/d/1DYx0jXeU17FCf4CeHQIV0DRVnFcQh_-9/view?usp=sharing) [4.2a](https://drive.google.com/file/d/1sNhmskTDa4SRqrpv4lKmabbzLy07GRC-/view?usp=sharing); [**4.3c**](https://drive.google.com/file/d/1Gbu80IrS4M86YAgcODDQ6MXaUp4gzrh6/view?usp=sharing) | [5.2b](https://drive.google.com/file/d/1wzjhAFNg6CrRv6GmhhOrsyLIQVDtgeOT/view?usp=sharing) | [6.2b;](https://drive.google.com/file/d/1D0jDkIP3xoo6fn67W_DlGb4vUwaSIfae/view?usp=sharing)[6.3b](https://drive.google.com/file/d/1IvGjQiLJH2cXAVRLOTLAoaLHtjpfNDtf/view?usp=sharing) | [7.1b, c](https://drive.google.com/file/d/15PRBD7tlJMqRAiNm3vQJbZhpapzZ-Dwe/view?usp=sharing) | [8.1](https://drive.google.com/file/d/1E9ulxT-azV451affEcr0Mr_nSZ17MSRS/view?usp=sharing) |  |
| Rational Number Equivalencies | **VESOL** |  |  |  | [**M-3 4**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | [**M-4 5**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing)[**M-4 7**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) | [**M-5 2**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) | [**M-6 1**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) |  |  |  |
| Rational Number Equivalencies | SOL | [K.5](https://drive.google.com/file/d/166ou8MkfEBcmUwNGcx39OCP_vVowMcSQ/view?usp=sharing) | [1.4ab](https://drive.google.com/file/d/1c6VVABY38Wr_Rjgh9Fmxt6x8mrKA14a7/view?usp=sharing) | [2.4ab](https://drive.google.com/file/d/1QVCpwDn317A0ia1jhtEv4Q5i1qy268Gr/view?usp=sharing) | [3.2ab](https://drive.google.com/file/d/1XnOXeLqST8zL1xYgzo6oytVO4GUUZKSb/view?usp=sharing) | [4.2bc](https://drive.google.com/file/d/1sNhmskTDa4SRqrpv4lKmabbzLy07GRC-/view?usp=sharing); [4.3ad](https://drive.google.com/file/d/1Gbu80IrS4M86YAgcODDQ6MXaUp4gzrh6/view?usp=sharing) | [5.2a](https://drive.google.com/file/d/1wzjhAFNg6CrRv6GmhhOrsyLIQVDtgeOT/view?usp=sharing) | [6.1;](https://drive.google.com/file/d/1r03iJ10xrY-YYysFQZtR73JrfoHxF2SU/view?usp=sharing) [6.2a](https://drive.google.com/file/d/1D0jDkIP3xoo6fn67W_DlGb4vUwaSIfae/view?usp=sharing) |  |  |  |
| Number Sets and Characteristics | **VESOL** |  |  |  |  |  | [**M-5 4**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing)[**M-5 5**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) | [**M-6 2**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) |  |  |  |
| Number Sets and Characteristics | SOL |  |  | [2.2c](https://drive.google.com/file/d/1ZyXjn7eT8pthec0dgUZmZ57YZGBpaYrj/view?usp=sharing) |  |  | [5.3a, b](https://drive.google.com/file/d/16dVoVlDUKevhjB1Srt0d4bTkq-Wz_g5B/view?usp=sharing) | [6.3ac](https://drive.google.com/file/d/1IvGjQiLJH2cXAVRLOTLAoaLHtjpfNDtf/view?usp=sharing) | [7.1e](https://drive.google.com/file/d/15PRBD7tlJMqRAiNm3vQJbZhpapzZ-Dwe/view?usp=sharing) | [8.2](https://drive.google.com/file/d/1fkb-MYsFQr-7AdUXrkDpDo35tnq49HlS/view?usp=sharing) |  |
| Exponents/Squares/Square Roots | **VESOL** |  |  |  |  |  |  |  |  |  |  |
| Exponents/Squares/Square Roots | SOL |  |  |  |  |  |  | [6.4](https://drive.google.com/file/d/1Evfp8omjBTbPvU0w_N1-W9wwuIgX2ZHm/view?usp=sharing) | [7.1ad](https://drive.google.com/file/d/15PRBD7tlJMqRAiNm3vQJbZhpapzZ-Dwe/view?usp=sharing) | [8.3ab](https://drive.google.com/file/d/15PRBD7tlJMqRAiNm3vQJbZhpapzZ-Dwe/view?usp=sharing) | [A.3b,c](https://drive.google.com/file/d/1iPN4c9b3f2Bb3RJklwE0e0pFLKpgEjtG/view?usp=sharing) |

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| **C&E- STRAND CONCEPT** |  | **Grade K** | **Grade 1** | **Grade 2** | **Grade 3** | **Grade 4** | **Grade 5** | **Grade 6** | **Grade 7** | **Grade 8** | **HS** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Fluency - Whole Number Operations | **VESOL** |  |  |  | [**M-3 7**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | [**M-4 8**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) |  |  |  |  |  |
| Fluency - Whole Number Operations | SOL |  | [1.7ab](https://drive.google.com/file/d/1QA_f5hEmuoIgJsJIuMOS5v5A9HsBAPoE/view?usp=sharing) | [2.5b](https://drive.google.com/file/d/1Vig5VsdWvru1MaKWHDBL8XysRe9dt53F/view?usp=sharing) | [3.4c](https://drive.google.com/file/d/1iTk8oAFgzUJ2M53J297Yhb9DO8D08Ud-/view?usp=sharing) | [4.4a](https://drive.google.com/file/d/13YtF2Bzb8GR-L0eVzS68W_SAAyr9-QDZ/view?usp=sharing) |  |  |  |  |  |
| Whole Number Estimation and Operations | **VESOL** |  |  |  | [**M-3 5**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | **M-4 9****M-4 10** | [**M-5 11**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) |  |  |  |  |
| Whole Number Estimation and Operations | SOL |  |  | [2.5a;](https://drive.google.com/file/d/1Vig5VsdWvru1MaKWHDBL8XysRe9dt53F/view?usp=sharing) [2.6ab](https://drive.google.com/file/d/1nJD_SS7TLc2soW0lenmeslp4TX2qmKcg/view?usp=sharing) | [3.3a,](https://drive.google.com/file/d/1dGoylC8iIuC6zEsWozc85pcEAeOp7bD0/view?usp=sharing) [3.4a](https://drive.google.com/file/d/1iTk8oAFgzUJ2M53J297Yhb9DO8D08Ud-/view?usp=sharing) | [4.4bc](https://drive.google.com/file/d/13YtF2Bzb8GR-L0eVzS68W_SAAyr9-QDZ/view?usp=sharing) | [5.7](https://drive.google.com/file/d/1cfJ2rlAK4Z_0hcEe3Yffhdlvu3peWhHk/view?usp=sharing) |  |  |  |  |
| Rational Number Estimation and Operations | **VESOL** |  |  |  |  | [**M-4 12**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing)[**M-4 14**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) | [**M-5 7**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) | [**M-6 4**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing)[**M-6 6**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) |  |  |  |
| Rational Number Estimation and Operations | SOL |  |  |  |  | [4.5ab;](https://drive.google.com/file/d/1oMdvMg-c9n8lSTItiqX9bNWpfLffKMU5/view?usp=sharing) [4.6a](https://drive.google.com/file/d/1HgcXB3fkLSBXl1pBRQozdMwEX1TZBsLD/view?usp=sharing) | [**5.5a**](https://drive.google.com/file/d/1H099AHjMY5uwG6dNQktOjCaG2FAcopLU/view?usp=sharing) | [**6.5a;**](https://drive.google.com/file/d/1cHa8CfcwzIGkqy-Kl2lgBIiSDXLXNeQg/view?usp=sharing)[**6.6ac**](https://drive.google.com/file/d/1NNDKIDQmsd5yNbyqv7HykFi0e2buknCn/view?usp=sharing) |  |  |  |
| Practical Applications – Whole Numbers | **VESOL** |  |  |  | [**M-3 6**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | [**M-4 11**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) |  |  |  |  |  |
| Practical Applications – Whole Numbers | SOL | [K.6](https://drive.google.com/file/d/1qRmf_6UMHyH-u0DDM70t0kVGficVlYtF/view?usp=sharing) | [1.6](https://drive.google.com/file/d/1ZKg-a8G0AMe65LVHi7-uRpg6SWvI7_2u/view?usp=sharing) | [2.6c](https://drive.google.com/file/d/1nJD_SS7TLc2soW0lenmeslp4TX2qmKcg/view?usp=sharing) | [3.3b;](https://drive.google.com/file/d/1dGoylC8iIuC6zEsWozc85pcEAeOp7bD0/view?usp=sharing) [3.4bd](https://drive.google.com/file/d/1iTk8oAFgzUJ2M53J297Yhb9DO8D08Ud-/view?usp=sharing) | [4.4d](https://drive.google.com/file/d/13YtF2Bzb8GR-L0eVzS68W_SAAyr9-QDZ/view?usp=sharing) |  |  |  |  |  |
| Practical Applications -Rational Numbers and Proportional Reasoning | **VESOL** |  |  |  |  | [**M-4 13**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) | [**M-5 6**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing)[**M-5 8**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing)[**M-5 9**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing)[**M-5 10**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) | [**M-6 5**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing)[**M-6 7**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) | [**M-7 3&4**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing) | [**M-8 2**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) |  |
| Practical Applications -Rational Numbers and Proportional Reasoning | SOL |  |  |  | [3.5](https://drive.google.com/file/d/1oC7KOrGFdxjcQDzmd8Tos9G8TGpeTFHO/view?usp=sharing) | [4.5c;](https://drive.google.com/file/d/1oMdvMg-c9n8lSTItiqX9bNWpfLffKMU5/view?usp=sharing) [4.6b](https://drive.google.com/file/d/1HgcXB3fkLSBXl1pBRQozdMwEX1TZBsLD/view?usp=sharing) | [5.4;](https://drive.google.com/file/d/1-WF0yT4nCHpCfbeU59MYE-iHxlnxIkEj/view?usp=sharing) [5.5b;](https://drive.google.com/file/d/1H099AHjMY5uwG6dNQktOjCaG2FAcopLU/view?usp=sharing) [5.6a b](https://drive.google.com/file/d/19sVcvUsaZARNwzj3FMtKx9UfmwfrEMNW/view?usp=sharing) | [6.5bc](https://drive.google.com/file/d/1cHa8CfcwzIGkqy-Kl2lgBIiSDXLXNeQg/view?usp=sharing); [6.6b](https://drive.google.com/file/d/1NNDKIDQmsd5yNbyqv7HykFi0e2buknCn/view?usp=sharing) | [7.2;](https://drive.google.com/file/d/1wUM-n1EFEXb5p6Msr6ZgfSn27IDeeNNZ/view?usp=sharing) [7.3](https://drive.google.com/file/d/1n990LMQwr5ppTNYrUbKstCr1ggvGn-P6/view?usp=sharing) | [8.4](https://drive.google.com/file/d/1Ym347DTH2-pZT9mreXn7GwUQlbRr62vu/view?usp=sharing) |  |

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| **M&G- STRAND CONCEPT** |  | **Grade K** | **Grade 1** | **Grade 2** | **Grade 3** | **Grade 4** | **Grade 5** | **Grade 6** | **Grade 7** | **Grade 8** | **HS** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Money | **VESOL** |  |  |  | [**M-3 8**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) |  |  |  |  |  |  |
| Money | SOL | [K.7](https://drive.google.com/file/d/1NG3EWBw7EmZOc-P43vTvvyonApljoflf/view?usp=sharing) | [1.8](https://drive.google.com/file/d/1jrPXGRADxh4IO1k-eWtUZXcr0MKxd3Tf/view?usp=sharing) | [2.7ab](https://drive.google.com/file/d/1rvkq3gq3MO-PduY7FFc2Oe48lP1x9VHz/view?usp=sharing) | [3.6abc](https://drive.google.com/file/d/1_qH5AjMQsboFIeWaSOiTeOviOazxK02X/view?usp=sharing) |  |  |  |  |  |  |
| Time | **VESOL** |  |  |  | [**M-3 13**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | **M-4 18** | [**M-5 14**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) | [M-6 8](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) | [M-7 5](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing)  | [M-8 3](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) | [M-HS 2](https://drive.google.com/file/d/1lSLDTvLA_UPzPC56PidH1e2DX2I0wqkt/view?usp=sharing) |
| Time | SOL | [K.8](https://drive.google.com/file/d/167ByirIhRc6p9ma6D958t4Y7L4X34o47/view?usp=sharing) | [1.9ab](https://drive.google.com/file/d/1w6O7JjyW_hc68RiOesv0y8AWduokwl1N/view?usp=sharing) | [2.9;](https://drive.google.com/file/d/12CYd5hvemVJ1tKFI6NkHMvNlInwLQ6kI/view?usp=sharing) [2.10ab](https://drive.google.com/file/d/1_1HN9tAw7YgO59s8ADz_Maj-ajfyBva2/view?usp=sharing) | [3.9abc](https://drive.google.com/file/d/1ekLBJvwoR3NBYu1LvO2yxPwfERFEYRay/view?usp=sharing) | [4.9](https://drive.google.com/file/d/11CG2AjW1pFzFx0CYKRoWTc0uvHLz3NNP/view?usp=sharing) | [5.11](https://drive.google.com/file/d/1WFytqNh2MnTk2aIh3X8sGYXOlh_kguUc/view?usp=sharing) |  |  |  |  |
| Length, Weight/Mass, Liquid Volume, and Temperature | **VESOL** |  |  |  | [**M-3 9**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing)[**M-3 10**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | [**M-4 16**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing)**M-4 17** |  |  |  |  |  |
| Length, Weight/Mass, Liquid Volume, and Temperature | SOL | [K.9](https://drive.google.com/file/d/1vX1gYiJn1ewjvtb6tYhRPynkLpI6Kc38/view?usp=sharing) | [1.10](https://drive.google.com/file/d/1yu0YZrgbQpmQDew-fqo1_dklkzXyHsH8/view?usp=sharing) | [2.8ab](https://drive.google.com/file/d/1gT4nHz9sqDPhW6M8W0_EbTda_NQjRgBz/view?usp=sharing); [2.11](https://drive.google.com/file/d/1zU0rspsoTZZxmIgxyIR0SKRzd4qHGZSx/view?usp=sharing) | [3.7a b;](https://drive.google.com/file/d/1k2tPHVYHu0DcLsLVlO5fsQB8fQ2J0l9Z/view?usp=sharing) [3.10](https://drive.google.com/file/d/1u7CuK2kxTj0INoagy4nMzGvGcMlSNHSQ/view?usp=sharing) | [4.8abcd](https://drive.google.com/file/d/1lrcI7UeLomhXzTMjtGpZ3vhOzbU7Fgg2/view?usp=sharing) | [5.9ab](https://drive.google.com/file/d/1Q3z9SrzAOCsDEnbBMEBkr5jcGmuH7TuH/view?usp=sharing) |  |  |  |  |
| Area, Perimeter, and Circumference | **VESOL** |  |  |  | [**M-3 11**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing)[**M-3 12**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | [**M-4 15**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) | [**M-5 12**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing)[**M-5 13**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) | [**M-6 9**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) |  | [**M-8 5**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) |  |
| Area, Perimeter, and Circumference | SOL |  |  |  | [3.8a b](https://drive.google.com/file/d/1ZdftVsQKm7Xj8rBFYgC56DF1K6kB83gc/view?usp=sharing) | [4.7](https://drive.google.com/file/d/1yrCKbzlxSMWGkeSyutpWqUlULDioNCvk/view?usp=sharing) | [5.8ab](https://drive.google.com/file/d/18ItunJMtDrfavBK4xeslYMnxx4qIFIMC/view?usp=sharing) | [6.7abc](https://drive.google.com/file/d/1v5jfYQ_zwL-EyltTjU-nES-bhHkJrZRc/view?usp=sharing) |  | [8.10](https://drive.google.com/file/d/1aeyeVzvIPgrbZygktH40mbLOiKwyJ8Gg/view?usp=sharing) |  |
| Volume and Surface Area | **VESOL** |  |  |  |  |  |  |  | [**M-7 6**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing) |  |  |
| Volume and Surface Area | SOL |  |  |  |  |  |  |  | [7.4ab](https://drive.google.com/file/d/1fcud9zQ3iOjc2v9x22I8t8HJmmWE-gqC/view?usp=sharing) | [8.6ab](https://drive.google.com/file/d/1Q3z9SrzAOCsDEnbBMEBkr5jcGmuH7TuH/view?usp=sharing) |  |
| Point, Line, Line Segment, Ray and Angle - Identify, Describe, Classify and Measure | **VESOL** |  |  |  |  | [**M-4 19**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) |  |  |  |  |  |
| Point, Line, Line Segment, Ray and Angle - Identify, Describe, Classify and Measure | SOL |  |  |  | [3.11](https://drive.google.com/file/d/1fbO6LgPgLCSoHPoCu5JsF9o4WacajAfy/view?usp=sharing) | [4.10ab](https://drive.google.com/file/d/1-d1amF_JcytDp9Fq4gSGYIxOFYI8JXAj/view?usp=sharing) | [5.12](https://drive.google.com/file/d/11jimurBGl5P7mPxNAWfT5sdxaGqZ3k0s/view?usp=sharing) |  |  | [8.5](https://drive.google.com/file/d/1LjALyLhDPDSRDuf2iqOP1JBSjQATjhIu/view?usp=sharing) |  |
| Circles and Polygons - Identify and Describe | **VESOL** |  |  |  | [**M-3 14**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) |  | [**M-5 15**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) |  |  |  |  |
| Circles and Polygons - Identify and Describe | SOL | [K.10ac](https://drive.google.com/file/d/1YZY-B3hubFvaVyDyJxtgqCzV1ZiWTbZw/view?usp=sharing) | [1.11ab](https://drive.google.com/file/d/1CRVYbCddzyJyvpcH0CtS1qwjzxQgeo6n/view?usp=sharing) |  | [3.12a bc](https://drive.google.com/file/d/1xT4c7ia27oOVhfQqxJ45xT9xl0Irslap/view?usp=sharing) |  | [5.10;](https://drive.google.com/file/d/1Gzz2EkHgG1e3kcnlo7WmFCiJNGNN98tA/view?usp=sharing) [5.14b](https://drive.google.com/file/d/1L-5GZHR7uWIIaxaCZOrNPKYGxQPsOOli/view?usp=sharing) |  |  |  |  |
| Circles and Polygons – Classify and Measure | **VESOL** |  |  |  |  |  |  |  | [**M-7 8**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing) |  |  |
| Circles and Polygons – Classify and Measure | SOL |  |  | [2.12a,b](https://drive.google.com/file/d/1NY6vyyyajfBZlhU8QU1HqaQ7v9e9P8cG/view?usp=sharing) |  | [4.12](https://drive.google.com/file/d/1YQVc5Z8SbuBelNjzVXyKMEExqQiC22GT/view?usp=sharing) | [5.13ab](https://drive.google.com/file/d/15PU2KWfHPyQsV5pz6ohFzNfNssPVm8uJ/view?usp=sharing) |  | [7.6ab](https://drive.google.com/file/d/1sKiOyklJGcWDzyUl_uZGVV5nIJ9Shh0d/view?usp=sharing) | [8.9ab](https://drive.google.com/file/d/1X5-922QIfj1hgNnUcODXPyeERagMuttN/view?usp=sharing) |  |
| Plane (2-D) and Solid (3-D) Figures - Compare, Contrast, and Construct | **VESOL** |  |  |  |  | [**M-4 20**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) |  |  |  |  |  |
| Plane (2-D) and Solid (3-D) Figures - Compare, Contrast, and Construct | SOL | [K.10b](https://drive.google.com/file/d/1NuOX3AKTgxOIHVecQgQ-N5O44qkgI615/view?usp=sharing) |  | [2.13](https://drive.google.com/file/d/1eV8_gi0mbcrCkf9IiS1ZC2Z9jJfVV-n9/view?usp=sharing) |  | [4.11](https://drive.google.com/file/d/1iupp_TVhcbuvYl-lLCNffGa98-jXcFbE/view?usp=sharing) |  |  |  | [8.8](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/grade8math-cf.docx) |  |
| Congruency and Similarity | **VESOL** |  |  |  | [**M-3 15**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) |  |  | [**M-6 11**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) | [**M-7 7**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing) |  |  |
| Congruency and Similarity | SOL |  |  |  | [3.13](https://drive.google.com/file/d/1dCe3hkGSsmXLKNTlefziDHwJCTiwTl9c/view?usp=sharing) |  |  | [6.9](https://drive.google.com/file/d/1b9SChvHKhttps%3A/drive.google.com/file/d/1b9SChvHKz_rqdi2H4wrXzthrWJHB6rIu/view?usp=sharing) | [7.5](https://drive.google.com/file/d/16pO6sxvkagNmCNMNTzC0lwZJ8DVgmnG9/view?usp=sharing) |  |  |
| Coordinate Plane and Transforma-tions | **VESOL** |  |  |  |  |  |  | [**M-6 10**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) | [**M-7 9**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing) | [**M-8 4**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) |  |
| Coordinate Plane and Transforma-tions | SOL |  |  |  |  |  | [5.14a](https://drive.google.com/file/d/1L-5GZHR7uWIIaxaCZOrNPKYGxQPsOOli/view?usp=sharing) | 6[.8ab](https://drive.google.com/file/d/1lWzA4r5a_KW6rGXe7jBKZY-KYs6-yI3H/view?usp=sharing) | [7.7](https://drive.google.com/file/d/1BRe4p-SqsRzLYXSBoZXkYMxc4Sr0gP88/view?usp=sharing) | [8.7ab](https://drive.google.com/file/d/1xNoF5oEbnphBRKBMZsBtT9R1--dkN8wk/view?usp=sharing) |  |

**NNS = Number and Number Sense; C&E = Computation and Estimation; M&G = Measurement and Geometry; P&S = Probability and Statistics; PFA = Patterns, Functions, and Algebra**

| **P&S- STRAND CONCEPT** |  | **Grade K** | **Grade 1** | **Grade 2** | **Grade 3** | **Grade 4** | **Grade 5** | **Grade 6** | **Grade 7** | **Grade 8** | **HS** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Measures of Central Tendency | **VESOL** |  |  |  |  |  |  | [**M-6 13**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) |  |  |  |
| Measures of Central Tendency | SOL |  |  |  |  |  | [5.17abcd](https://drive.google.com/file/d/18QWmzPU39SkEJndv_soW1P8JNGoHljZz/view?usp=sharing) | [6.11](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing)[ab](https://drive.google.com/file/d/1Ies4Av9b41Mg6WcYXZ8rM8_gaBaUu7ge/view?usp=sharing) |  |  |  |
| Outcomes and Probability | **VESOL** |  |  |  |  |  |  |  | [**M-7 10**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing) | [**M-8 6**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) |  |
| Outcomes and Probability | SOL |  |  | [2.14](https://drive.google.com/file/d/1FB5NVLuZOg_mMkmrqqvJeeW40RUI1oIb/view?usp=sharing) | [3.14](https://drive.google.com/file/d/1CeJ7sqS-Ahj-K2-099Z-XmnWwaMab5Sl/view?usp=sharing) | [4.13abc](https://drive.google.com/file/d/1zUuXmeVyc4rlxZ7QDKh0dD1r3kG1nyAe/view?usp=sharing) | [5.15](https://drive.google.com/file/d/1LWZB55GaxMVvj1QQnptRs4mAPHxaLVEQ/view?usp=sharing) |  | [7.8ab](https://drive.google.com/file/d/1sYis07Xsjj8RhUmwmzwITmmh-jiwDN5x/view?usp=sharing) | [8.11ab](https://drive.google.com/file/d/1A5RAKT7fQDCgB8nd9uu-9jVCDMrLa4Pl/view?usp=sharing) |  |
| Data Representa-tion and Interpretation | **VESOL** |  |  |  | [**M-3 16**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | [**M-4 21**](https://drive.google.com/file/d/1OXLsWJR-hSo6d2gCuzaW4mUwXuA799fa/view?usp=sharing) | [**M-5 16**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) | [**M-6 12**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) | [**M-7 11**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing) | [**M-8 7**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) | [**M-HS 10**](https://drive.google.com/file/d/1lSLDTvLA_UPzPC56PidH1e2DX2I0wqkt/view?usp=sharing) |
| Data Representa-tion and Interpretation | SOL | [K.11ab](https://drive.google.com/file/d/1wXDHIuYYKcmQtgLk1kL-5aQWD1He8XOF/view?usp=sharing) | [1.12ab](https://drive.google.com/file/d/1t7FgCC3UpygfIsUUir7u3G8FDZJx-BLY/view?usp=sharing) | [2.15ab](https://drive.google.com/file/d/18z3EzTsv1q56ynet-8-pkTcRb-JO9f-1/view?usp=sharing) | [3.15ab](https://drive.google.com/file/d/1m03y0jlyEsNpybHCSVu4-05lXLYlyb9_/view?usp=sharing) | [4.14abc](https://drive.google.com/file/d/1M2hnlH_1x6XxWsd8FmB3xjc2usAVg2Ye/view?usp=sharing) | [5.16abc](https://drive.google.com/file/d/10oueg1oXDW8fQq_jOQHGJvQYWEyLELlz/view?usp=sharing) | [6.10abc](https://drive.google.com/file/d/13Pd_GISEv3Tfomr8VkADwWgHz7IkrbTG/view?usp=sharing) | [7.9abc](https://drive.google.com/file/d/1WWgvLf3IOLVZkvn6hOtZaoiETYs2ZsGl/view?usp=sharing) | [**8.12abc**](https://drive.google.com/file/d/1zuHMQN9JW9b81dG4om5ZfS7OINzFtW8D/view?usp=sharing)**;**[8.13abc](https://drive.google.com/file/d/1qJC45v3mJrq2E_uDhkY63jYDolKXHXU_/view?usp=sharing) | [A.9](https://drive.google.com/file/d/17vaavF0nahXRxcNCtZSuSgs8LS17CPtg/view?usp=sharing) |

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| **PFA - STRAND CONCEPT** |  | **Grade K** | **Grade 1** | **Grade 2** | **Grade 3** | **Grade 4** | **Grade 5** | **Grade 6** | **Grade 7** | **Grade 8** | **HHS** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Equality/Sol-ving Equations | **VESOL** |  |  |  |  |  |  | [**M-6 15**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) | [**M-7 13**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing) | [**M-8 13**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) | **[M-HS 6](https://drive.google.com/file/d/1lSLDTvLA_UPzPC56PidH1e2DX2I0wqkt/view?usp=sharing)****[M-HS 7](https://drive.google.com/file/d/1lSLDTvLA_UPzPC56PidH1e2DX2I0wqkt/view?usp=sharing)** |
| Equality/Sol-ving Equations | SOL |  | [1.15](https://drive.google.com/file/d/109mENpkdx-NLf7c71V4dpXsDq0zSD4nO/view?usp=sharing) | [2.17](https://drive.google.com/file/d/1JAPjYRcDa5vlOttEzPx59rufz2dMCdFi/view?usp=sharing) | [3.17](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/grade3math-cf.docx) | [4.16](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/grade4math-cf.docx) | [5.19bd](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/grade5math-cf.docx) | [6.13](https://drive.google.com/file/d/1mJ5l4x0y0ozXDcXrqVZ0xX_FidBrRVW1/view?usp=sharing) | [7.12](https://drive.google.com/file/d/1sb0nqP98O8vqLUQAZ5z8yKIuJNfpqCVs/view?usp=sharing) | [8.17](https://drive.google.com/file/d/1ToKtpI43-2b5h_PwvAYL9gyNKyK35JM1/view?usp=sharing) | [A.4abcde](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/algebra1-cf.docx) |
| Solving Inequalities | **VESOL** |  |  |  |  |  |  | [**M-6 16**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) | [**M-7 14**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing) | [**M-8 14**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) | [**M-HS 8**](https://drive.google.com/file/d/1lSLDTvLA_UPzPC56PidH1e2DX2I0wqkt/view?usp=sharing) |
| Solving Inequalities | SOL |  |  |  |  |  |  | [6.14ab](https://drive.google.com/file/d/1zmYu1IfqMcr45tqSz1KEJ4VuR9QJ8iZn/view?usp=sharing) | [7.13](https://drive.google.com/file/d/1xxoXDD752Y4v-9abH2vMcUybTntxbEfK/view?usp=sharing) | [8.18](https://drive.google.com/file/d/1YDzB0pNJpH0cy7To-dEthYBCqVEP6c5A/view?usp=sharing) | [A.5abcd](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/algebra1-cf.docx) |
| Algebraic Expressions | **VESOL** |  |  |  |  |  | [**M-5 18**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) |  | [**M-7 12**](https://drive.google.com/file/d/1DqMlfkhI2T67QtfA9hpw3iQNTrmlxDoJ/view?usp=sharing) | [**M-8 8**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) | **[M-HS 1](https://drive.google.com/file/d/1lSLDTvLA_UPzPC56PidH1e2DX2I0wqkt/view?usp=sharing)****[M-HS 3](https://drive.google.com/file/d/1lSLDTvLA_UPzPC56PidH1e2DX2I0wqkt/view?usp=sharing)****[M-HS 4](https://drive.google.com/file/d/1lSLDTvLA_UPzPC56PidH1e2DX2I0wqkt/view?usp=sharing)****[M-HS 5](https://drive.google.com/file/d/1lSLDTvLA_UPzPC56PidH1e2DX2I0wqkt/view?usp=sharing)** |
| Algebraic Expressions | SOL |  |  |  |  |  | 5[.19ac](https://drive.google.com/file/d/1Z6DzO6c4hnvrZKbm6UkHve1C0Dddxpxo/view?usp=sharing) |  | [7.11](https://drive.google.com/file/d/1Av2SrAYEyay1tPalLi8weHi4r21loeLE/view?usp=sharing) | [8.14ab](https://drive.google.com/file/d/1Pay5ZwLGaP8F9EeKTQcAs_qdtOB6a0_F/view?usp=sharing) | [A.1a b](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/algebra1-cf.docx), b; [A.2abc](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/algebra1-cf.docx); [A.3a](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/algebra1-cf.docx)  |
| Proportional and Additive Relationships; Slope; Linear Functions | **VESOL** |  |  |  |  |  |  | [**M-6 14**](https://drive.google.com/file/d/1PDY8Qw7K8kSagz4ecS4r-8_m07iy4sDe/view?usp=sharing) |  | [**M-8 10**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing)[**M\_8 11**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing)[**M-8 12**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) |  |
| Proportional and Additive Relationships; Slope; Linear Functions | SOL |  |  |  |  |  |  | [6.12abcd](https://drive.google.com/file/d/1VmfbgqgHkEaqYvlICBA-Boh7tpZE12Z-/view?usp=sharing) | [7.10abcde](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/grade7math-cf.docx) | [8.16a bde](https://drive.google.com/file/d/1Ty1Hlyq-0O2l7pEIL5fiecrsuKuggbug/view?usp=sharing) | [A.6abc](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/algebra1-cf.docx); [A.8](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/algebra1-cf.docx) |
| Patterns, Relations and Functions | **VESOL** |  |  |  | [**M-3 17**](https://drive.google.com/file/d/1DgmL8AXINFKMQon0PWnMZjgOJws4Hn-6/view?usp=sharing) | **M-4 22** | [**M-5 17**](https://drive.google.com/file/d/1xWSg44o8OYwHqdpzgd6ZGL4G8be2Nm5_/view?usp=sharing) |  |  | [**M-8 9**](https://drive.google.com/file/d/17IJ4vWjU7kJh9dhVpjNxCovfWV4yeKYK/view?usp=sharing) | [**M-HS 9**](https://drive.google.com/file/d/1lSLDTvLA_UPzPC56PidH1e2DX2I0wqkt/view?usp=sharing) |
| Patterns, Relations and Functions | SOL | [K.12](https://drive.google.com/file/d/17IWBtGQd6RM_teuZFaB9fUOLIfpuAWkA/view?usp=sharing); [K.13](https://drive.google.com/file/d/1IjCtROznD06VSM5l2xMijI2JzMLqWKgb/view?usp=sharing) | [1.13;](https://drive.google.com/file/d/15HdnApnVuCRxep0GQBi7Gf8sWxVouHY_/view?usp=sharing) [1.14](https://drive.google.com/file/d/1fDxyitRuETXnwGmmEJQl6hnm-1MwzngB/view?usp=sharing) | [2.16](https://drive.google.com/file/d/1REx0BKSYCjMq3_gMfuOwJI5towSEBazf/view?usp=sharing) | [3.16](https://drive.google.com/file/d/1Pl_8OUYkv-tFO1XIq7EkryJgiw5zHeg1/view?usp=sharing) | [4.15](https://drive.google.com/file/d/1Yyab4q6YlFnwLB4wc1R4wREpIsXAZwlR/view?usp=sharing) | [5.18](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/grade5math-cf.docx) |  |  | [8.15ab](https://drive.google.com/file/d/15b3Et6DzXYKaQXjji-42eZI4xG_hJbHO/view?usp=sharing) | [A.7abcdef](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/cf/algebra1-cf.docx) |

**\*How to use this tool:**

* The gray shaded cells identify the grade-level VESOL and its associated SOL below.
* If you click on the grade-level VESOL, it will take you to the Mathematics Virginia Essentialized Standards of Learning for that grade level.
* If you click on the associated grade level SOL, it will take you to the Virginia Mathematics Standards of Learning Curriculum Framework for that standard.
* If there are multiple SOL, but only certain standards are associated with the VESOL, they are highlighted in matching colors.
	+ Note, on the SOL Curriculum Framework document, under the Essential Knowledge and Skills, there are letters in parentheses after each bulleted item. So if, for example, you only need the bulleted items that go with 3.1a, you would focus on the bulleted items that have an (a) at the end.
	+ 
* If you need to identify prerequisite skills for a VESOL or SOL, look at previous grade-level VESOL and SOL.
* Once you identify the appropriate entry point for your student, the following instructional resources may be helpful.
	+ [VESOL Mathematics Crosswalk](http://ttaconline.org/Document/zxbIhX_YCJNu0n9cA8sgessGauSN-Sd8/mathematics-vesol-crosswalk-813-final.pdf) contains sample activities
	+ [3rd Grade Mathematics VESOL Sample Activities](https://ttaconline.org/vesol#mathematics3)
	+ [6th Grade Mathematics VESOL Sample Activities](https://ttaconline.org/vesol#mathematics6)
	+ [High School Mathematics Sample Activities](https://ttaconline.org/vesol#mathematics_high)
	+ [SOL Mathematics Instructional Plans](https://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/mip/index.shtml) could be adapted or modified to meet the needs of your student