Science and Technology

Pilot Priority

Grades Pre-Kindergarten – High School
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The Massachusetts Department of Elementary and Secondary Education (ESE) contracted with WestEd to collect assessments appropriate for use as District-Determined Measures (DDMs). WestEd chose these assessments as examples because the assessments were aligned with critical content, as identified by the Core Course Objectives (CCOs), and were reviewed by WestEd to ensure overall quality. The following one page summaries cover a wide range of assessments including commercial, non-commercial, traditional, and non-traditional assessments. Districts can use this resource to choose DDMs to implement with or without modifications or as models for locally-developed measures. This list is not exhaustive, and Districts may use other assessments for use as District-Determined measures.

What is included in each one page summary?

- Assessment name and subject, grade, or course
- Electronic link with additional information about the assessment
- Brief description of the assessment and the content it is intended to assess
- Source: publicly available (non-secure or open source) or must be purchased from a commercial developer
- Approach: assessment can be implemented without modifications (buy), with modifications (borrow), or can serve as model for a locally developed measure (build)
- Design: designed to measure growth or requires modifications
- Type of assessment: traditional end-of-grade or end-of-course test, non-traditional measure such as a performance task or portfolio rubric, screening tool, diagnostic measure, placement exam, classroom assessment, or certification exam
- Type of assessment items: selected response, constructed response, performance task, or portfolio
- Mode of administration: paper/pencil or computer supported
- Scoring method: machine scored or hand scored
Pre-Kindergarten
Science — Pre-K

Assessment

Galileo Pre-K Online – Assessment Technology Incorporated

Description

Observation-based. Assesses physical development and health, social and emotional development, approaches to learning, language and literacy development, and cognitive development. Companion to Galileo K-12 Online to provide continuous assessment. Specific information about content assessed at this grade not available, but developer states that the item bank can be customized to address state's standards.

Source

Commercial Test

Approach

Buying (commercial tool)

Designed to Measure Growth

Yes

Traditional Assessment

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Screening Tool

Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring

- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
- Scored Off-Site

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Massachusetts District-Determined Measures

Example Assessments

Science — Pre-K

Assessment

GOLD Assessment System—Teaching Strategies

Publisher Website/Sample

Description

Observation checklist developed by researchers at University of North Carolina-Charlotte. Measures development and content learning in social-emotional, physical, language, cognitive, literacy, mathematics, science, and the arts. Recommended by a number of districts, including Medford Public Schools.Aligned to some CCOs at this grade.

Source

Commercial Test

Approach

Buying (commercial tool)

Designed to Measure Growth

Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other: Diagnostic Measure

Non-Traditional Assessment

☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring

☐ Paper/Pencil
☐ Computer Supported
☐ Computer Adaptive
☐ Machine Scored
☐ Scored Locally
☐ Scored Off-Site

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Science — Pre-K

Assessment
Work Sampling System (WSS)—Pearson

Description
Observation checklist developed by early childhood researcher (Meisels, 2001). Standards-based, curriculum-embedded, intended to document and evaluate what children are learning and have begun to master. Teachers collect information from multiple sources. Includes checklists and guidelines, portfolios, and summary reports. Measures development and content learning in personal/social and physical development and health, language and literacy, social studies, mathematical thinking, scientific thinking, and the arts. Districts interested in this option can request additional information from developer to confirm alignment with CCOs.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other: Screening Tool

Non-Traditional Assessment
☐ Pre/Post or Repeated Measures
☑ Performance Task Rubric
☑ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☑ Observation Rubric or Checklist

Administration/Scoring
☐ Paper/Pencil
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☐ Scored Off-Site

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Kindergarten
Science — K

Assessment
Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Publisher Website/Sample

Description
Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Piloted in seven districts in Massachusetts in grades 3-10 in ELA and mathematics; alignment work done at that time suggested strong linkage to curriculum frameworks for those grades. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student's ability to conduct research using scientific or technical documents).

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

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Science — K

Assessment
GOLD Assessment System—Teaching Strategies

Publisher Website/Sample

Description
Observation checklist developed by researchers at University of North Carolina-Charlotte. Measures development and content learning in social-emotional, physical, language, cognitive, literacy, mathematics, science, and the arts. Recommended by a number of districts, including Medford Public Schools. Aligned to some CCOs at this grade.

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Science — K

Assessment
TerraNova 3—CTB/McGraw-Hill

Description
Complete battery for grades K-12 in ELA, mathematics, science, and social studies. Vertically aligned grade-level tests of achievement. Norm-referenced interpretation of results. Claims to have evidence that it is closely aligned to NAEP Framework. Five science content domains assessed: science inquiry, physical science, life science, earth and space science, science and technology. Districts interested in this option will need to confirm alignment to CCOs for this grade. One Buros Institute reviewer suggested that these measures are backed by "strong psychometric evidence supporting test content and score interpretation."

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other:

Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring

- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
- Scored Off-Site

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Science — K

Assessment

Work Sampling System (WSS)—Pearson

**Description**

Observation checklist developed by early childhood researcher (Meisels, 2001). Standards-based, curriculum-embedded, intended to document and evaluate what children are learning and have begun to master. Teachers collect information from multiple sources. Includes checklists and guidelines, portfolios, and summary reports. Measures development and content learning in personal/social and physical development and health, language and literacy, social studies, mathematical thinking, scientific thinking, and the arts. Districts interested in this option can request additional information from developer to confirm alignment with CCOs.

**Source**

Commercial Test

**Approach**

Buying (commercial tool)

**Designed to Measure Growth**

Yes

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<td>☑ Other: Screening Tool</td>
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Grade 1
Science — 1

Assessment
Delaware Department of Education Summative Assessment

Publisher Website/Sample

Description
Learning objectives, assessment activities, and scoring rubrics for units focused on organisms, weather, and solids and liquids. May be useful to districts seeking to build customized assessments.

Source
Open Source Items, Activities, Forms

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Other: Classroom Unit Assessment

Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring

- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
- Scored Off-Site

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### Science — 1

**Assessment**

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

**Publisher Website/Sample**

#### Description

Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student's ability to conduct research using scientific or technical documents).

**Source**

Commercial Customizable Item Bank

**Approach**

Buying (commercial tool)

**Designed to Measure Growth**

Yes

#### Traditional Assessment

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Interim or Benchmark

#### Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

#### Administration/Scoring

- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
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Massachusetts District-Determined Measures  
Example Assessments

Science — 1

Assessment
Iowa Test of Educational Development, Form E–Riverside

Publisher Website/Sample

Description
Full battery for ELA, mathematics, science, and social studies. Continuous standard score scale that supports measuring growth. Developed in conjunction with researchers at the University of Iowa. Assesses life science, physical science, and earth and space science, but information about specific science standards assessed was not available. Districts interested in this option can request additional information from developer.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment
☑ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
☑ Paper/Pencil
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### Science — 1

**Assessment**

TerraNova 3–CTB/McGraw-Hill  

**Publisher Website/Sample**

**Description**

Complete battery for grades K-12 in ELA, mathematics, science, and social studies. Vertically aligned grade-level tests of achievement. Norm-referenced interpretation of results. Claims to have evidence that it is closely aligned to NAEP Framework. Five science content domains assessed: science inquiry, physical science, life science, earth and space science, science and technology. Districts interested in this option will need to confirm alignment to CCOs for this grade. One Buros Institute reviewer suggested that these measures are backed by “strong psychometric evidence supporting test content and score interpretation.”

**Source**

Commercial Test

**Approach**

Buying (commercial tool)

**Designed to Measure Growth**

Yes

**Traditional Assessment**

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other:

**Non-Traditional Assessment**

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

**Administration/Scoring**

- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
- Scored Off-Site

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### Science — 1

**Assessment**

**Work Sampling System (WSS)—Pearson**

**Publisher Website/Sample**

#### Description

Observation checklist developed by early childhood researcher (Meisels, 2001). Standards-based, curriculum-embedded, intended to document and evaluate what children are learning and have begun to master. Teachers collect information from multiple sources. Includes checklists and guidelines, portfolios, and summary reports. Measures development and content learning in personal/social and physical development and health, language and literacy, social studies, mathematical thinking, scientific thinking, and the arts. Districts interested in this option can request additional information from developer to confirm alignment with CCOs.

#### Source

Commercial Test

#### Approach

Buying (commercial tool)

#### Designed to Measure Growth

Yes

#### Traditional Assessment

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Screening Tool

#### Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Observation Rubric or Checklist

#### Administration/Scoring

- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
- Scored Off-Site

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Grade 2
### Science — 2

**Assessment**

Assessment Center/ipGrowth—CORE K12 Education

**Publisher Website/Sample**

**Description**

Item bank aligned to New York standards in science. Assessment may not be available. Districts interested in exploring this option will need to request additional information from developer.

<table>
<thead>
<tr>
<th>Source</th>
<th>Commercial Customizable Item Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Approach</strong></td>
<td>Buying (commercial tool)</td>
</tr>
<tr>
<td><strong>Designed to Measure Growth</strong></td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Traditional Assessment**

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Screening Tool

**Non-Traditional Assessment**

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

**Administration/Scoring**

- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
- Scored Off-Site

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Science — 2

Assessment
Delaware Department of Education Summative Assessment

**Publisher Website/Sample**

**Description**
Learning objectives, assessment activities, and scoring rubrics for units focused on soils, insects, and balancing and weighing. May be useful to districts seeking to build customized assessments.

**Source**
Open Source Items, Activities, Forms

**Approach**
Building (parts only)

**Designed to Measure Growth**
No

#### Traditional Assessment
- [ ] Traditional End-of-Grade Assessment
- [ ] Traditional End-of-Course Assessment
- ✔ Selected Response
- ✔ Short Constructed Response
- [ ] Writing Prompt/Essay
- ✔ Other: Classroom Unit Assessment

#### Non-Traditional Assessment
- [ ] Pre/Post or Repeated Measures
- ✔ Performance Task Rubric
- ✔ Portfolio or Work Sample Rubric
- ✔ Project-Based Rubric
- [ ] Observation Rubric or Checklist

#### Administration/Scoring
- [ ] Paper/Pencil
- [ ] Computer Supported
- [ ] Computer Adaptive
- [ ] Machine Scored
- ✔ Scored Locally
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Science — 2

Assessment
Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Publisher Website/Sample

Description
Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student’s ability to conduct research using scientific or technical documents).

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☑ Selected Response
☑ Short Constructed Response
☐ Writing Prompt/Essay
☑ Other: Interim or Benchmark

Non-Traditional Assessment
☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
☑ Paper/Pencil
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Science — 2

Assessment
Iowa Test of Educational Development, Form E–Riverside

Publisher Website/Sample

Description
Full battery for ELA, mathematics, science, and social studies. Continuous standard score scale that supports measuring growth. Developed in conjunction with researchers at the University of Iowa. Assesses life science, physical science, and earth and space science, but information about specific science standards assessed was not available. Districts interested in this option can request additional information from developer.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☑ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment

☑ Pre/Post or Repeated Measures
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Administration/Scoring

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## Science — 2

### Assessment

PRO-Core Learning Systems–Computers in Education

Publisher Website/Sample

### Description

Diagnostic test intended to align to CCSS. Documents previewed were developed for Ohio but may be customizable to Commonwealth curriculum frameworks. Districts interested in this option can contact developer for more information.

### Source

Commercial Customizable Item Bank

### Approach

Buying (commercial tool)

### Designed to Measure Growth

Yes

### Traditional Assessment

- □ Traditional End-of-Grade Assessment
- □ Traditional End-of-Course Assessment
- ✓ Selected Response
- ✓ Short Constructed Response
- □ Writing Prompt/Essay
- ✓ Other: Diagnostic Measure

### Non-Traditional Assessment

- ✓ Pre/Post or Repeated Measures
- □ Performance Task Rubric
- □ Portfolio or Work Sample Rubric
- □ Project-Based Rubric
- □ Observation Rubric or Checklist

### Administration/Scoring

- ✓ Paper/Pencil
- ✓ Computer Supported
- □ Computer Adaptive
- ✓ Machine Scored
- □ Scored Locally
- □ Scored Off-Site

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Science — 2

Assessment
TerraNova 3–CTB/McGraw-Hill

Description
Complete battery for grades K-12 in ELA, mathematics, science, and social studies. Vertically aligned grade-level tests of achievement. Norm-referenced interpretation of results. Claims to have evidence that it is closely aligned to NAEP Framework. Five science content domains assessed: science inquiry, physical science, life science, earth and space science, science and technology. Districts interested in this option will need to confirm alignment to CCOs for this grade. One Buros Institute reviewer suggested that these measures are backed by "strong psychometric evidence supporting test content and score interpretation."

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☑ Selected Response
☑ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment
☑ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
☑ Paper/Pencil
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Science — 2

Assessment

Work Sampling System (WSS)—Pearson

Publisher Website/Sample

Description

Observation checklist developed by early childhood researcher (Meisels, 2001). Standards-based, curriculum-embedded, intended to document and evaluate what children are learning and have begun to master. Teachers collect information from multiple sources. Includes checklists and guidelines, portfolios, and summary reports. Measures development and content learning in personal/social and physical development and health, language and literacy, social studies, mathematical thinking, scientific thinking, and the arts. Districts interested in this option can request additional information from developer to confirm alignment with CCOs.

Source

Commercial Test

Approach

Buying (commercial tool)

Designed to Measure Growth

Yes

Traditional Assessment

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Screening Tool

Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring

- Paper/Pencil
- Computer Supported
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Grade 3
Science — 3

Assessment

Acuity—CTB/McGraw-Hill

Description

Set of assessments, reports, and instructional resources intended to be used formatively. Specific information about technical adequacy and content pulled from documents developer created for state of New York. Developer indicated that Massachusetts-specific research is underway to confirm alignment (breadth and depth) of new items to curriculum framework. Findings will be shared with stakeholders in fall 2013. Supports development of fully customized assessments. Includes performance tasks intended to evaluate student's ability to understand and interpret the results of an experiment.

Source

Commercial Customizable Item Bank

Approach

Buying (commercial tool)

Designed to Measure Growth

Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment

☐ Traditional End-of-Course Assessment

☑ Selected Response

☑ Short Constructed Response

☐ Writing Prompt/Essay

☑ Other: Diagnostic Measure

Non-Traditional Assessment

☑ Pre/Post or Repeated Measures

☐ Performance Task Rubric

☐ Portfolio or Work Sample Rubric

☐ Project-Based Rubric

☐ Observation Rubric or Checklist

Administeration/Scoring

☑ Paper/Pencil

☑ Computer Supported

☐ Computer Adaptive

☑ Machine Scored

☐ Scored Locally

☐ Scored Off-Site
### Science — 3

**Assessment**

Assessment Center/ipGrowth—CORE K12 Education

**Publisher Website/Sample**

---

**Description**

Item bank aligned to New York standards in science. Assessment may not be available. Districts interested in exploring this option will need to request additional information from developer.

**Source**

Commercial Customizable Item Bank

**Approach**

Buying (commercial tool)

**Designed to Measure Growth**

Yes

---

#### Traditional Assessment

- [ ] Traditional End-of-Grade Assessment
- [ ] Traditional End-of-Course Assessment
- [x] Selected Response
- [ ] Short Constructed Response
- [ ] Writing Prompt/Essay
- [x] Other: Screening Tool

#### Non-Traditional Assessment

- [ ] Pre/Post or Repeated Measures
- [ ] Performance Task Rubric
- [ ] Portfolio or Work Sample Rubric
- [ ] Project-Based Rubric
- [ ] Observation Rubric or Checklist

#### Administration/Scoring

- [ ] Paper/Pencil
- [x] Computer Supported
- [ ] Computer Adaptive
- [x] Machine Scored
- [ ] Scored Locally
- [ ] Scored Off-Site

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Massachusetts District-Determined Measures

Example Assessments

Science — 3

Assessment
Delaware Department of Education Summative Assessment

Publisher Website/Sample

Description
Learning objectives, assessment activities, and scoring rubrics for units focused on earth materials, human body, and water. May be useful to districts seeking to build customized assessments.

Source
Open Source Items, Activities, Forms

Approach
Building (parts only)

Designed to Measure Growth
No

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<td>✔ Writing Prompt/Essay</td>
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Other: Classroom Unit Assessment

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Massachusetts District-Determined Measures

Example Assessments

Science — 3

Assessment

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Publisher Website/Sample

Description

Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCQs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student’s ability to conduct research using scientific or technical documents).

Source

Commercial Customizable Item Bank

Approach

Buying (commercial tool)

Designed to Measure Growth

Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment

☐ Traditional End-of-Course Assessment

☑ Selected Response

☑ Short Constructed Response

☐ Writing Prompt/Essay

☑ Other: Interim or Benchmark

Non-Traditional Assessment

☑ Pre/Post or Repeated Measures

☐ Performance Task Rubric

☐ Portfolio or Work Sample Rubric

☐ Project-Based Rubric

☐ Observation Rubric or Checklist

Administration/Scoring

☑ Paper/Pencil

☑ Computer Supported

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Science — 3

Assessment
Iowa Test of Educational Development, Form E—Riverside

Publisher Website/Sample

Description
Full battery for ELA, mathematics, science, and social studies. Continuous standard score scale that supports measuring growth. Developed in conjunction with researchers at the University of Iowa. Assesses life science, physical science, and earth and space science, but information about specific science standards assessed was not available. Districts interested in this option can request additional information from developer.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

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Science — 3

Assessment
Measures of Academic Progress (MAP), Achievement Level Tests (ALT)—Northwest Evaluation Association (NWEA)

Publisher Website/Sample

Description
Adaptive assessment that can be administered up to four times a year. Designed to measure growth. Received high ratings for technical quality. General information only about content assessed. Science items are categorized as concepts, processes, life sciences, earth/space sciences, and physical sciences. Reviewed by Buros Institute: "...available evidence suggests that MAP tests can be used with confidence by school districts to gauge student learning, relative standing, and growth with respect to educational objectives deemed central to the curricular emphases of those districts."

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other: Diagnostic Measure

Non-Traditional Assessment

☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring

☐ Paper/Pencil
☐ Computer Supported
☐ Computer Adaptive
☐ Machine Scored
☐ Scored Locally
☐ Scored Off-Site

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Science — 3

Assessment
PRO-Core Learning Systems—Computers in Education

Publisher Website/Sample

Description
Diagnostic test intended to align to CCSS. Documents previewed were developed for Ohio but may be customizable to Commonwealth curriculum frameworks. Districts interested in this option can contact developer for more information.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☑ Short Constructed Response
☐ Writing Prompt/Essay
☑ Other: Diagnostic Measure

Non-Traditional Assessment
☑ Pre/Post or Repeated Measures
☐ Performance Task Rubric
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Administration/Scoring
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**Science — 3**

**Assessment**
Stanford Achievement Test 10 (SAT 10)–Pearson

**Description**
Designed to measure growth and achievement. Seeks to be aligned to state standards and NAEP. Content is described as aligning to state and national standards, including NAEP. Information about test structure and content indicates many items are contextualized and involve non-routine problem-solving strategies. Received high ratings for technical quality, but districts interested in this option will need additional information from developer to confirm alignment to CCOs.

**Source**
Commercial Test

**Approach**
Buying (commercial tool)

**Designed to Measure Growth**
Yes

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Science — 3

Assessment
Tennessee Comprehensive Assessment Program Achievement Test

Publisher Website/Sample

Description
Comprehensive assessment (reading/language arts, mathematics, science, and social studies). Item samplers, practice tests, and answer keys. Science strands assessed include life science, environmental science, earth and space science, and physical science. Alignment to some CCOs (e.g., sound, heat, forces, magnetism, and separation of mixtures) but does not assess recording and analyzing data. No constructed-response items or writing to text were included.

Source
Released Items

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment
- Traditional End-of-Grade Assessment
- Selected Response
- Writing Prompt/Essay

Non-Traditional Assessment
- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring
- Paper/Pencil
- Selected Response
- Portfolio or Work Sample Rubric
- Project-Based Rubric
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- Other:

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Science — 3

Assessment
TerraNova 3—CTB/McGraw-Hill

Publisher Website/Sample

Description
Complete battery for grades K-12 in ELA, mathematics, science, and social studies. Vertically aligned grade-level tests of achievement. Norm-referenced interpretation of results. Claims to have evidence that it is closely aligned to NAEP Framework. Five science content domains assessed: science inquiry, physical science, life science, earth and space science, science and technology. Districts interested in this option will need to confirm alignment to CCOs for this grade. One Buros Institute reviewer suggested that these measures are backed by "strong psychometric evidence supporting test content and score interpretation."

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other:

Non-Traditional Assessment
- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
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Administration/Scoring
- Paper/Pencil
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## Science — 3

### Assessment

Virginia Standards of Learning Assessment

[Publisher Website/Sample](#)

### Description

Released form, scoring guides, and standards assessed. All CCOs assessed by these items. Assessment also covers topics of simple machines and the environment.

### Source

Released Items

### Approach

Building (parts only)

### Designed to Measure Growth

No

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Grade 4
Science — 4

Assessment
Acuity–CTB/McGraw-Hill

Description
Set of assessments, reports, and instructional resources intended to be used formatively. Specific information about technical adequacy and content pulled from documents developer created for state of New York. Developer indicated that Massachusetts-specific research is underway to confirm alignment (breadth and depth) of new items to curriculum framework. Findings will be shared with stakeholders in fall 2013. Supports development of fully customized assessments. Includes performance tasks intended to evaluate student’s ability to understand and interpret the results of an experiment.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Diagnostic Measure

Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring

- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
- Scored Off-Site

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Science — 4

Assessment
Assessment Center/ipGrowth—CORE K12 Education

Publisher Website/Sample

Description
Item bank aligned to New York standards in science. Assessment may not be available. Districts interested in exploring this option will need to request additional information from developer.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Screening Tool

Non-Traditional Assessment
- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring
- Paper/Pencil
- Computer Supported
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Science — 4

Assessment
Delaware Department of Education Summative Assessment

Description
Learning objectives, assessment activities, and scoring rubrics for units focused on land and water, magnetism and electricity, the sky, and structures of life. May be useful to districts seeking to build customized assessments.

Source
Open Source Items, Activities, Forms

Approach
Building (parts only)
No

Traditional Assessment
- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Other: Classroom Unit Assessment

Non-Traditional Assessment
- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring
- Paper/Pencil
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Science — 4

Assessment
Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Publisher Website/Sample

Description
Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOS and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student’s ability to conduct research using scientific or technical documents).

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☑ Selected Response
☑ Short Constructed Response
☐ Writing Prompt/Essay
☑ Other: Interim or Benchmark

Non-Traditional Assessment

☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring

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Massachusetts District-Determined Measures

Example Assessments

Science — 4
Assessment
INSPECT Formatives–Key Data Systems

Publisher Website/Sample

Description
Recommended by Commonwealth district. Developer says item bank can be customized for state standards and can include pre-built formative assessments to measure progress. Literature indicates they will be adding science grades 4-8 to item pool.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
No

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☑ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☑ Other: Diagnostic Measure

Non-Traditional Assessment
☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
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Science — 4

Assessment
Iowa Test of Educational Development, Form E—Riverside

Publisher Website/Sample

Description
Full battery for ELA, mathematics, science, and social studies. Continuous standard score scale that supports measuring growth. Developed in conjunction with researchers at the University of Iowa. Assesses life science, physical science, and earth and space science, but information about specific science standards assessed was not available. Districts interested in this option can request additional information from developer.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment
☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
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☐ Observation Rubric or Checklist

Administration/Scoring
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Science — 4

Assessment

Measures of Academic Progress (MAP), Achievement Level Tests (ALT)–Northwest Evaluation Association (NWEA)

Publisher Website/Sample

Description

Adaptive assessment that can be administered up to four times a year. Designed to measure growth. Received high ratings for technical quality. General information only about content assessed. Science items are categorized as concepts, processes, life sciences, earth/space sciences, and physical sciences. Reviewed by Buros Institute: "...available evidence suggests that MAP tests can be used with confidence by school districts to gauge student learning, relative standing, and growth with respect to educational objectives deemed central to the curricular emphases of those districts."

Source

Commercial Test

Approach

Buying (commercial tool)

Designed to Measure Growth

Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment

☐ Traditional End-of-Course Assessment

☑ Selected Response

☑ Short Constructed Response

☐ Writing Prompt/Essay

☑ Other: Diagnostic Measure

Non-Traditional Assessment

☑ Pre/Post or Repeated Measures

☐ Performance Task Rubric

☐ Portfolio or Work Sample Rubric

☐ Project-Based Rubric

☐ Observation Rubric or Checklist

Administration/Scoring

☐ Paper/Pencil

☐ Computer Supported

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Massachusetts District-Determined Measures

Example Assessments

Science — 4
Assessment
New England Common Assessment Program (NECAP) Science Inquiry Tasks

Publisher Website/Sample

Description
Released assessment activities, designed to be completed by two or more students working together. Strong performance-based measures for this grade and content area. Activities can be modified as needed to ensure full alignment to district curricula.

Source
Open Source Items, Activities, Forms

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☑ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment
☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☑ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/ Scoring
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### Science — 4

**Assessment**

PRO-Core Learning Systems—Computers in Education

**Publisher Website/Sample**

**Description**

Diagnostic test intended to align to CCSS. Documents previewed were developed for Ohio but may be customizable to Commonwealth curriculum frameworks. Districts interested in this option can contact developer for more information.

**Source**

Commercial Customizable Item Bank

**Approach**

Buying (commercial tool)

**Designed to Measure Growth**

Yes

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Massachusetts District-Determined Measures
Example Assessments

Science — 4
Assessment
Stanford Achievement Test 10 (SAT 10)—Pearson

Publisher Website/Sample

Description
Designed to measure growth and achievement. Seeks to be aligned to state standards and NAEP. Content is described as aligning to state and national standards, including NAEP. Information about test structure and content indicates many items are contextualized and involve non-routine problem-solving strategies. Received high ratings for technical quality, but districts interested in this option will need additional information from developer to confirm alignment to CCOs.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☒ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment
☒ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
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Science — 4

Assessment
Tennessee Comprehensive Assessment Program Achievement Test

Publisher Website/Sample

Description
Comprehensive assessment (reading/language arts, mathematics, science, and social studies). Item samplers, practice tests, and answer keys. Science strands assessed include life science, environmental science, earth and space science, and physical science. Items aligned to CCOs and measure concepts such as phases of the moon, measurement, interpretation of data, selection of tools, food chains, circuits, and plant and animal cells. No constructed-response items or writing to text were included.

Source
Released Items

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment
- Traditional End-of-Grade Assessment
- Selected Response

Non-Traditional Assessment
- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Observation Rubric or Checklist

Administration/Scoring
- Paper/Pencil
- Selected Response
- Observation Rubric or Checklist

Other:

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Science — 4

Assessment
TerraNova 3–CTB/McGraw-Hill

Publisher Website/Sample

Description
Complete battery for grades K-12 in ELA, mathematics, science, and social studies. Vertically aligned grade-level tests of achievement. Norm-referenced interpretation of results. Claims to have evidence that it is closely aligned to NAEP Framework. Five science content domains assessed: science inquiry, physical science, life science, earth and space science, science and technology. Districts interested in this option will need to confirm alignment to CCOs for this grade. One Buros Institute reviewer suggested that these measures are backed by "strong psychometric evidence supporting test content and score interpretation."

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment

☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring

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Science — 4

Assessment
Trends in International Mathematics and Science Study (TIMSS) Science Items, 1995 and 2003

Description
Released items from grade 4 TIMSS administrations in 1995 and 2003. Content domains assessed include earth science, life science, physical science, and environmental science. Rubrics and scoring guide included. Factual knowledge, conceptual understanding, and reasoning skills are assessed by demonstrating understanding, analyzing and solving problems, using tools, and investigating the natural world. Caution: test is not intended to be administered as an end-of-grade assessment, but districts interested in this option can select those items best suited for use in building customized DDMs.

Source
Released Items

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment
- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: National or International Assessment

Non-Traditional Assessment
- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring
- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
- Scored Off-Site

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Grade 5
## Science — 5

**Assessment**  
Acuity—CTB/McGraw-Hill

### Description

Set of assessments, reports, and instructional resources intended to be used formatively. Specific information about technical adequacy and content pulled from documents developer created for state of New York. Developer indicated that Massachusetts-specific research is underway to confirm alignment (breadth and depth) of new items to curriculum framework. Findings will be shared with stakeholders in fall 2013. Supports development of fully customized assessments. Includes performance tasks intended to evaluate student's ability to understand and interpret the results of an experiment.

### Source

Commercial Customizable Item Bank

### Approach

Buying (commercial tool)

### Designed to Measure Growth

Yes

### Traditional Assessment

- [ ] Traditional End-of-Grade Assessment  
- [ ] Traditional End-of-Course Assessment  
- ✔ Selected Response  
- ✔ Short Constructed Response  
- [ ] Writing Prompt/Essay  
- [ ] Other: Diagnostic Measure

### Non-Traditional Assessment

- ✔ Pre/Post or Repeated Measures  
- [ ] Performance Task Rubric  
- [ ] Portfolio or Work Sample Rubric  
- [ ] Project-Based Rubric  
- [ ] Observation Rubric or Checklist

### Administration/Scoring

- ✔ Paper/Pencil  
- ✔ Computer Supported  
- [ ] Computer Adaptive  
- [ ] Machine Scored  
- [ ] Scored Locally  
- [ ] Scored Off-Site

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Science — 5

Assessment
Assessment Center/ipGrowth—CORE K12 Education

Description
Item bank aligned to New York standards in science. Assessment may not be available. Districts interested in exploring this option will need to request additional information from developer.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☒ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☒ Other: Screening Tool

Non-Traditional Assessment
☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
☐ Paper/Pencil
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### Science — 5

**Assessment**

Delaware Department of Education Summative Assessment

**Publisher Website/Sample**

---

**Description**

Learning objectives, assessment activities, and scoring rubrics for units focused on ecosystems, mixtures and solutions, and motion and design. May be useful to districts seeking to build customized assessments.

---

**Source**

Open Source Items, Activities, Forms

**Approach**

Building (parts only)

**Designed to Measure Growth**

No

---

**Traditional Assessment**

- [ ] Traditional End-of-Grade Assessment
- [ ] Traditional End-of-Course Assessment
- [✓] Selected Response
- [✓] Short Constructed Response
- [ ] Writing Prompt/Essay
- [✓] Other: Classroom Unit Assessment

**Non-Traditional Assessment**

- [ ] Pre/Post or Repeated Measures
- [✓] Performance Task Rubric
- [✓] Portfolio or Work Sample Rubric
- [✓] Project-Based Rubric
- [ ] Observation Rubric or Checklist

---

**Administration/Scoring**

- [ ] Paper/Pencil
- [ ] Computer Supported
- [ ] Computer Adaptive
- [ ] Machine Scored
- [✓] Scored Locally
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Science — 5
Assessment
Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Description
Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOS and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student's ability to conduct research using scientific or technical documents).

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Interim or Benchmark

Non-Traditional Assessment
- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring
- Paper/Pencil
- Computer Supported
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- Machine Scored
- Scored Locally
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Science — 5

Assessment
Iowa Test of Educational Development, Form E–Riverside

Publisher Website/Sample

Description
Full battery for ELA, mathematics, science, and social studies. Continuous standard score scale that supports measuring growth. Developed in conjunction with researchers at the University of Iowa. Assesses life science, physical science, and earth and space science, but information about specific science standards assessed was not available. Districts interested in this option can request additional information from developer.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☑ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment

☑ Pre/Post or Repeated Measures
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Massachusetts District-Determined Measures

Example Assessments

Science — 5

Assessment
Measures of Academic Progress (MAP), Achievement Level Tests (ALT)–Northwest Evaluation Association (NWEA)

Publisher Website/Sample

Description
Adaptive assessment that can be administered up to four times a year. Designed to measure growth. Received high ratings for technical quality. General information only about content assessed. Science items are categorized as concepts, processes, life sciences, earth/space sciences, and physical sciences. Reviewed by Buros Institute: "...available evidence suggests that MAP tests can be used with confidence by school districts to gauge student learning, relative standing, and growth with respect to educational objectives deemed central to the curricular emphases of those districts."

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☑ Selected Response
☑ Short Constructed Response
☐ Writing Prompt/Essay
☑ Other: Diagnostic Measure

Non-Traditional Assessment
☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
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Massachusetts District-Determined Measures

Example Assessments

Science — 5
Assessment
PRO-Core Learning Systems—Computers in Education

Publisher Website/Sample

Description
Diagnostic test intended to align to CCSS. Documents previewed were developed for Ohio but may be customizable to Commonwealth curriculum frameworks. Districts interested in this option can contact developer for more information.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

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**Science — 5**

**Assessment**
Stanford Achievement Test 10 (SAT 10)–Pearson

**Publisher Website/Sample**

**Description**
Designed to measure growth and achievement. Seeks to be aligned to state standards and NAEP. Content is described as aligning to state and national standards, including NAEP. Information about test structure and content indicates many items are contextualized and involve non-routine problem-solving strategies. Received high ratings for technical quality, but districts interested in this option will need additional information from developer to confirm alignment to CCOs.

**Source**
Commercial Test

**Approach**
Buying (commercial tool)

**Designed to Measure Growth**
Yes

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### Science — 5

**Assessment**
Tennessee Comprehensive Assessment Program Achievement Test

**Description**
Comprehensive assessment (reading/language arts, mathematics, science, and social studies). Item samplers, practice tests, and answer keys. Science strands assessed include life science, environmental science, earth and space science, and physical science. Items aligned to some CCOs but no constructed-response items or writing to text were included.

**Source**
Released Items

**Approach**
Building (parts only)

**Designed to Measure Growth**
No

#### Traditional Assessment
- [x] Traditional End-of-Grade Assessment
- [ ] Traditional End-of-Course Assessment
- [x] Selected Response
- [ ] Short Constructed Response
- [ ] Writing Prompt/Essay
- [ ] Other:

#### Non-Traditional Assessment
- [ ] Pre/Post or Repeated Measures
- [ ] Performance Task Rubric
- [ ] Portfolio or Work Sample Rubric
- [ ] Project-Based Rubric
- [ ] Observation Rubric or Checklist

#### Administration/Scoring
- [x] Paper/Pencil
- [ ] Computer Supported
- [ ] Computer Adaptive
- [ ] Machine Scored
- [x] Scored Locally
- [ ] Scored Off-Site

---

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Science — 5

Assessment
TerraNova 3–CTB/McGraw-Hill

Description
Complete battery for grades K-12 in ELA, mathematics, science, and social studies. Vertically aligned grade-level tests of achievement. Norm-referenced interpretation of results. Claims to have evidence that it is closely aligned to NAEP Framework. Five science content domains assessed: science inquiry, physical science, life science, earth and space science, science and technology. Districts interested in this option will need to confirm alignment to CCOs for this grade. One Buros Institute reviewer suggested that these measures are backed by "strong psychometric evidence supporting test content and score interpretation."

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other:

Non-Traditional Assessment
- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-BasedRubric
- Observation Rubric or Checklist

Administration/Scoring
- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
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Science — 5

Assessment

Washington Powerful Classroom Assessments

Publisher Website/Sample

Description

Assessments of science activities. State-developed classroom tests that may be useful in stimulating district-level thinking about innovative measures for this grade. No scoring guide. Performance tasks aligned to CCOs and to curriculum framework.

Source

Open Source Items, Activities, Forms

Approach

Building (parts only)

Designed to Measure Growth

Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other: Classroom Unit Assessment

Non-Traditional Assessment

☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring

☑ Paper/Pencil
☐ Computer Supported
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Grade 6
Science — 6
Assessment
Acuity—CTB/McGraw-Hill

Description
Set of assessments, reports, and instructional resources intended to be used formatively. Specific information about technical adequacy and content pulled from documents developer created for state of New York. Developer indicated that Massachusetts-specific research is underway to confirm alignment (breadth and depth) of new items to curriculum framework. Findings will be shared with stakeholders in fall 2013. Supports development of fully customized assessments. Includes performance tasks intended to evaluate student's ability to understand and interpret the results of an experiment.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

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<td>☑ Other: Diagnostic Measure</td>
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Science — 6

Assessment
Assessment Center/ipGrowth—CORE K12 Education

Publisher Website/Sample

Description
Item bank aligned to New York standards in science. Assessment may not be available. Districts interested in exploring this option will need to request additional information from developer.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☒ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☒ Other: Screening Tool

Non-Traditional Assessment

☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring

☐ Paper/Pencil
☐ Computer Supported
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☒ Machine Scored
☐ Scored Locally
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### Science — 6

**Assessment**

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

[Publisher Website/Sample](#)

**Description**

Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student’s ability to conduct research using scientific or technical documents).

**Source**

Commercial Customizable Item Bank

**Approach**

Buying (commercial tool)

**Designed to Measure Growth**

Yes

#### Traditional Assessment

- [ ] Traditional End-of-Grade Assessment
- [ ] Traditional End-of-Course Assessment
- **[ ]** Selected Response
- **[ ]** Short Constructed Response
- [ ] Writing Prompt/Essay
- **[ ]** Other: Interim or Benchmark

#### Non-Traditional Assessment

- **[ ]** Pre/Post or Repeated Measures
- [ ] Performance Task Rubric
- [ ] Portfolio or Work Sample Rubric
- [ ] Project-Based Rubric
- [ ] Observation Rubric or Checklist

#### Administration/Scoring

- **[ ]** Paper/Pencil
- **[ ]** Computer Supported
- [ ] Computer Adaptive
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## Science — 6

**Assessment**
Iowa Test of Educational Development, Form E—Riverside

**Description**
Full battery for ELA, mathematics, science, and social studies. Continuous standard score scale that supports measuring growth. Developed in conjunction with researchers at the University of Iowa. Assesses life science, physical science, and earth and space science, but information about specific science standards assessed was not available. Districts interested in this option can request additional information from developer.

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### Source: Approach: Designed to Measure Growth

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Science — 6

Assessment
Measures of Academic Progress (MAP), Achievement Level Tests (ALT)—Northwest Evaluation Association (NWEA)

Publisher Website/Sample

Description
Adaptive assessment that can be administered up to four times a year. Designed to measure growth. Received high ratings for technical quality. General information only about content assessed. Science items are categorized as concepts, processes, life sciences, earth/space sciences, and physical sciences. Reviewed by Buros Institute: "...available evidence suggests that MAP tests can be used with confidence by school districts to gauge student learning, relative standing, and growth with respect to educational objectives deemed central to the curricular emphases of those districts."

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

### Traditional Assessment
- [ ] Traditional End-of-Grade Assessment
- [ ] Traditional End-of-Course Assessment
- [x] Selected Response
- [x] Short Constructed Response
- [ ] Writing Prompt/Essay
- [x] Other: Diagnostic Measure

### Non-Traditional Assessment
- [x] Pre/Post or Repeated Measures
- [ ] Performance Task Rubric
- [ ] Portfolio or Work Sample Rubric
- [ ] Project-Based Rubric
- [ ] Observation Rubric or Checklist

### Administration/Scoring
- [ ] Paper/Pencil
- [ ] Computer Supported
- [x] Computer Adaptive
- [ ] Machine Scored
- [ ] Scored Locally
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Science — 6

Assessment
PRO-Core Learning Systems–Computers in Education

Publisher Website/Sample

Description
Diagnostic test intended to align to CCSS. Documents previewed were developed for Ohio but may be customizable to Commonwealth curriculum frameworks. Districts interested in this option can contact developer for more information.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☒ Short Constructed Response
☐ Writing Prompt/Essay
☒ Other: Diagnostic Measure

Non-Traditional Assessment
☒ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
☒ Paper/Pencil
☒ Computer Supported
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Science — 6
Assessment
Stanford Achievement Test 10 (SAT 10)—Pearson

Publisher Website/Sample

Description
Designed to measure growth and achievement. Seeks to be aligned to state standards and NAEP. Content is described as aligning to state and national standards, including NAEP. Information about test structure and content indicates many items are contextualized and involve non-routine problem-solving strategies. Received high ratings for technical quality, but districts interested in this option will need additional information from developer to confirm alignment to CCOs.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment
☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
☐ Paper/Pencil
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Science — 6

Assessment
Tennessee Comprehensive Assessment Program Achievement Test

Publisher Website/Sample

Description
Comprehensive assessment (reading/language arts, mathematics, science, and social studies). Item samplers, practice tests, and answer keys. Science strands assessed include life science, environmental science, earth and space science, and physical science. Items aligned to some CCOs but no constructed-response items or writing to text were included.

Source
Released Items

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment

- Traditional End-of-Grade Assessment
- Selected Response

Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring

- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
- Scored Off-Site

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Science — 6
Assessment
TerraNova 3–CTB/McGraw-Hill

**Description**
Complete battery for grades K-12 in ELA, mathematics, science, and social studies. Vertically aligned grade-level tests of achievement. Norm-referenced interpretation of results. Claims to have evidence that it is closely aligned to NAEP Framework. Five science content domains assessed: science inquiry, physical science, life science, earth and space science, science and technology. Districts interested in this option will need to confirm alignment to CCOs for this grade. One Buros Institute reviewer suggested that these measures are backed by "strong psychometric evidence supporting test content and score interpretation."

**Source**
Commercial Test

**Approach**
Buying (commercial tool)

**Designed to Measure Growth**
Yes

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Science — 7

Assessment
Acuity—CTB/McGraw-Hill

Description
Set of assessments, reports, and instructional resources intended to be used formatively. Specific information about technical adequacy and content pulled from documents developer created for state of New York. Developer indicated that Massachusetts-specific research is underway to confirm alignment (breadth and depth) of new items to curriculum framework. Findings will be shared with stakeholders in fall 2013. Supports development of fully customized assessments. Includes performance tasks intended to evaluate student's ability to understand and interpret the results of an experiment.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other: Diagnostic Measure

Non-Traditional Assessment
☑ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
☑ Paper/Pencil
☑ Computer Supported
☐ Computer Adaptive
☑ Machine Scored
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Science — 7

Assessment
Assessment Center/ipGrowth—CORE K12 Education

Publisher Website/Sample

Description
Item bank aligned to New York standards in science. Assessment may not be available. Districts interested in exploring this option will need to request additional information from developer.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☑ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☑ Other: Screening Tool

Non-Traditional Assessment
☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
☐ Paper/Pencil
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Science — 7

Assessment
Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Publisher Website/Sample

Description
Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOS and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student’s ability to conduct research using scientific or technical documents).

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☑ Selected Response
☑ Short Constructed Response
☐ Writing Prompt/Essay
☑ Other: Interim or Benchmark

Non-Traditional Assessment

☑ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring

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Science — 7

Assessment
Iowa Test of Educational Development, Form E—Riverside

Publisher Website/Sample

Description
Full battery for ELA, mathematics, science, and social studies. Continuous standard score scale that supports measuring growth. Developed in conjunction with researchers at the University of Iowa. Assesses life science, physical science, and earth and space science, but information about specific science standards assessed was not available. Districts interested in this option can request additional information from developer.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay

Non-Traditional Assessment
- Pre/Post or Repeated Measures
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Science — 7

Assessment
Measures of Academic Progress (MAP), Achievement Level Tests (ALT)—Northwest Evaluation Association (NWEA)

Description
Adaptive assessment that can be administered up to four times a year. Designed to measure growth. Received high ratings for technical quality. General information only about content assessed. Science items are categorized as concepts, processes, life sciences, earth/space sciences, and physical sciences. Reviewed by Buros Institute: "...available evidence suggests that MAP tests can be used with confidence by school districts to gauge student learning, relative standing, and growth with respect to educational objectives deemed central to the curricular emphases of those districts."

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☑ Other: Diagnostic Measure

Non-Traditional Assessment
☑ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
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## Science — 7

**Assessment**
PRO-Core Learning Systems–Computers in Education

**Publisher Website/Sample**

### Description
Diagnostic test intended to align to CCSS. Documents previewed were developed for Ohio but may be customizable to Commonwealth curriculum frameworks. Districts interested in this option can contact developer for more information.

### Source
Commercial Customizable Item Bank

### Approach
Buying (commercial tool)

### Designed to Measure Growth
Yes

### Traditional Assessment
- [ ] Traditional End-of-Grade Assessment
- [ ] Traditional End-of-Course Assessment
- [x] Selected Response
- [x] Short Constructed Response
- [ ] Writing Prompt/Essay
- [x] Other: Diagnostic Measure

### Non-Traditional Assessment
- [x] Pre/Post or Repeated Measures
- [ ] Performance Task Rubric
- [ ] Portfolio or Work Sample Rubric
- [ ] Project-Based Rubric
- [ ] Observation Rubric or Checklist

### Administration/Scoring
- [x] Paper/Pencil
- [x] Computer Supported
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- [x] Machine Scored
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Science — 7

Assessment
Stanford Achievement Test 10 (SAT 10)—Pearson

Publisher Website/Sample

Description
Designed to measure growth and achievement. Seeks to be aligned to state standards and NAEP. Content is described as aligning to state and national standards, including NAEP. Information about test structure and content indicates many items are contextualized and involve non-routine problem-solving strategies. Received high ratings for technical quality, but districts interested in this option will need additional information from developer to confirm alignment to CCOs.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment
☑ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
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Administration/Scoring
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Science — 7

Assessment
Tennessee Comprehensive Assessment Program Achievement Test

Publisher Website/Sample

Description
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Source
Released Items

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment
- [x] Traditional End-of-Grade Assessment
- [ ] Traditional End-of-Course Assessment
- [x] Selected Response
- [ ] Short Constructed Response
- [ ] Writing Prompt/Essay
- [ ] Other:

Non-Traditional Assessment
- [ ] Pre/Post or Repeated Measures
- [ ] Performance Task Rubric
- [ ] Portfolio or Work Sample Rubric
- [ ] Project-Based Rubric
- [ ] Observation Rubric or Checklist

Administration/Scoring
- [x] Paper/Pencil
- [ ] Computer Supported
- [ ] Computer Adaptive
- [ ] Machine Scored
- [x] Scored Locally
- [ ] Scored Off-Site

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Science — 7

Assessment
TerraNova 3–CTB/McGraw-Hill

**Description**
Complete battery for grades K-12 in ELA, mathematics, science, and social studies. Vertically aligned grade-level tests of achievement. Norm-referenced interpretation of results. Claims to have evidence that it is closely aligned to NAEP Framework. Five science content domains assessed: science inquiry, physical science, life science, earth and space science, science and technology. Districts interested in this option will need to confirm alignment to CCOs for this grade. One Buros Institute reviewer suggested that these measures are backed by "strong psychometric evidence supporting test content and score interpretation."

**Source**
Commercial Test

**Approach**
Buying (commercial tool)

**Designed to Measure Growth**
Yes

**Traditional Assessment**
- [] Traditional End-of-Grade Assessment
- [] Traditional End-of-Course Assessment
- [x] Selected Response
- [x] Short Constructed Response
- [] Writing Prompt/Essay
- [] Other:

**Non-Traditional Assessment**
- [x] Pre/Post or Repeated Measures
- [] Performance Task Rubric
- [] Portfolio or Work Sample Rubric
- [] Project-Based Rubric
- [] Observation Rubric or Checklist

**Administration/Scoring**
- [x] Paper/Pencil
- [] Computer Supported
- [] Computer Adaptive
- [x] Machine Scored
- [x] Scored Locally
- [] Scored Off-Site

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Grade 8
Science — 8

Assessment
Acuity—CTB/McGraw-Hill

Description
Set of assessments, reports, and instructional resources intended to be used formatively. Specific information about technical adequacy and content pulled from documents developer created for state of New York. Developer indicated that Massachusetts-specific research is underway to confirm alignment (breadth and depth) of new items to curriculum framework. Findings will be shared with stakeholders in fall 2013. Supports development of fully customized assessments. Includes performance tasks intended to evaluate student's ability to understand and interpret the results of an experiment.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

<table>
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<tr>
<th>Traditional Assessment</th>
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<td>Other: Diagnostic Measure</td>
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### Science — 8

**Assessment**
Assessment Center/ipGrowth–CORE K12 Education

**Description**
Item bank aligned to New York standards in science. Assessment may not be available. Districts interested in exploring this option will need to request additional information from developer.

### Source
Commercial Customizable Item Bank

### Approach
Buying (commercial tool)

### Designed to Measure Growth
Yes

#### Traditional Assessment
- [ ] Traditional End-of-Grade Assessment
- [ ] Traditional End-of-Course Assessment
- [x] Selected Response
- [ ] Short Constructed Response
- [ ] Writing Prompt/Essay
- [x] Other: Screening Tool

#### Non-Traditional Assessment
- [ ] Pre/Post or Repeated Measures
- [ ] Performance Task Rubric
- [ ] Portfolio or Work Sample Rubric
- [ ] Project-Based Rubric
- [ ] Observation Rubric or Checklist

#### Administration/Scoring
- [ ] Paper/Pencil
- [x] Computer Supported
- [ ] Computer Adaptive
- [x] Machine Scored
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Science — 8

Assessment

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Publisher Website/Sample

Description

Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student's ability to conduct research using scientific or technical documents).

Source

Commercial Customizable Item Bank

Approach

Buying (commercial tool)

Designed to Measure Growth

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Science — 8
Assessment
Iowa Test of Educational Development, Form E-Riverside

Description
Full battery for ELA, mathematics, science, and social studies. Continuous standard score scale that supports measuring growth. Developed in conjunction with researchers at the University of Iowa. Assesses life science, physical science, and earth and space science, but information about specific science standards assessed was not available. Districts interested in this option can request additional information from developer.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
- □ Traditional End-of-Grade Assessment
- □ Traditional End-of-Course Assessment
- ✔ Selected Response
- □ Short Constructed Response
- □ Writing Prompt/Essay
- □ Other:

Non-Traditional Assessment
- ✔ Pre/Post or Repeated Measures
- □ Performance Task Rubric
- □ Portfolio or Work Sample Rubric
- □ Project-Based Rubric
- □ Observation Rubric or Checklist

Administration/Scoring
- ✔ Paper/Pencil
- ✔ Computer Supported
- □ Computer Adaptive
- ✔ Machine Scored
- □ Scored Locally
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Massachusetts District-Determined Measures

Example Assessments

Science — 8

Assessment

Measures of Academic Progress (MAP), Achievement Level Tests (ALT) – Northwest Evaluation Association (NWEA)

Publisher Website/Sample

Description

Adaptive assessment that can be administered up to four times a year. Designed to measure growth. Received high ratings for technical quality. General information only about content assessed. Science items are categorized as concepts, processes, life sciences, earth/space sciences, and physical sciences. Reviewed by Buros Institute: "...available evidence suggests that MAP tests can be used with confidence by school districts to gauge student learning, relative standing, and growth with respect to educational objectives deemed central to the curricular emphases of those districts."

Source

Commercial Test

Approach

Buying (commercial tool)

Designed to Measure Growth

Yes

Traditional Assessment

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Diagnostic Measure

Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring

- Paper/Pencil
- Computer Supported
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- Scored Locally
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Science — 8

Assessment
New England Common Assessment Program (NECAP) Science Inquiry Tasks

Description
Released assessment activities, designed to be completed by two or more students working together. Strong performance-based measures for this grade and content area. Activities can be modified as needed to ensure full alignment to district curricula.

Source
Open Source Items, Activities, Forms

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment
☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
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Science — 8
Assessment
PRO-Core Learning Systems–Computers in Education

Description
Diagnostic test intended to align to CCSS. Documents previewed were developed for Ohio but may be customizable to Commonwealth curriculum frameworks. Districts interested in this option can contact developer for more information.

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☑ Selected Response
☑ Short Constructed Response
☐ Writing Prompt/Essay
☑ Other: Diagnostic Measure

Non-Traditional Assessment
☑ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
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Science — 8

Assessment
Stanford Achievement Test 10 (SAT 10)—Pearson

Publisher Website/Sample

Description
Designed to measure growth and achievement. Seeks to be aligned to state standards and NAEP. Content is described as aligning to state and national standards, including NAEP. Information about test structure and content indicates many items are contextualized and involve non-routine problem-solving strategies. Received high ratings for technical quality, but districts interested in this option will need additional information from developer to confirm alignment to CCOs.

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay

Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring

- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
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Science — 8

Assessment
Tennessee Comprehensive Assessment Program Achievement Test

Publisher Website/Sample

Description
Comprehensive assessment (reading/language arts, mathematics, science, and social studies). Item samplers, practice tests, and answer keys. Science strands assessed include life science, environmental science, earth and space science, and physical science. Items aligned to some CCOs but no constructed-response items or writing to text were included.

Source
Released Items

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment
- Traditional End-of-Grade Assessment
- Selected Response

Non-Traditional Assessment
- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring
- Paper/Pencil
- Scored Locally

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Massachusetts District-Determined Measures

Example Assessments

Science — 8

Assessment
TerraNova 3–CTB/McGraw-Hill

Publisher Website/Sample

Description
Complete battery for grades K-12 in ELA, mathematics, science, and social studies. Vertically aligned grade-level tests of achievement. Norm-referenced interpretation of results. Claims to have evidence that it is closely aligned to NAEP Framework. Five science content domains assessed: science inquiry, physical science, life science, earth and space science, science and technology. Districts interested in this option will need to confirm alignment to CCOs for this grade. One Buros Institute reviewer suggested that these measures are backed by "strong psychometric evidence supporting test content and score interpretation."

Source
Commercial Test

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☒ Selected Response
☒ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment

☑ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring

☑ Paper/Pencil
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☐ Computer Adaptive
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☐ Scored Off-Site

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Science — 8
Assessment
Trends in International Mathematics and Science Study (TIMSS) Science Items, 1995 and 2003

Description
Released items from grade 8 TIMSS administrations in 1995 and 2003. Content domains assessed include earth science, life science, physical science, and environmental science. Rubrics and scoring guide included. Factual knowledge, conceptual understanding, and reasoning skills are assessed by demonstrating understanding, analyzing and solving problems, using tools, and investigating the natural world. Caution: test is not intended to be administered as an end-of-grade assessment, but districts interested in this option can select those items best suited for use in building customized DDMs.

Source
Released Items

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment

☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☑ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other:

Non-Traditional Assessment

☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring

☑ Paper/Pencil
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Science — 8

Assessment
Virginia Standards of Learning Assessment

Publisher Website/Sample

Description
Released form and scoring guides. Items aligned to about half of the CCOs. Districts interested in building their own customized assessments can modify to match local curricula.

Source
Released Items

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment
- Traditional End-of-Grade Assessment
- Selected Response

Non-Traditional Assessment
- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring
- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally

Other:
Science — 8
Assessment
Washington Powerful Classroom Assessments

Description
Assessments of science activities. State-developed classroom tests that may be useful in stimulating district-level thinking about innovative measures for this grade. No scoring guide. Performance tasks aligned to CCOs and to curriculum framework.

Source
Open Source Items, Activities, Forms

Approach
Building (parts only)

Designed to Measure Growth
Yes

Traditional Assessment
☐ Traditional End-of-Grade Assessment
☐ Traditional End-of-Course Assessment
☐ Selected Response
☐ Short Constructed Response
☐ Writing Prompt/Essay
☐ Other: Classroom Unit Assessment

Non-Traditional Assessment
☐ Pre/Post or Repeated Measures
☐ Performance Task Rubric
☐ Portfolio or Work Sample Rubric
☐ Project-Based Rubric
☐ Observation Rubric or Checklist

Administration/Scoring
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Engineering Technology
Engineering-Technology — HS

National Occupational Competency Testing Institute (NOCTI) Pre-Engineering/Engineering Technology Assessment

Description
Based on career/technical education industry standards. Part of NOCTI's Job Ready assessment battery. Measures technical skills at the occupational level. Includes items that measure factual and theoretical knowledge. Written and performance components. Strong alignment with nearly all CCOs for this course.

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### Traditional Assessment
- ☑ Traditional End-of-Course Assessment
- ☑ Selected Response
- ☑ Other: Industry Certification Exam

### Non-Traditional Assessment
- ☐ Pre/Post or Repeated Measures
- ☑ Performance Task Rubric
- ☐ Portfolio or Work Sample Rubric
- ☐ Project-Based Rubric
- ☐ Observation Rubric or Checklist

### Administration/Scoring
- ☑ Paper/Pencil
- ☑ Computer Supported
- ☐ Computer Adaptive
- ☐ Machine Scored
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Technological Literacy
Description

Information about the planned 2014 assessment at grade 8. Link to sample items, which are all innovative, interactive item types. Framework describes what will be measured. The CCOs are partially aligned with the NAEP framework for this grade, and evaluators noted that the CCOs actually are better aligned with some expectations in the grade 12 framework. Caution: NAEP is not intended to serve as a measure of an individual student's achievement or growth. However, items do provide districts with assessment ideas and can be modified to ensure full alignment to local curricula.

Source

Released Items

Approach

Building (parts only)

Designed to Measure Growth

No

Traditional Assessment

☑ Traditional End-of-Grade Assessment

☐ Traditional End-of-Course Assessment

☑ Selected Response

☑ Short Constructed Response

☐ Writing Prompt/Essay

☑ Other: National or International Assessment

Non-Traditional Assessment

☐ Pre/Post or Repeated Measures

☐ Performance Task Rubric

☐ Portfolio or Work Sample Rubric

☐ Project-Based Rubric

☑ Observation Rubric or Checklist

Administration/Scoring

☐ Paper/Pencil

☑ Computer Supported

☐ Computer Adaptive

☑ Machine Scored

☐ Scored Locally

☑ Scored Off-Site
**Engineering-Technology — HS**

**Assessment**
National Occupational Competency Testing Institute (NOCTI) Pre-Engineering/Engineering Technology Assessment

**Technological Literacy**

**Description**
Based on career/technical education industry standards. Part of NOCTI's Job Ready assessment battery. Measures technical skills at the occupational level. Includes items that measure factual and theoretical knowledge. Written and performance components. Assessment is not aligned to CCOs for this course.

**Source**
Commercial Test

**Approach**
Buying (commercial tool)

**Designed to Measure Growth**
No

## Traditional Assessment
- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Industry Certification Exam

## Non-Traditional Assessment
- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

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Advanced Biology
Science — HS

Assessment

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Description

Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student’s ability to conduct research using scientific or technical documents).

Source

Commercial Customizable Item Bank

Approach

Buying (commercial tool)

Designed to Measure Growth

Yes

Traditional Assessment

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Interim or Benchmark

Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
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Administration/Scoring

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Advanced Chemistry
Massachusetts District-Determined Measures
Example Assessments

Science — HS
Advanced Chemistry

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

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Advanced Physics
### Science — HS

**Advanced Physics**

**Assessment**

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

**Description**

Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student's ability to conduct research using scientific or technical documents).

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Anatomy and Physiology
Science — HS

Anatomy and Physiology Assessment

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Publisher Website/Sample

Description

Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student's ability to conduct research using scientific or technical documents).

Source

Commercial Customizable Item Bank

Approach

Buying (commercial tool)

Designed to Measure Growth

Yes

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Science — HS

Anatomy and Physiology

Assessment

Human Anatomy and Physiology Mid-Course and Final Exam—Plymouth Public Schools

Publisher Website/Sample

Description

Mid-course and final exams submitted by Commonwealth district (Plymouth Public Schools). Mid-course exam primarily focuses on the musculoskeletal system and is strongly aligned to CCOs for this course. Final exam covers all content areas outlined in the CCOs except mechanistic or investigative knowledge expectations. Instrument uses released items from NY Regents Exam. Very strong example of locally developed measure that holds promise for use as a DDM. Please contact the instructor directly to obtain a copy of the secure test form: Alison Riordan; email address is ariordan@plymouth.k12.ma.us.

Source

Open Source Items, Activities, Forms

Approach

Borrowing (full measure)

Designed to Measure Growth

No

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Applied Biology-Chemistry
Science — HS

Applied Biology-Chemistry

Assessment

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Publisher Website/Sample

Description

Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student’s ability to conduct research using scientific or technical documents).

Source

Commercial Customizable Item Bank

Approach

Buying (commercial tool)

Designed to Measure Growth

Yes

Traditional Assessment

☐ Traditional End-of-Grade Assessment

☐ Traditional End-of-Course Assessment

☑ Selected Response

☑ Short Constructed Response

☐ Writing Prompt/Essay

☑ Other: Interim or Benchmark

Non-Traditional Assessment

☑ Pre/Post or Repeated Measures

☐ Performance Task Rubric

☐ Portfolio or Work Sample Rubric

☐ Project-Based Rubric

☐ Observation Rubric or Checklist

Administration/Scoring

☑ Paper/Pencil

☑ Computer Supported

☐ Computer Adaptive

☑ Machine Scored

☑ Scored Locally

☐ Scored Off-Site

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Astronomy
Science — HS

Assessment

Astronomy and Space Science Concept Inventory (ASSCI)—Harvard-Smithsonian Center for Astrophysics

Description

Item bank developed by research team from Harvard. Aligned with the grade K-12 National Science Standards and NRC Benchmarks. Purpose is a mismatch as it is designed to uncover common misconceptions, not measure teacher impact on student learning. Evaluators had no sample items to preview, only findings from rigorous study conducted by the Harvard-Smithsonian Center for Astrophysics. A district interested in this unique assessment will need to request additional information from developer.

Source

Open Source Items, Activities, Forms

Approach

Building (parts only)

Designed to Measure Growth

No

Traditional Assessment

☑ Selected Response

☐ Traditional End-of-Grade Assessment

☐ Traditional End-of-Course Assessment

☐ Short Constructed Response

☐ Writing Prompt/Essay

☐ Other: Diagnostic Measure

Non-Traditional Assessment

☐ Pre/Post or Repeated Measures

☐ Performance Task Rubric

☐ Portfolio or Work Sample Rubric

☐ Project-Based Rubric

☐ Observation Rubric or Checklist

☐ Other: Diagnostic Measure

Administration/Scoring

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☐ Computer Supported

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☑ Scored Locally

☐ Scored Off-Site

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Massachusetts District-Determined Measures  
*Example Assessments*

### Science — HS

**Assessment**

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

**Publisher Website/Sample**

#### Description

Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCQs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student's ability to conduct research using scientific or technical documents).

**Source**

Commercial Customizable Item Bank

**Approach**

Buying (commercial tool)

**Designed to Measure Growth**

Yes

### Source Approach

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Science — HS

Astronomy

Example Assessments

Assessment
Project Misconceptions-Oriented Standards-Based Resources for Teachers
Astronomy/Space Science Test–The President and Fellows of Harvard College

Description
Exam questions that may be useful for item bank. Aligned with most CCOs. Misconceptions-based assessment utilizing NRC K-12 earth science standards. May offer assessment ideas to districts seeking to build customized assessments for this course.

Source
Open Source Items, Activities, Forms

Approach
Building (parts only)

Designed to Measure Growth
No

Traditional Assessment

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other: Classroom Final Exam

Non-Traditional Assessment

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

Administration/Scoring

- Paper/Pencil
- Computer Supported
- Computer Adaptive
- Machine Scored
- Scored Locally
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Earth and Space Science
Science — HS

Earth and Space Science

Assessment
Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Publisher Website/Sample

Description
Customized benchmark assessments developed from secure item bank; state can submit standards and ATI builds tests to match. Vertical scale supports interpretations about growth. Claims alignment to CCSS. Typically includes 5 items for 8 standards to create 40-item tests. Pilot project in seven Commonwealth districts suggested strong linkage to curriculum frameworks in two content areas. Item bank described may provide content-specific items of sufficient rigor to meet the expectations of the CCOs and the Massachusetts curriculum framework. Item bank may provide reading passages and associated items of sufficient rigor to meet expectations in the CCSS literacy standards (e.g., assessing a student's ability to conduct research using scientific or technical documents).

Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment
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☐ Traditional End-of-Course Assessment
☒ Selected Response
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☐ Writing Prompt/Essay
☒ Other: Interim or Benchmark

Non-Traditional Assessment
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**Science — HS**

**Earth and Space Science**

**Assessment**

Virginia End-of-Course Assessment

**Publisher Website/Sample**

**Description**

Released items, scoring guides, and standards assessed. Strongly aligned to CCOs for this course and to curriculum framework. Items related to instrumentation, technology use, and testing protocols were not included in CCOs, but districts interested in building customized assessments can select those items best suited for local curricula.

**Source**

Released Items

**Approach**

Building (parts only)

**Designed to Measure Growth**

No

**Traditional Assessment**

- Traditional End-of-Grade Assessment
- Traditional End-of-Course Assessment
- Selected Response
- Short Constructed Response
- Writing Prompt/Essay
- Other:

**Non-Traditional Assessment**

- Pre/Post or Repeated Measures
- Performance Task Rubric
- Portfolio or Work Sample Rubric
- Project-Based Rubric
- Observation Rubric or Checklist

**Administration/Scoring**

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Environmental Science
Science — HS

Assessment

Environmental Science

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Description

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Source
Commercial Customizable Item Bank

Approach
Buying (commercial tool)

Designed to Measure Growth
Yes

Traditional Assessment

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Marine Science
Science — HS

Assessment

Galileo Benchmark and Formative Assessment System—Assessment Technology Incorporated

Publisher Website/Sample

**Description**

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**Source**

Commercial Customizable Item Bank

**Approach**

Buying (commercial tool)

**Designed to Measure Growth**

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