

Introducing the New
Iowa Assessments™
Mathematics
Levels 9 – 11

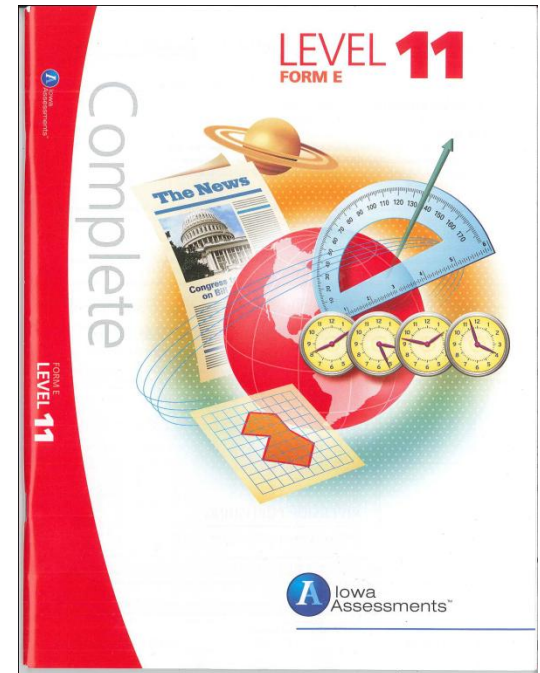
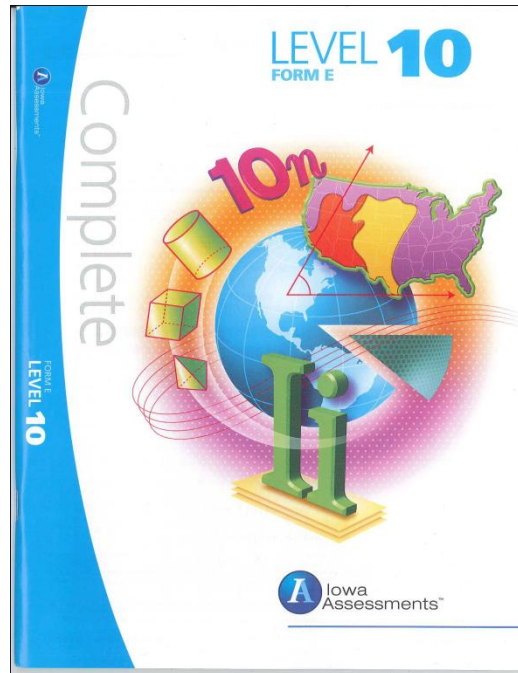
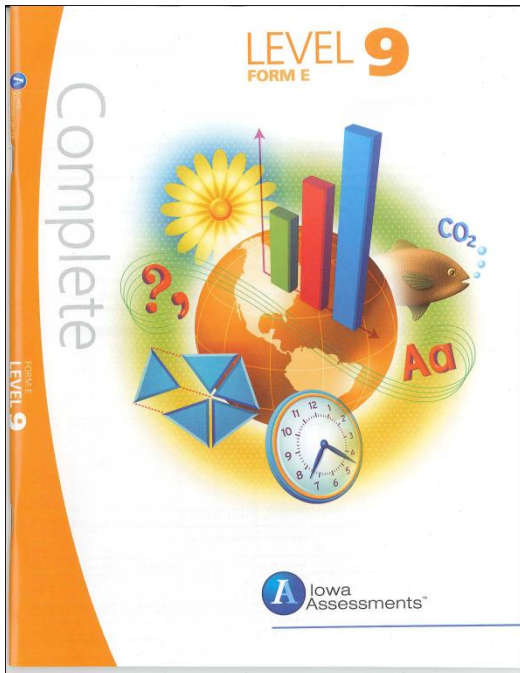


Iowa Testing Programs

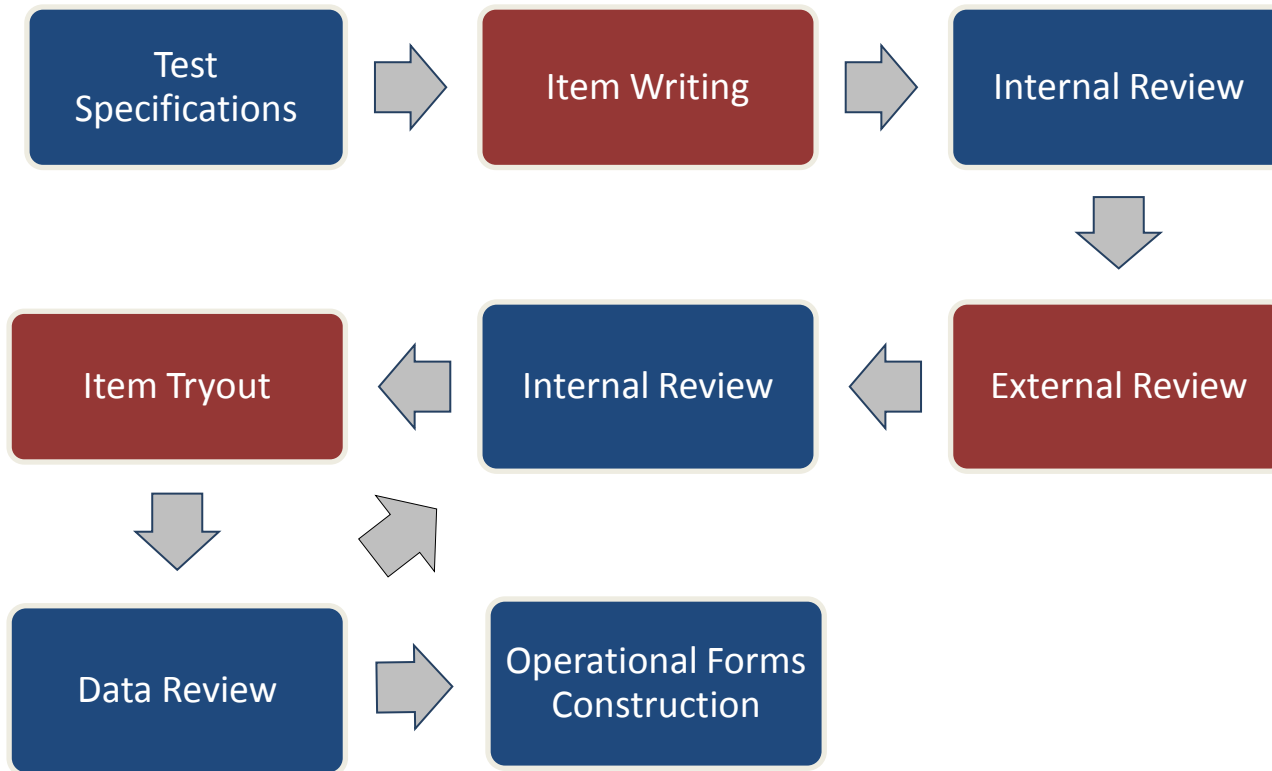
ITP Assessment Tools

- Math Interim Assessments: Grades 3 – 8
 - Administered online
- Constructed Response Supplements
 - Reading, Language Arts, Mathematics at Levels 9 – 17/18
 - Available free of charge in fall 2011
- Iowa Algebra Readiness Assessment (IARA)
 - Administered online
- Iowa End of Course Assessments (IEOC)
 - Administered online
 - Algebra I, Algebra II, Geometry, Matrix Algebra, Probability & Statistics, English Language Arts, Physical Science, Biology, Chemistry, U.S. History, U.S. Government

The Iowa Assessments™



Test Development



New Iowa Assessments™

- New forms
- All new items
- All items written and reviewed by Iowa educators
- All items field tested on Iowa students
- All items align to the Iowa Core

<http://www.corecurriculum.iowa.gov/>

Major Changes from Current Forms

All Levels

- New order of tests within the booklet
- Adjusted number of items and administration times
- New page layouts in full color

Levels 9 – 14

- Maps and Diagrams and Reference Materials tests have been dropped.
- Mathematics test (two separately timed parts) has replaced Math Concepts & Estimation and Math Problem Solving & Data Interpretation tests.

Mathematics: Levels 9 – 14

- Administered in two separately timed sessions that are approximately equal in length
- Includes both stimulus based and discrete items
- Each session includes items from all domains

Administration Times: Levels 9 – 14

Subject Area	Administration Time
Reading [†]	30 + 30
Written Expression	40
Mathematics [†]	30 + 30
Science	35
Social Studies	35
Vocabulary	15
Spelling	10
Capitalization	10
Punctuation	10
Computation	20
Word Analysis*	20
Listening*	25

[†]Two separate sessions

*Level 9 only

Mathematics Domains & Standards

Number Sense and Operations

- Represent, compare and order numbers
- Describe and apply properties of numbers
- Classify numbers by divisibility
- Demonstrate ways of performing operations
- Use place value and write numbers in standard, expanded and exponential form
- Estimate and round real numbers

Algebraic Patterns and Connections

- Use and interpret operational and relational symbols
- Solve equations/inequalities
- Use expressions and equations to model situations
- Explore numerical patterns
- Apply functional relationships

Data Analysis, Probability and Statistics

- Apply probability concepts and counting rules
- Understand and apply measures of central tendency and variability
- Interpret data and make predictions
- Understand sampling

Mathematics Domains & Standards (cont.)

Geometry

- Identify, classify and compare geometric figures
- Describe geometric properties, patterns, and relationships
- Apply concepts of perimeter, area and volume
- Estimate geometric measurements

Measurement

- Measure length/distance, time, temperature, money, weight, mass and volume
- Estimate measurements with appropriate precision
- Identify and use appropriate units of measurement and measurement tools
- Understand and apply rate

Mathematics

Domain	Level 9 Total Items	Level 10 Total Items	Level 11 Total Items
Number Sense and Operations	15	16	17
Algebraic Patterns and Connections	8	9	10
Data Analysis, Probability, and Statistics	7	8	9
Geometry	10	11	12
Measurement	10	11	12
Total	50	55	60

Cognitive Levels of Items Above	Level 9 Total Items	Level 10 Total Items	Level 11 Total Items
Essential Competencies	7	6	6
Conceptual Understanding	33	37	44
Extended Reasoning	10	12	10

Cognitive Levels

- Essential Competencies: students recall information, facts, definitions; perform simple one-step procedure
- Conceptual Understanding: students make decisions of how to approach the problem; specify and explain relationships between facts, terms, properties, or operations; perform multiple-step procedure
- Extended Reasoning: students use reasoning, use planning, draw conclusions, or cite evidence to solve a problem; develop a strategy to connect and relate ideas to solve problems while using multiple-step procedures and a variety of skills

Core: Operations and Algebraic Thinking – Generate and analyze patterns

A Algebraic Patterns and Connections – Explore numerical patterns

Cognitive Level – Extended reasoning

1 A number pattern starts with 6 and ends with 21.
Which rule could make this pattern?

A Skip count by 2s

B Skip count by 3s

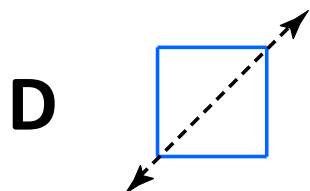
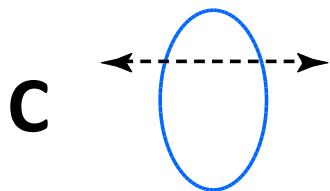
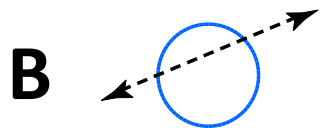
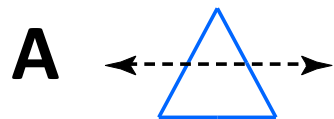
C Skip count by 6s

D Skip count by 7s

Core: Geometry – Draw and identify lines and angles, and classify shapes by properties of their lines and angles

A Geometry – Describe geometric properties, patterns, and relationships
Cognitive Level – Essential competencies

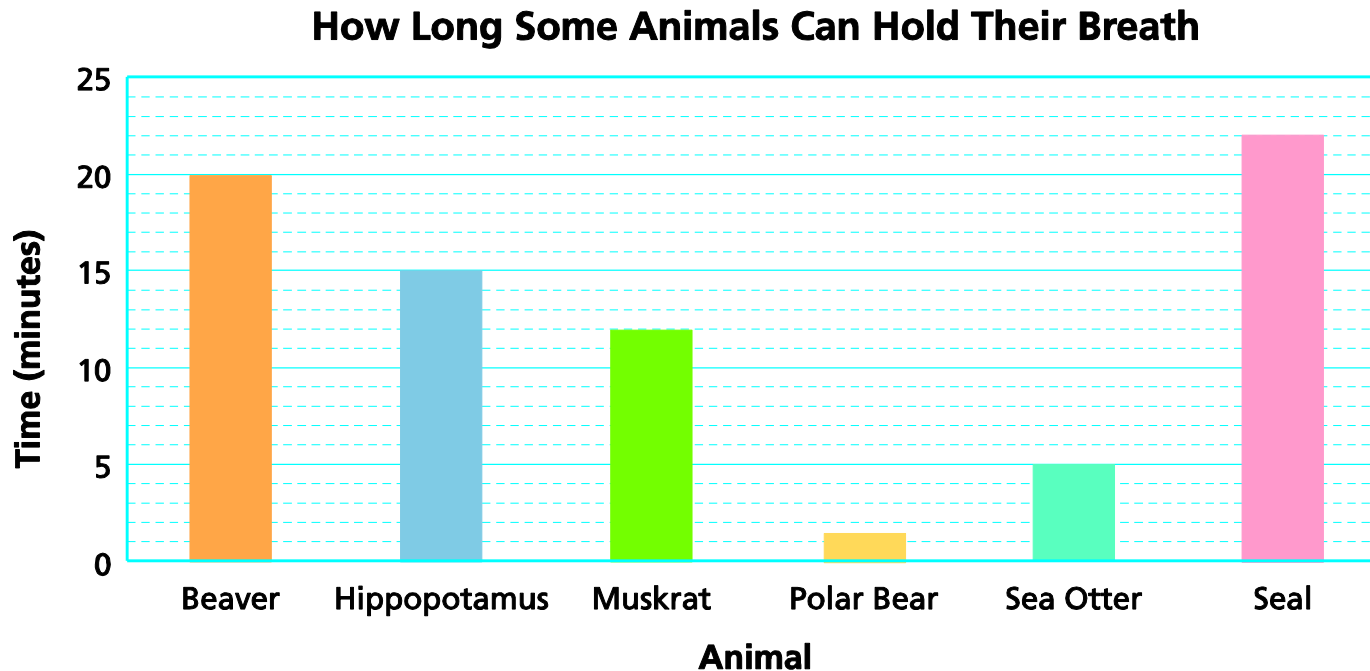
2 In which figure is the dashed line a line of symmetry?



Core: Measurement and Data – Represent and interpret data

A Data Analysis, Probability, and Statistics – Interpret data and make predictions
Cognitive Level – Conceptual understanding

Use the bar graph below to answer question 3.



3 How many more minutes can a hippopotamus hold its breath than a muskrat?

- A 1
- B 3
- C 5
- D 15

Computation Domains

Domain	Level 9 Total Items	Level 10 Total Items	Level 11 Total Items
Compute with Whole Numbers	25	27	19
Compute with Fractions	0	0	6
Compute with Decimals	0	0	4
Total	25	27	29

Cognitive levels are not defined within the mathematics computation tests.

Answer Folder Changes

- Colors are being used to help teachers more easily verify that the correct form is being used.
- The optional section for Tryout Items is now located in the interior of the answer folders. Use the adjacent “Other Information” box to grid in the Tryout Form number.

A sample of an orange answer folder form. It features a large grid at the top for marking answers, with a header section containing fields for student information. Below the grid are several smaller sections for recording scores and other data.A sample of a blue answer folder form. It features a large grid at the top for marking answers, with a header section containing fields for student information. Below the grid are several smaller sections for recording scores and other data.A sample of a red answer folder form. It features a large grid at the top for marking answers, with a header section containing fields for student information. Below the grid are several smaller sections for recording scores and other data.



Calculator Use

- Calculators are **NOT ALLOWED** on the Computation Test.
- Calculators may be used on both parts of the Mathematics Test.
- The decision to use calculators should be made at the district level, and guided by aligning assessment with instruction.



Scratch paper

- Each student should have a supply of scratch paper for all testing sessions.
- Collect all scratch paper after each session.
- Destroy all used scratch paper.

Security

- Test Booklets are **SECURE** materials.
- **No** Booklets are to be retained at the district or school level.

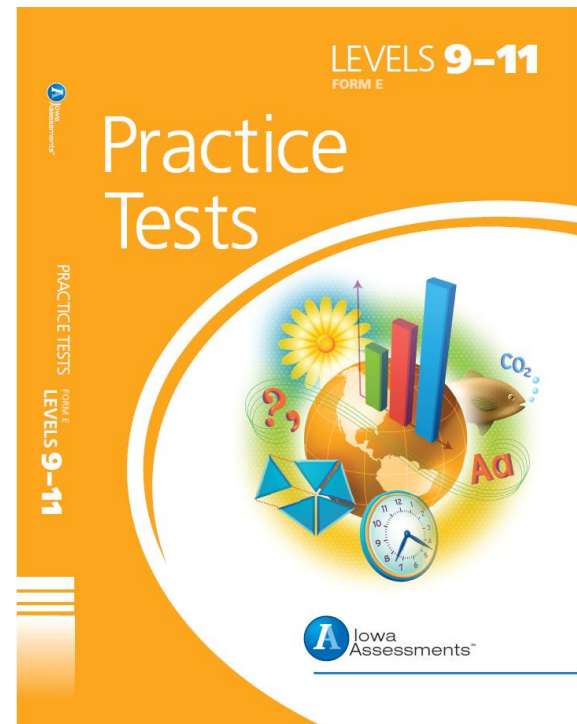
Security

For security reasons, tests may be viewed on only two occasions:

1. When students are taking an assessment
 - Order only enough materials to test your students.
2. When educators are reviewing Item Analysis Reports (Item Response Record)
 - Contact ITP for review copies.

Level 9 – 11 Practice Tests

- Reading
- Written Expression
- Mathematics
- Science
- Social Studies
- Vocabulary
- Spelling
- Capitalization
- Punctuation
- Computation



Details

- Presentation will be available on the Iowa Testing Programs website at <http://itp.education.uiowa.edu>.
 - Contact your testing coordinator if you need assistance accessing materials.
- A Frequently-Asked-Questions (FAQ) is posted on our website and will be updated frequently.
- Contact iowa-testing-programs@uiowa.edu with any additional questions.