CPS Benchmark Assessment - Spring 2010 - Grade 7

This table is a resource created to expand students' understanding of the concepts covered by the CPS Benchmark Assessment. Benchmark questions and related concepts are listed in columns 1 and 2. Column 3 displays the state learning goal related to the concept. Column 4 displays the path students follow at http://countdown.luc.edu to access movies relevant to the concept covered by the question. Instructional movies can be viewed FREE of charge as many times as a student desires. (NCTM standards are in the left margin of the Countdown homepage → their categories show underneath → these link to lists of movie titles.)

Question #	Concept	State Learning Goal #	NCTM Standard → Category → Movie Title
1	Exponential Form, Standard Form	6	• Number& Operations → Whole Numbers → Working with Exponents* • Number & Operations → Whole Numbers → Exponents with Manipulative* • Number & Operations → Decimals → Place Value with Exponents
2	Conversion	7	• Number & Operations → Decimals → Subtracting Decimals and Non-Decimals
3	Comparing integers	6	• Number & Operations → Integers → Integers and the Number Line Part 1 • Number & Operations → Integers → Integers and the Number Line Part 2 • Number & Operations → Integers → Using "Nine O'Clock Lullaby"
4	Algebraic expression	8	• Algebra → Variables → Countdown Challenge: The Language of Algebra* • Algebra → Variables → Translating English to Algebra
5	Mean	10	• Extended Response → Data Analysis & Probability → Basketball Points: Solution • Extended Response → Data Analysis & Probability → Basketball Points: Explanation • Extended Response → Data Analysis & Probability → Basketball Points: Computers
6	Transformations	9	• Geometry → Congruence & Similarity → Transformations on the Computer: Part 1 • Geometry → Congruence & Similarity → Transformations on the Computer: Part 2 • Geometry → Congruence & Similarity → Transformations on the Computer: Part 3
7	Geometric Sequence	8	• Algebra → Patterns → Geometric Sequence Whole Number
8	Proportions	6	• Number & Operations → Ratio → Writing Ratios: Intro* • Number & Operations → Ratio → Writing Ratios • Number & Operations → Ratio → Solving Ratio Problem • Number & Operations → Proportion & Percent → Proportions: Solving for n • Algebra → Algebra 1 → Intro to Rate • Algebra → Algebra 1 → Rate is a Ratio
9	Area of a circle	7	• Measurement → Circles & Angles → Area of a Circle • Measurement → Circles & Angles → Calculating Circle Area

10	Area of a polygon	7	• Measurement → Area & Perimeter → Formula: Area of a Rectangle Part 1 • Measurement → Area & Perimeter → Formula: Area of a Rectangle Part 2 • Measurement → Area & Perimeter → Formula: Area of a Rectangle Part 3* • Measurement_ → Area & Perimeter → Formula: Area of a Triangle*
11	Area of a rectangle	7	• Measurement → Area & Perimeter → Formula: Area of a Rectangle Part 1 • Measurement → Area & Perimeter → Formula: Area of a Rectangle Part 2 • Measurement → Area & Perimeter → Formula: Area of a Rectangle Part 3* • Measurement → Games & Puzzles → Comparing Areas
12	Reading line graphs	10	• Data Analysis & Probability → Graphs → Pictogram, Bar & Line* • Data Analysis & Probability → Graphs → Line Graph on the Computer • Algebra → Equations & Graphing → Intro to Y Intercept & Slope*
13	Distributive property	8	• Algebra → Variables → Variables: Distributive Property • Algebra → Variables → Variables: Distributive Property on the Computer
14	Equilateral triangles	9	• Geometry → Two-Dimensional Shapes → Naming Triangles: Sides* • Geometry → Two-Dimensional Shapes → Naming Triangles: Angles* • Geometry → Two-Dimensional Shapes → Triangle Vocabulary Review • Measurement → Circles & Angles → Naming and Measuring Angles*
15	Graphs	10	• Data Analysis & Probability → Graphs → Matching Stories to Graphs: Part 1 • Data Analysis & Probability → Graphs → Matching Stories to Graphs: Part 2
16	Scatter plot	10	• Data Analysis & Probability → Graphs → Scatter Plot: Creating • Data Analysis & Probability →Graphs → Scatter Plot: Decoding • Data Analysis & Probability → Graphs → Scatter Plot on the Computer
17	Nets	9	• Geometry → Three-Dimensional Shapes → Polyhedra Nets 1 * • Geometry → Three-Dimensional Shapes → Polyhedra Nets 2 * • Geometry → Three-Dimensional Shapes → Polyhedra Nets on the Computer: 1 • Geometry → Three-Dimensional Shapes → Polyhedra Nets on the Computer: 2
18	Volume	7	• Measurement → Solids → Volume: Part 1 • Measurement → Solids → Volume: Part 2 • Measurement → Solids → Volume & Surface Area
19	Parallelogram, Coordinate Plane,	9	• Algebra → Coordinate Geometry → Coordinate Plane Practice

20	Fundamental Counting Principle	6	• Extended Response → Number & Operations → Pizza Toppings: Solution • Extended Response → Number & Operations → Pizza Toppings: Explanation • Number & Operations → Number Theory → Fundamental Counting Principle: Part 1* • Number & Operations → Number Theory → Fundamental Counting Principle: Part 2 • Number & Operations → Number Theory → Countdown Activity: Fundamental Counting Principle* • Number & Operations → Number Theory → Fundamental Counting Principle on the Computer: Graphics 1 • Number & Operations → Number Theory → Fundamental Counting Principle on the Computer: Graphics 2 • Number & Operations → Number Theory → Fundamental Counting Principle on the Computer: Tree Diagram • Number & Operations → Number Theory → Fundamental Counting Principle with Playing Cards • Number & Operations → Number Theory → Fundamental Counting Principle with Telephone Numbers
21	Range	10	• Data Analysis & Probability → Statistics → Vocabulary Range • Data Analysis & Probability → Statistics → Range • Data Analysis & Probability → Statistics → Range: Part 2
22	Algebraic expressions	8	• Algebra → Variables → Countdown Challenge: The Language of Algebra* • Algebra → Variables → Translating English to Algebra • Algebra → Variables → Generating Equations: Part 1* • Algebra → Variables → Generating Equations: Part 2 • Algebra → Variables → Generating Equations: Part 3
23	Scale	7	• Measurement → Scale → Scale Drawing
24	Ratio, Percent	6	• Number & Operations → Proportion & Percent → "Percent of:" Part 1 • Number & Operations → Proportion & Percent → "Percent of:" Part 2
25	Probability	10	• Data Analysis & Probability → Probablity → Probability Formula • Data Analysis & Probability → Probablity → Probability Using Gumballs

26	Substitution, Order of Operations, Distributive property	8	• Algebra → Variables → Substitution Principle: Part 1* • Algebra → Variables → Substitution Principle: Part 2* • Number & Operations → Whole Numbers → Order of Operations* • Algebra → Variables → Variables: Distributive Property
27	Edges	9	• Geometry → Three-Dimensional Shapes → Faces, Edges & Vertices* • Geometry → Three Dimensional Shapes →Polyhedra Basics • Geometry → Three Dimensional Shapes → Polyhedra: Formula for Edges
28	Convert fractions to decimals	6	• Number & Operations → Proportions & Percent → Countdown Activity: Equivalence of Fractions, Decimals, & Percent • Number & Operations → Fractions → Fraction, Decimal & Percent Vocabulary • Number & Operations → Fractions → Changing Unit Fractions to Decimals on the Computer: Part 1 • Number & Operations → Fractions → Changing Unit Fractions to Decimals on the Computer: Part 2
29	Solving equations	8	• Algebra→ Equations & Graphing → Equation Basics • Algebra → Equations & Graphing → Addition Property of Equality • Number & Operations → Proportion & Percent → Percent & Synonyms • Number & Operations→ Proportion & Percent→ Percent Conversions • Number & Operations → Proportion & Percent → Percent Conversion Practice
30	Identifying radius	9	• Measurement → Circles & Angles → Illustrating Circle Vocabulary
31	Spatial visualization	9	• Geometry → Three Dimensional Shapes → Spatial Visualization: Part 1 • Geometry → Three Dimensional Shapes → Spatial Visualization: Part 2 • Geometry → Three Dimensional Shapes → Spatial Visualization: Part 3 • Geometry → Three Dimensional Shapes → Spatial Visualization: Part 4 • Geometry → Three Dimensional Shapes → Spatial Visualization: Part 5
32	Equivalent fractions and percents	6	• Number & Operations → Proportions & Percent → Countdown Activity: Equivalence of Fractions, Decimals, & Percent • Number & Operations → Proportions & Percent → Calculating Percent
33	Distance on number line	8	• Connection → Test Prep →Sample ProbleM - Line Graphs
34	Division of fractions	6	*No movies available*
35	Matching equations and data	8	• Connections → Test Preparations → Sample Problem- Matching Equations & Data

36	Fundamental counting principle	6	• Extended Response → Number & Operations → Pizza Toppings: Solution • Extended Response → Number & Operations → Pizza Toppings: Explanation • Number & Operations → Number Theory → Fundamental Counting Principle: Part 1* • Number & Operations → Number Theory → Fundamental Counting Principle: Part 2 • Number & Operations → Number Theory → Countdown Activity: Fundamental Counting Principle* • Number & Operations → Number Theory → Fundamental Counting Principle on the Computer: Graphics 1 • Number & Operations → Number Theory → Fundamental Counting Principle on the Computer: Graphics 2 • Number & Operations → Number Theory → Fundamental Counting Principle on the Computer: Tree Diagram • Number & Operations → Number Theory → Fundamental Counting Principle with Playing Cards • Number & Operations → Number Theory → Fundamental Counting Principle with Telephone Numbers
37	Interpreting data	10	• [Connections → Test Prep → Sample Problem - Interpreting Data](#)
38	Percent, Inequalities	8	• Algebra → Equations & Graphing → Intro to Inequalities: Part 1 • Algebra → Equations & Graphing → Intro to Inequalities: Part 2 • Algebra → Inequalities & Graphing → Algebraic Intro to Inequalities
39	Surface Area	7	• Measurement → Metric & Customary Units → Surface Area Puzzle • Measurement → Metric & Customary Units → Surface Area: Centimeters • Measurement → Metric & Customary Units → Surface Area: Inches • Measurement → Solids → Volume & Surface Area: Part 2*
40	Solving inequalities	8	• Algebra → Inequalities & Graphing → Solving x + 4 > 6
41	Interpreting graphs	10	• Data Analysis & Probability → Graphs → Graph Basics
42	Irrational number	6	• Number & Operations → Irrational Numbers → Irrational Numbers on the Computer • Connections → Literature → Finding Square Roots • Connections → Literature → Perfect Square Numbers

43	Equations and graphing	8	• Algebra → Equations & Graphing → Intro to Truth Tables & Graphing • Algebra → Equations & Graphing → Using y=mx+b: Runner 1* • Algebra → Equations & Graphing → Using y=mx+b: Runner 2*
44	Two step problem	6	• Number & Operations → Whole Numbers → Word Problems & Comparisons
45	Similar, congruent	9	• Geometry → Congruence & Similarity → Congruency • Geometry → Congruence & Similarity → Similar Figures: Vocabulary • Geometry → Congruence & Similarity → Similar Figures: Concept Development • Geometry → Congruence & Similarity → Similar Figures: Illustrated • Geometry → Congruence & Similarity → Similar Figures: Proof

* indicates an accompanying downloadable worksheet available   http://COUNTDOWN.LUC.EDU