COMMON CORE

State Standards

7th Grade

Math Exemplar Performance Tas

SAMPLER

MATHEMATICS

C2 Collaborative, Inc.
Supporting Today's Educators, Shaping Tomorrow's Leaders

800.318.4555 | wwwC2Ready.org

C2 Collaborative, Inc.
1s660 Midwest Road, Suite 310
Oakbrook Terrace, IL 60181
(800) 318-4555
www.C2Ready.org

TABLE OF CONTENTS

INTRODUCTION

The Common Core Institute is pleased to provide student **Performance Task Items** and the resource of **Online Planning Coach Modules** for teachers as they plan their units and/or lessons leading up to the performance tasks. The **Performance Task Items** have been created for Mathematics for grades 3-8 and the following secondary courses: Algebra I, Geometry, and Algebra II. **Performance Tasks Items** are aligned to the Common Core State Standards and focus on critical focus areas. These resources, designed by educators, for educators, can be used district-wide, school-wide or by teachers in individual classrooms.

The purpose of the **Performance Task Items** is to provide insight into how deeply a particular student understands the expectations embedded within one or more standard. Each task pr[illegible]ts students with a complex, real-world challenge in which the scenario, role, process and [illegible] authentic. Students must then demonstrate that they have the skills and knowledge [illegible] complete the task.

The intent of this resource is not so much to be utilized as a summative [illegible]ent, but [illegible]elp you as an educator plan backwards for student success. These [illegible]sources he[illegible]u pl[illegible]truction purposefully and design student tasks/experiences that requi[illegible]her levels [illegible]itive demand to address the rigor and depth of knowledge require[illegible]de[illegible] be c[illegible]ege and career ready.

Understanding the Organization and Su[illegible]ste[illegible] the Re[illegible]rces

The **Performance Task Items Re[illegible] P[illegible]** con[illegible] the performance task for that grade level or course, a rubric for scoring, [illegible]r articles, and an accompanying **Online Planning Coach Module** t[illegible]e as you[illegible]el[illegible] coach" as you plan units/lessons. We highly suggest that you view the **Per[illegible] Tas[illegible]troduction Module** to learn the purpose of performance tasks, how th[illegible] differ f[illegible] o[illegible]sessments, and how performance tasks can drive instruction in your cla[illegible]oom. Next, [illegible] w[illegible]t to view the **Online Planning Coach Module** for your specific grade/[illegible] **On[illegible] Planning Coach Module** walks you through the specific performance task including the [illegible]ric for scoring, and offers helpful hints and tips to help you plan your unit/lesson leadin[illegible]e administration of the performance task, including common student misconceptions. Since the suggested purpose of the performance task items is to be used as a formative assessment, the information collected from the rubrics provides critical data to guide and scaffold instruction as you differentiate student experiences.

Performance Task Item: Games with Friends
Grade Level: Seventh Grade

TASK OVERVIEW/PURPOSE

Focus Area: Chance and Probability.

Core Ideas of Focus Area:
- The chance of an event occurring can be described numerically and can be used to make predictions.
- Students use tree diagrams, frequency tables, organized lists, and simulations to determine the probability of compound events.

Learning Targets:
- Students use tree diagrams, frequency tables, organized lists, and si[illegible]ions to [illegible]m[illegible] prob-ability of simple and compound events.
- Students are able to justify their answers with logical reasoning.

COMMON CORE STATE STANDARDS

Common Core Domain: Statisti[illegible] and [illegible]ty

Content Standards:
- 7.SP.8: Find probabili[illegible]bout [illegible]events using organized lists, tables, tree diagrams, and simulation
- 7.SP.8.a: U[illegible]d tha[illegible]t a[illegible]with simple events, the probability of a compound event is the fr[illegible]tion of [illegible]co[illegible]n th[illegible]ample space for which the compound event occurs.

[illegible]tan[illegible]ds:

- [illegible]MP[illegible]odel with mathematics.
- 7.MP.5: Use appropriate tools strategically.
- 7.MP.6: Attend to precision.
- 7.MP.7: Look for and make use of structure.

IDEAS FOR PLANNING & SCAFFOLDING

- Introduce new concepts through the use of essential academic vocabulary.
- Give clear verbal explanations to portray key concepts and relationships.
- Connect new information or skills to what students have already learned.
- Provide additional instruction or support to students who lack necessary background.
- Model the steps in the strategy using a think-aloud process

Student Misconceptions:

- Students might believe that one event is unrelated to another event – two separate events can't be related.
- Students might believe all games are meant to be fair for all the participants.

QUESTIONS FOR REFLECTION

For Student:

- What is the importance of 0 and 1 when examining the pr ility of an e
- What efficient strategies can be used to help dete he ess of mp or compound events to occur?

IDEAS FOR EXTENDED LEA G

- Have students create a "fair" g ey give clear directions and complete directions for playing th e. Have em fy how they know their game is a fair game.

MAT ES/R S

- Wo
- Calculate if ded

Name: _____

Math Performance Task
Games with Friends

You and your classmate Cindy have been learning about probability and statistics in class and decided that you would play two different games at home to learn the information better.

Your first game is a Frisbee game.

You and your friend Cindy both have new Frisbees. You each take turns tossing your Frisbees and decide to follow these game rules:

- Each time the Frisbee lands "upside-down" Cindy gives you a quarter (25¢).
- Each time a Frisbee lands "top-side up" you give Cindy a quarter (25¢).

1. What are the four possible outcomes and probabilities for how the Frisbee can land if you and Cindy both take one turn throwing the Frisbee? Model all the possible outcomes.

2. How much money would you win for each outcome listed above?

3. Do you believe this is a fair game? Explain your answer.

Your second game is a game with marbles.

You and Cindy have a bag of marbles that contains 5 blue marbles and 8 green marbles. You draw 2 marbles out of the bag at random.

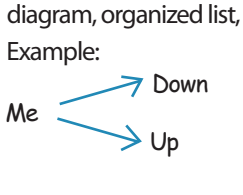
4. What is the probability of drawing a blue marble both times when the first marble is placed back into the bag after the first drawing? Show your work.

5. What is the probability of drawi[illegible] both times when the first marble is NOT replaced before drawi[illegible]

PERFORMANCE TASK SCORING RUBRIC

Performance Task

Games with Friends

Focus: Chance and Probability	Depth of Knowledge Level	Points	Possible Section Points	Total Points Earned by Student
1. 1 point is given for showing the four possible outcomes. 1 point is given if the answer is in a model, such as a tree diagram, organized list, etc. Example:  	1	1 1	2	
2. 1 point for providing all the correct answers. Me: Down = I would win 25¢. Me: Up = I would not win anything. Cindy: Down = I would win 25¢. Cindy: Up = I would not win anything.	1	1	1	
3. 2 points for providing an answer with logical reasoning. Yes/No/ Various answers with logical reasoning.	2	2	2	
4. 3 points for providing a correct answer with student's work supporting the answer. The probability of drawing a blue marble in the first draw is 5/13. Since the marble is replaced, the probability of getting a blue marble in the second draw is also 5/13. The probability of getting both the marbles blue is 5/13 times 5/13 = **25/169**.	2	3	3	
5. 3 points for providing a correct answer with student's work supporting the answer. The probability of drawing a blue marble in the first draw is 5/13. If the first marble drawn is blue and if it is not replaced in the bag, then there are 4 blue marbles and 8 green marbles. Therefore, the probability of drawing a blue marble in the second draw is 4/12. In this case, the probability of drawing a blue marble in the second draw depends on the occurrence and non-occurrence of the event in the first draw. The probability of both the marbles being blue is 5/13 times 4/12 = 20/156 = **5/39**.	2	3	3	
		TOTAL POINTS	11	

PERFORMANCE TASK RUBRIC INTERPRETATION

RUBRIC INTERPRETATION (source: Oregon Department of Education)

(11) Full Conceptual Understanding: The student uses all relevant information to solve the task.

- The student's answer is consistent with the question/problem.
- The student is able to translate the problem into appropriate mathematical language.

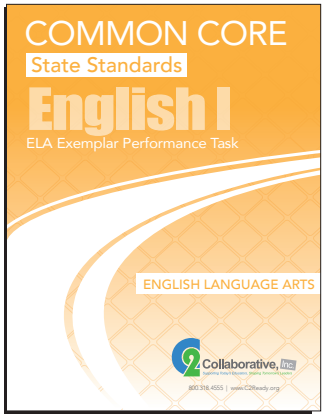
(5) Partial Conceptual Understanding: The student extracts the "essence" of the task, but is unable to use this information to solve the task.

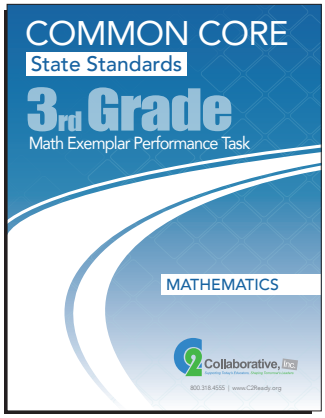
- The student is only partially able to make connections between/among the concepts.
- The student's solution is not fully related to the question.
- The student understands one portion of the task, but not the complete task.

(0) Lack of Conceptual Understanding: The student's solution is inconsistent or unrelated to the task.

- The student translates the problem(s) into inappropriate mathematical concepts.
- The student uses incorrect procedures without understanding the concepts related to the task.

C2Collaborative, Inc. provides the following materials for enhanced classroom instruction aligned to meet the needs of 21st Century learners.





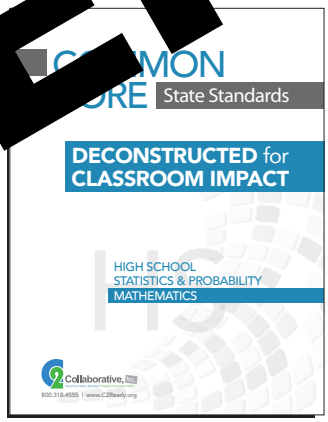
ELA & Math Exemplar Performance Tasks Grades 3 and Up

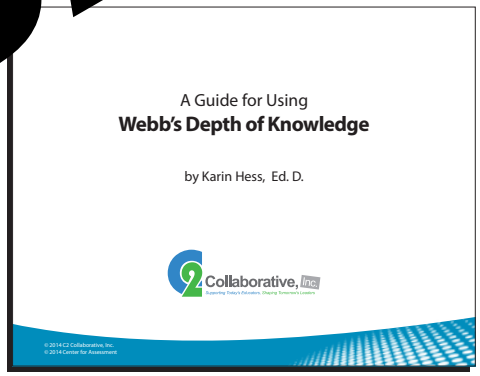
This teacher-friendly tool is designed for both instruction and formative assessment.

Performance Tasks can provide insight into how deeply a particular student understands the expectations embedded within one or more standard.

Common Core State Standards Deconstructed for Classroom Impact Available for ELA & Math, K-12

Plan instruction with everything you need at your fingertips: Learning Progressions, Big Ideas, Essential Questions, Deconstruction of Standards, Depth of Knowledge and more.





A Guide for Using Webb's Depth of Knowledge

An indispensable spiral-bound resource printed on glossy card stock for ensuring assessment, instructional activities, and standards are all aligned by the level of cognitive demand.

To Order Call: 800.318.4555
Or visit us online at: www.C2Ready.org

C2Collaborative, Inc.
Supporting Today's Educators, Shaping Tomorrow's Leaders