GRADE 5
PERFORMANCE ASSESSMENT

MATHEMATICS

Student Booklet

Task Title: **Disaster Dilemma**

Student's Name: _____

GRADE 5 - PERFORMANCE ASSESSMENT

MATHEMATICS

TASK: Disaster Dilemma

PROBLEM:

A major (8.5) earthquake occurred off the Washington coast. You are on the emergency shelter team. Your job is to arrange supply boxes with one item from each supply category. (One shelter, one bedding, and one lighting possibility in each box.) You want to arrange every possible combination to meet the different needs of the evacuees.

Supply categories:

Shelter:	*Bedding:*	*Lighting:*
pup tent	blankets	propane lantern
family tent	sleeping bag	flashlight
		candles

INSTRUCTIONS:

1. Show all of the possible combinations of supply boxes. You may solve the problem any way you like. Show your work here and/or on other pieces of paper.

2. How many different combinations of supply boxes will you need to arrange? Explain how you know that you have all of the possible combinations using a tree diagram or words.

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Teacher Booklet

Task Title: **Disaster Dilemma**

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TASK: Disaster Dilemma

CURRICULUM STANDARD ASSESSED:
EALRs – 1.4, 1.5, 2.1, 2.2, 3.3, 4.2, 4.3, 5.3
Students will understand procedures for counting outcomes.

ASSESSMENT PROTOCOL:
Students will create a list or chart showing different supply combinations available to them at an earthquake emergency disaster center.

DIRECTIONS:
Explain vocabulary: e.g. shelter, pup tent, propane lantern. Be sure to have taught the use of a tree diagram previous to this assessment.

Include pictures of the different items to cut-out.

PROBLEM:
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Supply categories:

Shelter:	*Bedding:*	*Lighting:*
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INSTRUCTIONS:
1. Show all of the possible combinations of supply boxes. You may solve the problem any way you like. Show your work here and/or on other pieces of paper.

2. How many different combinations of supply boxes will you need to arrange? Explain how you know that you have all of the possible combinations using a tree diagram or words.

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Anchor Paper Commentaries

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TASK: Disaster Dilemma

4 Problem Solving:
The student recognizes the need for an organized approach and exhibits a clear pattern to find all combinations. He/she shows how to arrive at the answer in more than one way (the chart and multiplying the number of items in each category together).

Communication:
The student receives a score of 4 in communication. He/she labels each category in the chart and numbers each combination. The written explanation helps support the chart and why 6 was multiplied by 2.

3 Problem Solving:
The student listed all of the appropriate combinations and demonstrates using a pattern.

Communication:
The student receives a score of 3 in communication. He/she describes the use of a pattern in organizing the materials. The chart shows mathematical information in an expected format for the situation.

2 Problem Solving:
The student included items from the different categories in their different combinations, but most boxes have 4 items in them instead of 3. The student does not have all of the possible combinations. He/she attempts to organize the information appropriately.

Communication:
The student receives a score of 2 in communication. He/she communicates that an item from each box must be used and describes how the student decided that 6 was the total number of boxes. This child did not communicate why 4 items were in most boxes and why other combinations were not considered.

1 Problem Solving:
The student made one box for each item and counted the boxes correctly. He/she did not combine items for possible outcomes.

Communication:
The student receives a score of 2 in communication. He/she expresses how the boxes are organized and why the extra box is included. No explanation for question 2.

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Student Booklet

Task Title: **Funny Money**

Student's Name: _____

GRADE 5 - PERFORMANCE ASSESSMENT

MATHEMATICS

TASK: Funny Money

PROBLEM:

You are an operative with the Chace Detective Agency. Carmel San Francisco and her henchmen have started counterfeiting United States currency as their latest exploit. On the first day they counterfeited 3 million dollars. As they expand their operation, they will have twice as much funny money as the day before. (On the second day they will have twice as much as the first day. On the third day, they will have twice as much as on the second, etc.) Your job is to catch the crooks. Good luck.

INSTRUCTIONS:

1. If you catch them on the third day, how much money will they have? Explain in detail how you arrived at your answer. Show each step.

2. If you catch them on the 6th day, how much money will they have? Show step-by-step how you arrived at your answer.

3. You will get a $10,000 bonus if you catch them *before* they have 200 million dollars. What is the maximum number of days you have to catch the criminals and receive your bonus? How do you know that? How much money did they have?

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Teacher Booklet

Task Title: **Funny Money**

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TASK: Funny Money

CURRICULUM STANDARD ASSESSED:
EALRs – 1.1, 1.5, 3.3, 4.2, 4.3, 5.3
Recognize, create, and extend patterns and sequences

PROBLEM:
You are an operative with the Chace Detective Agency. Carmel San Francisco and her henchmen have started counterfeiting United States currency as their latest exploit. On the first day they counterfeited 3 million dollars. As they expand their operation, they will have twice as much funny money as the day before. (On the second day they will have twice as much as the first day. On the third day, they will have twice as much as on the second, etc.) Your job is to catch the crooks. Good luck.

MATERIALS:
Paper
Pencil
Calculator
Ruler

INSTRUCTIONS:
1. If you catch them on the third day, how much money will they have? Explain in detail how you arrived at your answer. Show each step.

2. If you catch them on the 6th day, how much money will they have? Show step-by-step how you arrived at your answer.

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Anchor Paper Commentaries

Task Title: **Funny Money**

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TASK: Funny Money

4 Problem Solving:
The student demonstrates a thorough understanding of the problem and of the concept of doubling. He/she demonstrates this two different ways (using a chart and written explanation). The student continues to double each day's total and keeps track accurately of the number of days. The pattern is clear and effective, and the solution is accurate.

Communication:
The student receives a score of 4 in communication. He/she gives a clear written explanation and uses appropriate charts. It is very easy to follow the explanation and charts.

3 Problem Solving:
The student constructs patterns doubling the amounts in successive steps, and starts at 3 million. The count of the student's steps and the final number of steps is inaccurate. Only numerical computations accompany the solution to help the reader understand his/her reasoning.

Communication:
The student receives a score of 2 in communication. He/she gathers correct information from the problem description, and demonstrates understanding by doubling for each day. The student, however, has not indicated what day has been arrived at for each step, and has not included any details to explain what he/she did and why.

2 Problem Solving:
A pattern/sequence has been shown, but the student added 3 million for each day, instead of doubling the numbers each day. He/she used some of the information given (3 million dollars to start.) The student does not use any strategy for doubling.

Communication:
The student receives a score of 2 in communication. He/she clearly explains the steps in question number 1, organizes the information and shows the continued pattern in number 2, but does not include any explanation in number 3.

1 Problem Solving:
The student attempts to answer the problem. The student used multiplication to try to solve it, and did start with 3 million, but the other numbers used did not relate to the problem.

Communication:
The student receives a score of 2 in communication. He/she explains what was multiplied, but changed the process between problems one and two. The numbers that were multiplied originated from the problem.

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Student Booklet

Task Title: **New Wheels**

Student's Name: _____

GRADE 5 - PERFORMANCE ASSESSMENT

MATHEMATICS

TASK: New Wheels

PROBLEM:

You have just moved to a new town with your family. You are saving money to buy a new bike by working two summer jobs. One job is at a local grocery store bagging groceries during the day, and the other is across town babysitting in the evenings. The parents of the child need to leave for work 30 minutes after you finish your first job. The parents have warned you that you must arrive on time, or they will have to find another baby sitter.

Because you're new to the town, you decide to use the town map to identify possible routes to get to the babysitting job on time. You know it takes you five minutes to ride one mile.

MATERIALS:

Town Map with scale
Standard/Metric Ruler
String
Scissors

INSTRUCTIONS:

1. Using appropriate tools, and knowing that it takes you 5 minutes to ride one mile, which route(s) would allow you to get to the babysitting job on time? Provide your calculations below.

2. Because your parents want to know which roads you might be traveling on, you will need to explain to them how you arrived at your answer.

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Teacher Booklet

Task Title: **New Wheels**

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TASK: New Wheels

CURRICULUM STANDARD ASSESSED:

EALRs – 1.1, 1.2, 2.2, 2.3, 3.2, 3.3, 4.2, 4.3, 5.3

Understand the concept of rate and how to calculate rates.

ASSESSMENT PROTOCOL:

Previous knowledge needed: measuring to the nearest 1/2 inch, using a scale to translate map distances to mileage.

PROBLEM:

You have just moved to a new town with your family. You are saving money to buy a new bike by working two summer jobs. One job is at a local grocery store bagging groceries during the day, and the other is across town babysitting in the evenings. The parents of the child need to leave for work 30 minutes after you finish your first job. The parents have warned you that you must arrive on time, or they will have to find another baby sitter.

Because you're new to the town, you decide to use the town map to identify possible routes to get to the babysitting job on time. You know it takes you five minutes to ride one mile.

MATERIALS:

Town Map with map scale
Standard/Metric Ruler
String
Scissors

INSTRUCTIONS:

1. Using appropriate tools, and knowing that it takes you 5 minutes to ride one mile, which route(s) would allow you to get to the babysitting job on time? Provide your calculations below.

2. Because your parents want to know which roads you might be traveling on, you will need to explain to them how you arrived at your answer.

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Anchor Paper Commentaries

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TASK: New Wheels

4 PROBLEM SOLVING:
The student correctly calculates the distance for each route on the map, translates that into real distance, and calculates the time it takes to travel that distance. The student correctly identifies the routes that would get him/her to the second job on time.

COMMUNICATION:
The student receives a score of 2 in communication. All calculations are shown. The explanation does not include specifics on how the student arrived at the answer.

3 PROBLEM SOLVING:
This student correctly identifies the routes that would get him/her to the second job on time and calculates distances and time correctly.

COMMUNICATION:
The student receives a score of 2 in communication. The calculations for the two routes that work show measuring the mile (2 inches for each mile), and correctly change that into travel time, but the student labels those as routes 1 & 2, not 2 & 3, and does not show the calculations for the other route. The explanation does not include why Route 1 doesn't work, and still gives Routes 1 & 2 as the routes that work.

2 PROBLEM SOLVING:
The student does not identify specifically the routes that would get him/her to the second job on time. The calculations for the three routes are correct.

COMMUNICATION:
The student receives a score of 2 in communication. The student tells why Route 2 is chosen, but does not explain how the student arrived at the answer. He/she does tell the length of time for each route. Calculations are not shown.

1 PROBLEM SOLVING:
The student does not identify correctly the routes that would get him/her to the second job on time or how time is related to the distance.

COMMUNICATION:
The student receives a score of 1 in communication. The student shows no calculations or what time is involved in getting to the second job. The explanation does not include why one route is easier than another.

0 PROBLEM SOLVING:
The student does not follow the directions.

COMMUNICATION:
The student receives a score of 1 in communication. The student explains what he or she would do, but doesn't follow directions.