Title: Carnival Capers—Fun with Probability

Brief Overview:

Step right up to a classroom of carnival fun! Students will enjoy exploring concepts of probability while engaging in carnival-themed games. They will describe the likelihood of outcomes/events, create organized lists to determine all possible combinations, and assign numerical value to express probability. Through cooperative learning, students will discover how useful and relevant probability is in real-life.

NCTM Content Standard/National Science Education Standard:

Data Analysis and Probability

Grade/Level:

Grade 3

Duration/Length:

Three days at 60-minute lesson

Student Outcomes:

Students will:

- Describe the probability of an event by using the terms impossible, less likely, equally likely, more likely, or certain.
- Identify possible outcomes of a real-life situation by making an organized list.
- Describe the probability of an event by using numbers to represent the chances.

Materials and Resources:

Day 1

- Student resource sheets (SR 2, 3, 4, 5)
- Manipulative likelihood cards for each student (See SR 1)
- Floating rubber ducks
- Colored circle stickers
- Bowl(s)
- Water

Day 2:

- Transparency of SR 6
- Student resource sheets (SR 6, 7, 8, 9)
- 3 different party hats
- 3 different clown ruffles or leis
- Crayons
• Optional: red foam or rubber noses for each child

Day 3
• Student resource sheets (SR 10, 11, 12, 13)
• Felt squares—2 red, 6 blue, 7 green, 5 yellow
• Balloon template
• Magnet tape
• 3 ping pong balls
• Adhesive-backed Velcro strips
• Blindfold
• 4 carnival-type prizes of different size/value (ex: 1 very large stuffed animal and 3 smaller stuffed animals)
• **Allow at least 1 hour for preparation and set-up**

Development/Procedures:

Lesson 1—“Duck Pond Probability”

Teacher Preparation:
• Teacher may decide to have one duck pond per group or to have just one display for the entire class. For each duck pond, nine ducks are required. Place colored stickers or use permanent markers to mark duck bottoms as follows: 2 green, 4 blue, 2 yellow, 1 red. Place in bowl of water.

Preassessment—
• Distribute manipulative likelihood cards to each student (SR 1). He/She will assess student prior knowledge by posing the following questions. Students will respond by holding up the appropriate card.

What is the likelihood of:
• Our class saying the “Pledge of Allegiance” tomorrow morning?
• It getting dark tonight?
• Elephants flying over our school?
• It snowing tomorrow?
• Getting an A on your next math test?

After each response, students must justify their answers by describing the vocabulary to the class.

Launch –
• Ask one final question: What is the likelihood of our class participating in a carnival this week? Regardless of student response, the teacher will inform them that this statement is certain. The class will briefly discuss the concept of a carnival by sharing what they know about carnivals or fairs.

Teacher Facilitation –
Tell the students the first booth they will visit at the carnival is the duck pond. Begin by passing out SR 2 and duck ponds. Students will work cooperatively to complete the worksheet. Once students have completed the worksheet, review responses. Answer key may be found on TR 1. While discussing the “purple duck,” likelihood, the teacher will guide students to discover that “impossible” can be represented by using 0. Draw the probability scale on the board. Student volunteers will place their response cards in the appropriate position.

<table>
<thead>
<tr>
<th>Impossible</th>
<th>Less Likely</th>
<th>More Likely</th>
<th>Certain</th>
</tr>
</thead>
</table>

Next, the concept of “equally likely” will be introduced by asking, “Is there any other color that has the same likelihood as yellow?” (Yes, green). The teacher will guide students to “discover” the concept of equally likely and write this in on the scale. Extend student thinking by asking, “How can we be certain to pick a blue duck?”

Student Application—
- Pass out SR 3. Students will work individually to complete Part A of the worksheet. Answers will be reviewed and then students will read and discuss part B of this problem. After class discussion, the teacher will model an acceptable BCR response. Determine each student’s progress toward understanding of the concept through observation. Answer key may be found on TR 2.

Reteaching/Extension—
- For those who have not completely understood the lesson, teacher will guide this group through SR 4. Answer key may be found on TR 3. For those who have understood the lesson, students will complete the extension worksheet SR 5. Answer key may be found on TR 4.

Lesson 2—“Clowning Around”

Preassessment/Launch—
- Tell the students that they will “clown around” a bit. Distribute clown noses. Display a transparency of SR 6 on the overhead projector. Students should read the problem. Inform the students that they are responsible for helping Clarence today as you show the available hats and ruffles. Students are asked to predict how many combinations are possible. Record all predictions on the board and then distribute SR 7. Challenge the students to come up with as many combinations as possible. Students will be invited forward to dress their fellow classmate with a combination. All students will use crayons to record this combination on their worksheets.

Teacher Facilitation—
• Ask students alternative methods for finding all possible combinations. Introduce and model the concept of tree diagrams using the clown problem. First draw the tree diagram frame. Demonstrate how to place the information on each “branch.”

EXAMPLE:

Demonstrate how to create a list of combinations from the tree diagram.

**Student Application**—
• In a group or with a partner, students will use tree diagrams to complete SR 8. The teacher will assess understanding through observations and discuss strategies with small groups. Answer key can be found on TR 5.

**Reteaching/Extension**—
• A reteach group will be pulled if necessary to complete SR 9 with teacher. Answers can be found on TR 6. The remaining students will complete an activity (SR 9A) to extend their thinking of this concept. Answers can be found on TR 7.

**Lesson 3—“Balloon Pop Probability”**

**Teacher Preparation**—
• Balloon Array: Use balloon template to trace and cut 20 felt balloons: 2 red, 6 blue, 7 green, 5 yellow. Magnets should be attached to the back of each balloon and then mounted on a magnetic surface in an array (with minimal space between balloons). Prepare ping-pong balls by wrapping thin strips of Velcro (the rough, hook-like part) around the ball. Tape a “toss line” at an appropriate distance from the balloon target.

**Preassessment/Launch**—
• Pass out SR 10. Students will work with a partner to observe the balloon array and write 3 true statements. Students should be encouraged to use probability vocabulary. Statements will be shared with class. Answers can be found on TR 8.
Teacher Facilitation—

- Model recording the numerical probability of hitting a blue balloon in 2 ways: _____ out of ______ and in fraction form. Students should follow along on their paper. Students will work with their group to record the probability of hitting a green balloon. Then, students will work individually to write the probability of hitting a red and a yellow balloon. Then, present prizes to extend student thinking. Ask which color balloon must be hit in order to win the very large stuffed animal. (Larger prizes usually go to the least likely outcome). Students should be given time to discuss in their groups and then share with the class. (Guide them, if necessary, to recognize that the red balloon has the least chance of being hit and therefore, will result in the largest/best prize).

Student Application—

- Students will work through #1 on SR 11 with their partner. They should attempt to complete #2 individually. Answers can be found on TR 9.

Reteaching/Extension—

- Pull a reteach group, if necessary, and guide them through SR 12, using manipulatives. Answers can be found on TR 10. The rest of the class will work to complete SR 13.

As a reward, inform the students that they will now play “Balloon Pop Probability!” To play the game, each child will be blindfolded and placed at the toss line. They will toss one ball at the balloon array. If the ball does not hit a balloon on the first try, they must throw again. After each toss, the ball must be removed and given to the next student. Each student will then have the opportunity to play the game.

Summative Assessment:

Students will have selected response and BCR questions that assess understanding of the following objectives:

- Describe the probability of an event by using the terms impossible, less likely, equally likely, more likely, or certain.
- Identify possible outcomes of a real-life situation by making an organized list.
- Describe the probability of an event by using numbers to represent the chances.
- Answers can be found on TR 11.

Authors:

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Likelihood Cards

impossible

less likely

certain

more likely
The total number of ducks in the pond is ____.
There is/are ____ green duck(s) in the pond.
There is/are ____ blue duck(s) in the pond.
There is/are ____ red duck(s) in the pond.
There is/are ____ yellow duck(s) in the pond.

<table>
<thead>
<tr>
<th>Probability Word Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impossible</td>
</tr>
<tr>
<td>Less Likely</td>
</tr>
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</tr>
<tr>
<td>Certain</td>
</tr>
</tbody>
</table>

Using words from the Word Bank, describe the likelihood of...

Choosing a green duck than a red duck? __________________
Choosing a red duck than a blue duck? __________________
Choosing a yellow duck than a blue duck? __________________
Choosing a purple duck? ___________________
The total number of ducks in the pond is 9.
There is/are 2 green duck(s) in the pond.
There is/are 4 blue duck(s) in the pond.
There is/are 1 red duck(s) in the pond.
There is/are 2 yellow duck(s) in the pond.

Probability Word Bank

| Impossible | Less Likely | More Likely | Certain |

Using words from the Word Bank, describe the likelihood of...

Choosing a green duck than a red duck? More likely
Choosing a red duck than a blue duck? Less likely
Choosing a yellow duck than a blue duck? Less likely
Choosing a purple duck? Impossible
PART A- Dizzy Dean has decided to play the Duck Pond game. Fill in the blanks below to describe Dizzy's chances of picking the different color ducks.

It is _______________ that Dizzy will pick a duck.
It is _______________ that Dizzy will pick a pink duck.
It is _______________ that Dizzy will pick a blue duck.
It is _______________ that Dizzy can will pick an orange duck.

Dizzy is equally likely to pick a _________ or _________ duck.

PART B - If Dizzy picks a yellow duck, he will win the big prize. Do you think that Dizzy will win the big prize? _____
Use what you know about probability to explain why you think your answer is correct.
PART A- Dizzy Dean has decided to play the Duck Pond game. Fill in the blanks below to describe Dizzy’s chances of picking the different color ducks.

It is certain that Dizzy will pick a duck.
It is more likely that Dizzy will pick a pink duck.
It is less likely that Dizzy will pick a blue duck.
It is impossible that Dizzy will pick an orange duck.

Dizzy is equally likely to pick a red or blue duck.

PART B - If Dizzy picks a yellow duck, he will win the big prize. Do you think that Dizzy will win the big prize? **No**. Use what you know about probability to explain why you think your answer is correct. *Refer to rubric.* An Exemplary Response would be... No. I do not think that Dizzy will win the big prize. He needs to pick a yellow and there is only one yellow duck. All the other ones are different colors. He is less likely to win.
PART A - It is your turn to play the Frisky Fish game. Imagine you are blindfolded and you reach into the fish bowl. You catch one fish. Using words from the Word Bank, describe the likelihood of...

Catching a red fish _______________________
Catching a yellow fish than a blue fish _____________
Catching a black fish _______________________
Catching a yellow fish than a red__________________
Catching an orange fish or white fish______________

Word Bank
more likely
less likely
certain
impossible
equally likely

Part B - To win the game you have to catch a red fish. Do you think you can win?
Explain your answer. Remember to use your word bank to help you.

________________________________________________________________________
________________________________________________________________________
PART A- It is your turn to play the Frisky Fish game. Imagine you are blindfolded and you reach into the fish bowl. You catch one fish. Using words from the Word Bank, describe the likelihood of...

Catching a red fish ______ more likely_________
Catching a yellow fish than a blue fish _____less likely____
Catching a black fish ______impossible________
Catching a yellow fish than a red fish ___ less likely___
Catching an orange fish or white fish ______equally likely____

Part B - To win the game you have to catch a red fish. Do you think you can win? Explain your answer. Remember to use your word bank to help you. ___An exemplary response should use the probability vocabulary to justify the answer. Ex. I think I can win because there are more red fish than the other colors so it is more likely that I will pick a red fish.____
Spin-A-Prize

Carnival Boss Bobo needs your help! He has asked you to help design a carnival game called Spin-A-Prize. Players can win one of three prizes: a beany baby, a ball, and a toy car. Boss Bobo needs you to design 2 spinners.

**Spinner #1:** Label this spinner so that it is *less likely* for the player to win a beany baby.

**Spinner #2:** Label this spinner so that it is *equally likely* for the player to win a beany baby or a toy car, but *less likely* for the player to win a ball.
Carnival Boss Bobo needs your help! He has asked you to help design a carnival game called Spin-A-Prize. Players can win one of three prizes: a beany baby, a ball, and a toy car. Boss Bobo needs you to design 2 spinners.

**Spinner #1:** Label this spinner so that it is *less likely* for the player to win a beany baby.  
*Accept a variety of responses, as long as the parameters are met.*

---

**Spinner #2:** Label this spinner so that it is *equally likely* for the player to win a beany baby or a toy car, but *less likely* for the player to win a ball.  
*Accept a variety of responses, as long as the parameters are met*
Clarence the Clown is visiting from Cleveland to perform at the carnival. He could only pack 3 hats and 3 ruffles for his costumes because his suitcase is small. BoBo the Boss Clown says that Clarence may not wear the same costume twice. He must wear a different costume each day. How many days will Clarence be able to perform at the carnival?
Use your crayons to draw each “clown” in our class as they are dressed with a different costume.
Part A.
Your mom gives you money to buy one drink and one food at the carnival. Look at the menu below. How many different snack combinations could you munch on?

There are ________ different snack combinations.

Part B.
Use what you know about probability and listing possible combinations to explain how you found your answer. Use pictures, words, numbers, or symbols in your answer.

Step 1: Use tree diagrams to organize the information.
Step 2: Write all possible combinations.

__________________________________________
__________________________________________
__________________________________________
__________________________________________

Step 3: There are _______ possible combinations.

Think: Why is it important to organize the information before making a list?
Part A.
Your mom gives you money to buy one drink and one food at the carnival. Look at the menu below. How many different snack combinations could you munch on?

There are _______ different snack combinations.

Part B.
Use what you know about probability and listing possible combinations to explain how you found your answer. Use pictures, words, numbers, or symbols in your answer.

Step 1: Use tree diagrams to organize the information
Step 2: Write all possible combinations.

- Soda & Cotton Candy
- Soda & Ice cream
- Soda & Popcorn
- Punch & Cotton Candy
- Punch & Ice cream
- Punch & Popcorn

Step 3: There are 6 possible combinations.

Think: Why is it important to organize the information before making a list?

It is important to organize information before making a list because tree diagrams make sure that no information is left out.
Part A

Your friend, Dave, gave you 2 ride tickets for the carnival. You can choose 1 water ride and 1 land ride. How many possible combinations are there?

<table>
<thead>
<tr>
<th>Water Rides</th>
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<tr>
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<td>Whip</td>
</tr>
<tr>
<td>Boats</td>
<td>Rollercoaster</td>
</tr>
<tr>
<td></td>
<td>Ferris Wheel</td>
</tr>
<tr>
<td></td>
<td>Bumper Cars</td>
</tr>
</tbody>
</table>

There are __________ possible ride combinations.

Part B.
Use what you know about probability and listing possible combinations to explain how you found your answer. Use pictures, words, numbers, or symbols in your answer.

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
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Part A

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</table>

There are ____8____ possible ride combinations.

Part B.
Use what you know about probability and listing possible combinations to explain how you found your answer. Use pictures, words, numbers, or symbols in your answer.

**Example of exemplary response. Refer to rubric for further guidance.**
I know there are 8 combinations because I constructed a tree diagram to organize the information. I matched the slide to each land ride and I matched the boats to each land ride. There were 4 slide combinations and 4 boats combinations. 4 combinations + 4 combinations = 8 combinations
Ride tickets at the carnival cost 50 cents. Sarah has quarters, dimes, and nickels in her pocket. She decides to purchase one ticket to ride the rollercoaster. How many different combinations of coins could she give to buy the ticket?

There are ________ combinations of coins.

List all the coin combinations Sarah could make.
Ride tickets at the carnival cost 50 cents. Sarah has quarters, dimes, and nickels in her pocket. She decides to purchase one ticket to ride the rollercoaster. How many different combinations of coins could she give to buy the ticket?

There are 10 combinations of coins.

List all the coin combinations Sarah could make.

Quarter, Quarter
Quarter, Dime, Dime, Nickel
Quarter, Dime, Nickel, Nickel, Nickel
Quarter, Nickel, Nickel, Nickel, Nickel, Nickel
Dime, Dime, Dime, Dime, Dime
Dime, Dime, Dime, Dime, Nickel, Nickel
Dime, Dime, Dime, Nickel, Nickel, Nickel, Nickel
Dime, Nickel, Nickel, Nickel, Nickel, Nickel, Nickel, Nickel
Dime, Nickel, Nickel, Nickel, Nickel, Nickel, Nickel, Nickel, Nickel
Nickel, Nickel, Nickel, Nickel, Nickel, Nickel, Nickel, Nickel, Nickel
Launch your Learning…

Write 3 statements to describe the balloon array.

1. 

2. 

3. 

The probability of hitting a blue balloon can be expressed as:

_______ out of ________    OR    _______

The probability of hitting a green balloon is

_______ out of ________    OR    _______

The probability of hitting a yellow balloon is

_______ out of ________    OR    _______

What is the probability of hitting a red balloon?
Launch your Learning...

Write 3 statements to describe the balloon array.
1. Statements will vary.
2. 
3. 

The probability of hitting a blue balloon can be expressed as:

\[ \frac{6}{20} \]

The probability of hitting a green balloon is

\[ \frac{7}{20} \]

The probability of hitting a yellow balloon is

\[ \frac{5}{20} \]

What is the probability of hitting a red balloon?

2 out of 20  OR  2/20
1. There are 12 secret prizes in a bag. Four of the prizes are puzzles. The rest are stickers. What is the probability of picking a sticker?

Think: How many total prizes are there? __________

How many puzzles are there? __________

So, there must be _______ stickers.

The probability of choosing a sticker would be ______________.

2. Part A. There are 17 tickets in a bag. Eight are red. The rest are blue. Jenny randomly pulls one out of the bag. What is the probability of her pulling a blue ticket?

The probability of picking a blue ticket is ______________.

Part B. Use what you know about probability to explain how you found your answer. Use pictures, words, or symbols in your explanation.

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
1. There are 12 secret prizes in a bag. Four of the prizes are puzzles. The rest are stickers. What is the probability of picking a sticker?

Think: How many total prizes are there? ____12_____

How many puzzles are there? ____4_____

So, there must be ____8____ stickers.

The probability of choosing a sticker would be _8/12 OR 8 out of 12 OR 2/3._

2. Part A. There are 17 tickets in a bag. Eight are red. The rest are blue. Jenny randomly pulls one out of the bag. What is the probability of her pulling a blue ticket?

The probability of picking a blue ticket is 9/17 OR 9 out of 17.

Part B. Use what you know about probability to explain how you found your answer. Use pictures, words, or symbols in your explanation.

The number of blue stickers can be found by subtracting the total number of stickers and the number of red stickers. 17 - 8 = 9 blue stickers. There are 9 chances of picking a blue sticker out of 17 total chances.
Extra Practice...

1. There are 15 secret prizes in a bag. Nine of the prizes are lollipops. The rest are pencils. What is the probability of picking a pencil?

Think: How many total prizes are there? ____________

How many lollipops are there? ____________

So, there must be _______ stickers.

The probability of choosing a pencil would be ______________.

2. Part A. There are 16 stickers in a bag. Eight say, “Fair Fun”. The rest are “Cool Carnival”. Julie randomly pulls one out of the bag. What is the probability of her pulling a “Cool Carnival” sticker?

The probability of picking a “Cool Carnival” sticker is ______________.

Part B. Use what you know about probability to explain how you found your answer. Use pictures, words, or symbols in your explanation.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Extra Practice...

1. There are 15 secret prizes in a bag. Nine of the prizes are lollipops. The rest are pencils. What is the probability of picking a pencil?

Think: How many total prizes are there? ___15 prizes______

How many lollipops are there? ___9 lollipops_____

So, there must be ___6___ pencils.

The probability of choosing a pencil would be ___6/15 OR 6 out of 15 OR 2/5__.

2. Part A. There are 16 stickers in a bag. 12 say, “Fair Fun”. The rest say “Cool Carnival”. Julie randomly pulls one out of the bag. What is the probability of her pulling a “Cool Carnival” sticker?

The probability of picking a “Cool Carnival” sticker is __4/12 OR 4 out of 12 OR 1/3__.

Part B. Use what you know about probability to explain how you found your answer. Use pictures, words, or symbols in your explanation.

The number of “Cool Carnival” stickers can be found by subtracting the total number of stickers and the number of “Fair Fun” stickers. 16-12 = 4 “Cool Carnival” stickers. So, there are 4 chances of picking a “Cool Carnival” sticker out of 16 total chances.
1. Use red, yellow, blue, and green crayons to color each spinner differently.
2. Trade with a partner.
3. Answer the questions on your partner’s paper.

1. The probability of spinning blue is _____.
2. The probability of spinning green is _____.
3. The probability of spinning yellow is _____.
4. The probability of spinning red is ______.
Part A. Use the spinner below to choose the best answer for questions 1 - 3.

1. What is the likelihood of spinning a 1? _____
   a. less likely    b. more likely    c. certain    d. impossible

2. What is the likelihood of spinning a 3 or a 4? _____
   a. certain    b. impossible    c. equally likely    d. more likely

3. What is the likelihood of spinning a 5? _____
   a. certain    b. impossible    c. equally likely    d. more likely

4. What is the likelihood that our class will go to the cafeteria today for lunch? _____
   a. certain    b. impossible    c. less likely    d. more likely

5. What is the likelihood that a huge purple elephant will fly over our school?__
   a. certain    b. impossible    c. less likely    d. more likely
Your mom gives you money to buy one drink and one snack at the cafeteria. Look at the menu below. How many different combinations could you snack on?

<table>
<thead>
<tr>
<th>Drinks</th>
<th>Snacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>Chips</td>
</tr>
<tr>
<td>Juice</td>
<td>Pretzels</td>
</tr>
<tr>
<td></td>
<td>Apple</td>
</tr>
</tbody>
</table>

There are __________ different snack combinations.

Part B. Use what you know about probability and listing possible combinations to explain how you found your answer. Use pictures, words, numbers, or symbols in your answer.

_________________________________________________________
_________________________________________________________
_________________________________________________________
_________________________________________________________
Part C. Use the marbles to answer the questions below.

The probability of picking a blue marble can be expressed as:

_________ out of _________ OR ________________

The probability of picking a green marble is

_________ out of _________ OR ________________

The probability of picking a yellow marble is

_________ out of _________ OR ________________

What is the probability of picking a red marble? ________________

PART D. There are 15 secret prizes in a bag. Seven of the prizes are puzzles. The rest are stickers. What is the probability of picking a sticker?

Think: How many total prizes are there? __________

How many puzzles are there? __________

So, there must be _______ stickers.

The probability of choosing a sticker would be ________________.
Part A. Use the spinner below to choose the best answer for questions 1 – 3.

1. What is the likelihood of spinning a 1? ___
   a. less likely  b. more likely  c. certain  d. impossible

2. What is the likelihood of spinning a 3 or a 4? ___
   a. certain  b. impossible  c. equally likely  d. more likely

3. What is the likelihood of spinning a 5? ___
   a. certain  b. impossible  c. equally likely  d. more likely

4. What is the likelihood that our class will go to the cafeteria today for lunch? __a or d__
   a. certain  b. impossible  c. less likely  d. more likely

5. What is the likelihood that a huge purple elephant will fly over our school? ___
   a. certain  b. impossible  c. less likely  d. more likely
Part B. Use what you know about probability and listing possible combinations to solve the problem below.

Your mom gives you money to buy one drink and one snack at the cafeteria. Look at the menu below. How many different combinations could you snack on?

<table>
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<tbody>
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</tr>
<tr>
<td>Apple</td>
<td></td>
</tr>
</tbody>
</table>

There are **6** different snack combinations.

Part B. Use what you know about probability and listing possible combinations to explain how you found your answer. Use pictures, words, numbers, or symbols in your answer.

*Example of Exemplary Response. Refer to Rubric for further guidance.*

I know there are 6 combinations because I constructed a tree diagram to organize the information I matched the milk to each snack and then I matched the juice to each snack. There were three milk and snack matches and three juice and snack matches. 3 + 3 = 6 combinations.
Part C. Use the marbles to answer the questions below.

The probability of picking a blue marble can be expressed as:

\[
\frac{4}{9}
\]

The probability of picking a green marble is

\[
\frac{2}{9}
\]

The probability of picking a yellow marble is

\[
\frac{3}{9} \text{ OR } \frac{1}{3}
\]

What is the probability of picking a red marble? __0 or impossible___

PART D. There are 15 secret prizes in a bag. Seven of the prizes are puzzles. The rest are stickers. What is the probability of picking a sticker?

Think: How many total prizes are there? ___15________

How many puzzles are there? ___7________

So, there must be ___8___ stickers.

The probability of choosing a sticker would be ___8/15______.
MSA Brief Constructed Response “Kid Speak” Mathematics Rubric
Grades 1 through 8

<table>
<thead>
<tr>
<th>Score</th>
<th>My answer shows I completely understood the problem and how to solve it:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>• I used a very good, complete strategy to correctly solve the problem.</td>
</tr>
<tr>
<td></td>
<td>• I used my best math vocabulary to clearly explain what I did to solve the problem. My explanation was complete, well organized</td>
</tr>
<tr>
<td></td>
<td>and logical.</td>
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<tr>
<td></td>
<td>• I applied what I know about math to correctly solve the problem.</td>
</tr>
<tr>
<td></td>
<td>• I used numbers, words, symbols or pictures (or a combination of them) to show how I solved the problem.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>My answer shows I understood most of the problem and how to solve it:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>• I used a strategy to find a solution that was partly correct.</td>
</tr>
<tr>
<td></td>
<td>• I used some math vocabulary and most of my reasons were correct to explain how I solved the problem. My explanation needed to</td>
</tr>
<tr>
<td></td>
<td>be more complete, well organized or logical.</td>
</tr>
<tr>
<td></td>
<td>• I partly applied what I know about math to solve the problem.</td>
</tr>
<tr>
<td></td>
<td>• I tried to use numbers, words, symbols or pictures (or a combination of them) to show how I got my answer, but these may not have</td>
</tr>
<tr>
<td></td>
<td>been completely correct.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>My answer shows I didn’t understand the problem and how to solve it:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>• I wasn’t able to use a good strategy to solve the problem.</td>
</tr>
<tr>
<td></td>
<td>• My strategy wasn’t related to what was asked.</td>
</tr>
<tr>
<td></td>
<td>• I didn’t apply what I know about math to solve the problem.</td>
</tr>
<tr>
<td></td>
<td>• I left the answer blank.</td>
</tr>
</tbody>
</table>