



PROBABILITY PIZZA SHOP INSTRUCTIONS



- You are going to play Probability Pizza Shop with the kids. Have the kids sit on the floor in a circle so everyone can see the pizza.
- Let them know you own a pizza shop, but they cannot order their own pizza. They are only allowed to get whatever pizza you decide to offer from your menu.
- However, you need the kids' help filling out your menu to see how many options you will have. Begin with 3 toppings only.
- In the first round, you'll only use 3 toppings. Have the kids help you fill out the different 1 topping options, then 2 toppings, and then 3 toppings. After you fill out your entire menu, count how many possible outcomes there are at your pizza shop. Calculate the % chance the kids have of receiving their desired pizza from your shop. ($1/7 = 14\%$ chance)
- Pick a few kids to order from your shop. Have them close their eyes while you pick a combination of toppings for the pizza. Before they open their eyes, have them tell you what they hope to get (their desired outcome). Open their eyes and see if they received their desired outcome.
- Now, add in a 4th topping to see how many additional combinations your shop will offer on the menu. Start with 1 topping, then 2 toppings, then 3 toppings, and then 4 toppings. I suggest writing the new combos in a different color so you can easily see how many additional outcomes you added by adding 1 ingredient. Calculate the % probability of getting their desired outcome and play the game again.
- This time, let the students decorate the pizza for the person sitting to their left. Let everyone get a chance to order and decorate. They loved this part!

TIPS:

- Bring in manipulatives for the kids to play with to keep their attention. I used pretend play food from home. I brought a velcro pizza and pretend olives, tomatoes, bacon, and pineapple.
- I put my worksheets in a plastic cover so I could write with an erasable marker. I put the blank side on the front to fill out with the kids and my answer key on the back so I could verify they got all the possible combinations (this was very helpful).

Probability Pizza Shop was a hit with my 8 and 9-year-olds. I hope it's fun for your class, too!



PROBABILITY PIZZA SHOP



MENU

1 Topping	2 Toppings	3 Toppings	4 Toppings

PROBABILITY =
What is the probability (chance) you will get the pizza you desire?

Desired Outcome <i>(# of pizzas you can get)</i>			Percentage of outcome <i>(% chance you will get your desired pizza)</i>
Total Outcomes <i>(Total options available)</i>			



PROBABILITY PIZZA SHOP ANSWER KEY EXAMPLE



My topping choices were olives, bacon, tomato, and pineapple

MENU			
1 Topping	2 Toppings	3 Toppings	4 Toppings
Olives	Olives + Bacon	Olives, Bacon, Tomato	
Bacon	Olives + Tomato		
Tomato	Bacon + Tomato		
Pineapple	Olives + Pineapple	Olives, Bacon, Pineapple	Olives, Bacon, Pineapple, Tomato
	Bacon + Pineapple	Bacon, Tomato, Pineapple	
	Tomato + Pineapple	Olives, Tomato, Pineapple	

PROBABILITY =
What is the probability
(chance) you will get
the pizza you desire?

Desired Outcome (# of pizzas you can get)	1	1	Percentage of outcome 14% and 7% (% chance will you get your desired pizza)
Total Outcomes (Total options available)	7 (3 toppings)	15 (4 toppings)	



PROBABILITY PIZZA SHOP ANSWER KEY



MENU

1 Topping	2 Toppings	3 Toppings	4 Toppings

PROBABILITY =
*What is the probability
 (chance) you will get
 the pizza you desire?*

Desired Outcome <i>(# of pizzas you can get)</i>			Percentage of outcome <i>(% chance you will get your desired pizza)</i>
Total Outcomes <i>(Total options available)</i>			