

# THE NUMBERS SHOW

starring

## ZERO and The Digits

### Episode 1 Learning Guide

Special Guest: 1

Episode Release: December 1, 2018

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For increased learning, The Numbers Lady® suggests you first watch the episode together without reading the discussion questions. Then read the questions and watch again many times while considering the ideas presented.

If you have met The Numbers Lady at a maker faire, science & engineering festival, math event, STEM/STEAM event, teacher-training, or some other type of education or family event, what activities did you participate in? If you have not yet met The Numbers Lady, read a short bio on the website and follow NumbersAlive! events to find out where she will be leading activities or performing. If you come to Washington, DC, please stop by *The Numbers Show Starring Zero and the Digits* studio where the indoor episodes will be filmed.

The Numbers Lady encourages all to attend events and programs that encourage observation, discovery, creating, and inventing. Such activities will be part of future episodes, both shot within the studio and outside in various environments.

Beginning on the next page, The Numbers Lady presents questions or comments to consider as you watch the episode. Some are targeted to young children, others to adults, but all are designed to encourage groups to learn and play together. Many should initiate discussions that will encourage team research.

The last page includes “scavenger hunt” ideas to look for within the video. This should be particularly fun for young children to do on their own or with friends.



## The Numbers Show Starring Zero and the Digits

### Discussion Questions for Episode 1

1. Why do you think The Numbers Lady asked Zero to be the host of the show?
2. Why do you think the band's name is "The Digits?"
3. What do you think the name "Numberopolis!®" means?
4. Have you ever heard the phrase "dressed to the nines?" What do you think it means?
5. What do you think Zero means when he says to 9 that she is "as close to a perfect 10 as a single number can be?"
6. How can 1 be considered "small?"
7. What does "binary numeros" mean? What would you expect if you opened a box of Binary Numeros? What does "binary" mean? What does "numeros" mean?
8. What does "megabyte" mean? What does "gigabyte" mean? Do they sound tasty?
9. What metals are often used to make the 1st, 2nd, and 3rd place Olympic medals?
10. What is the name of the tallest mountain in the world?
11. Where is Mount Everest located? How did it get named "Mount Everest?"
12. Who was the 1<sup>st</sup> person to reach the summit of Mount Everest?
13. What is 1 waving at the top of Mount Everest?
14. What does a single rose have to do with 1? How does "first" in the ad comment relate to 1?
15. The announcer says that the game will last 15 seconds. Is she correct? How long do 0 and 1 actually write for? Does 0 or 1 finish first?
16. What does each word mean that 0 and 1 listed during the game?
17. What is "mon" an abbreviation for? Has it ever been considered a word?
18. Why did Count-4 Basey toot 4 times when 1 says he wants to win only "fair and square?" How does square relate to 4?
19. Why was "done" eliminated by the announcer?
20. What does it mean to "rhyme?" Why does "gone" not rhyme with "none?" How would you teach a non-English speaker to know they don't rhyme?
21. Can you think of words that rhyme with "one" that were not mentioned by 0 or 1?



22. A homophone is two words that are pronounced the same but spelled differently. Which of the listed words are homophones?
23. Can you create a sentence using each word mentioned by 0 or 1 or other rhyming words? Write your sentences or tell them to someone to write for you.
24. What are the connections between the mint commercial and 1?
25. How is the mint feeling? How do you know?
26. The announcer says that both 0 and 1 listed 5 known words. Did 0 mention 5 different words than 1? Were any of the same words listed by both 0 and 1? If so, which words? How many words?
27. Can you create a sentence using 2 of the words listed by 0 or 1? How about 3 of the words in one sentence? Can you create a sentence that includes all of the words named by 0 or 1?
28. Make a list of each word written by either 0 or 1. Count and record the number of letters in each word. Sort the words by number of letters. What count is the most frequent?
29. Make a list of the letters included in the accepted words. Count the number of times that you see each letter in the known words. (Note—This can be done twice to compare the impact of the overlap of any word mentioned by both 0 and 1. Do it once counting words mentioned by either 0 or 1; if a word is listed by both 0 and 1 count it only once. Then try it a second time counting any word as often as mentioned by 0 or 1.) Which letter is the most frequent among all of the letters? Does the inclusion of any word being listed by both 0 and 1 change which letter is listed with the greatest frequency?
30. What do you think about the “word” created by 1, “zun.” Might it be a useful word? What could it mean?
31. How often are new words created? Check out the Oxford English Dictionary to find out the new words added during each of the last years.
32. Who was Lewis Carroll? Can you name a book he wrote?
33. Who was Shakespeare? Can you name a play he wrote? How many plays can you name?
34. What does “one step at a time” mean? If you go 1 step at a time 13 times, how many steps do you walk up?



35. How many steps do you think it will take to go up Mount Everest? (Challenge—if a step will increase your position 6 in or 15 cm, how many steps would it take to get to the summit of Mount Everest? This is clearly a simplified version of actual mountain climbing but will give an idea of what it takes if ONLY going straight up as if there were stairs up Mount Everest!)
36. How does Mount Everest relate to 1?
37. What is a “onesie?” Why do you think it is called a onesie?
38. What is an ace of cards? How does it relate to 1? How many aces are in a standard deck of 52 playing cards?
39. Where is Sydney, Australia? What bodies of water are outside Sydney?
40. What nicknames do you hear for Australia?
41. Why is it summer weather during December in Sydney, Australia?
42. Can you make the sound of the didgeridoo?
43. How does the didgeridoo relate to 1?
44. What do you think “shrimp on the barbie” means?
45. What are popular sauces for barbecued shrimp? Research varieties of different cuisines. Which have you tasted? Which do you prefer? Perhaps you could plan to visit food trucks or restaurants to taste different sauces.
46. What pattern do you see in the fan club’s phone number? How does that pattern relate to a usual phone number?



### Content Link of Discussion Questions to Disciplines

Discussion Question	Language	Math Thinking	Critical Thinking	ELL	Science	Art	Geography	Culture	History
1		x							
2	x	x							
3	x	x							
4	x	x						x	
5		x							
6	x	x							
7	X	x						x	
8		x			x				
9					x		x		
10	x						x		
11	x						x		x
12									x
13		x						x	
14	x	x	x					x	
15		x							
16	x								
17	x								
18	x	x	x						
19	x			x					
20	x			x					
21	x								
22	x								
23	x								
24	x	x	x		x				
25			x		x	x			
26	x	x	x						
27	x								
28	x	x							
29	x	x	x						



Discussion Questions	Language	Math thinking	Critical Thinking	ELL	Science	Art	Geography	Culture	History
30	x								
31	x							x	x
32	x							x	x
33	x							x	x
34	x	x							
35		x	x				x		
36		x					x		
37	x							x	
38	x	x	x					x	
39							x		
40	x						x	x	
41					x		x		
42					x			x	
43		x	x					x	
44	x							x	
45								x	
46	x	x						x	

Note: If you think of some additional discussion questions, please send them to The Numbers Lady: [numbers@numbersalive.org](mailto:numbers@numbersalive.org). She is always interested in new ideas!

