

THE NUMBERS SHOW

starring

ZERO and The Digits

Episode 4 Learning Guide

Holiday Special

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1. How many winter holidays can you name?
2. Why do you think 9 is Rudolph? Can you think of a reason a different number should be Rudolph?
3. Why would people call 0 “Jolly O Saint Nick” if he ate all the cookies?
4. What shape is 0? What shape is O?
5. Do you think it is easy to balance on your head? Why or why not?
6. Will a handstand help 0 feel less full? Why or why not?
7. There are many different reasons people practice yoga. One of those reasons is to get better at balancing. Try this simple but challenging yoga pose: Stand with both feet together. Slowly raise one foot and balance it flat on your other leg so that your knee sticks out to the side. This is called the Tree Pose. How does it feel? Is it easier to balance on one of your legs than the other?
8. What do you call a star that has 7 points? How many stars can you draw that all have a different number of points?
9. What does “’twas” mean?
10. Rudolph is just a character in a story, but reindeer are real animals that live in cold places. Where in the world do you think they might live?
11. Which reindeers’ names rhyme? How many of them have no rhyme?
12. The reindeer who don’t have rhyming buddies feel lonely! Think of a rhyme for each one to help them feel joyful again.
13. Why is a figure-8 named after 8?
14. How many times does 8 have to turn to make a figure-8?
15. How many members of the figure-8 family are there?
16. How many dozen are there in 36? Are there any left over?

17. In the “12 Notes of Christmas” film, Team Ten travels all over the world. Look at the answers to the game. How many continents did they visit?
18. How many dozen are there in 33? Are there any left over? How about 31? Any leftovers?
19. Challenging: What is funny about Pi saying all should have a rational holiday?
20. What did Charles Dickens write?
21. Which holiday story is your favorite? How many can you name?
22. How many days is your winter break? How many months is it in? How many years is it in?
23. What is “old English?” What do you think “a wish of the merriest Yuletide feast to thee” means?
24. Is Shakespeare still alive today? When was he alive?
25. El-9 tells 0 that years can only go forward, and the number gets 1 greater each year. What other things only make sense counting on one direction—forward, getting larger/greater?
26. If you add all the digits in 2018, what is the sum? Make a prediction what the sum of the digits in 2019 will be before you try adding the digits.
27. What does it mean to “jump up and jive?” Try it!
28. Rewrite a holiday song to be about your favorite member of Team Ten. Challenge: Write a song that includes all 10 digits.
29. What does STEM stand for?
30. Higher math and science constants are symbols or letters that represent special situations.
Challenges:
 - a. a) Why do you think mathematicians and scientists use those symbols or letters instead of the whole number?
 - b. b) Can you think of a special characters in a language?

Content Link of Discussion Questions to Disciplines

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