

Significant¹ Numbers

We are going to watch a short animated music video and read a news article about numbers that are significant in different ways.

Before you watch

- 1) What is a hero/heroine²? Give some examples.
- 2) Why is the number zero important?
- 3) The video we're going to watch is called "My Hero, Zero". What do you think it will be about?

While you watch

The lyrics³ from "My Hero, Zero" are on pp. 1 & 2. Try to fill in the blanks as you watch.



1 Significant (adjective): important, meaningful.

2 Heroine (count noun): female form of the word "hero".

3 Lyrics (non-count noun): song words.



Zero?

Yeah, Zero is a wonderful thing. In fact, Zero is my hero!

How can Zero be a hero?

Well, there are all kinds of heroes, you know. A man can get to be a hero for a famous battle he fought or by studying very hard and becoming a weightless _____.

And then there are heroes of other sorts, like the heroes we know from watching sports. But a hero doesn't have to be a grown-up person, you know. A hero can be a very big dog who comes to your rescue or a very little boy who's smart enough to know what to do. But let me tell you about my favorite hero.

My hero, Zero, such a funny little hero,

But till you came along, we _____.

Now you're here to stay.

And nobody really knows how wonderful you are.

Why, we could never reach a _____, without you, Zero, my hero.

How wonderful you are.

What's so wonderful about a zero? It's _____, isn't it?

Sure, it represents⁴ _____ alone.

But place a zero after 1, and you've got yourself a _____.

See how important that is?

When you run out of _____, you can start all over again.

See how convenient that is?

That's why with only _____ including zero,

4 Represent (verb): stand for, mean.

You can _____ as high as you could ever go, _____, towards infinity⁵.
No one ever gets there, but you could try.

With _____ zeros, from the cavemen⁶ till the heroes who invented⁷ you,
They _____ on their fingers and toes,
And maybe some sticks and stones, or rocks and bones, and their neighbors' toes.
You're here, and nobody really knows how wonderful you are.
Why, we could never reach the _____, without you, Zero, my hero.
Zero, how wonderful you are.

Place one zero after any number,
And you've _____ that number by _____.
See how easy that is.

Place two zeros after any number,
And you've _____ that number by _____.
See how simple that is.

Place three zeros after any number,
And you've _____ that number by _____.

Et cetera⁸, et cetera, ad infinitum⁹, ad astra¹⁰, forever and ever,
With zero, my hero, how wonderful you are.



5 Infinity (count noun): the large
6 Caveman (count noun): person
7 Invent (verb): create first.
8 Et cetera (expression): etc.
9 Ad infinitum (expression): etc. (not commonly used).
10 Ad astra (expression): etc. (not commonly used).

Check your understanding

With a partner, try to find the answers to the following questions in the song lyrics.

- 1) How can a person become a hero? List five ways.
- 2) What can zero be used for?
- 3) Why does the song say, “we could never reach the stars” without zero?

Extend

1. What is the message of this song? Do you agree with it?
2. What are some other ways that zero can be used?
3. Do you know any other songs about numbers?
4. What numbers are personally significant to you? (Think about your date of birth, favorite number, phone number, etc.) Why are they significant to you?
5. What numbers are important in mathematics and science? (Think about i , e , π , etc.) How do you say them? Why are they important?

Homework

- 1) Read the following article about mathematically significant dates.
- 2) Go to the website and do the comprehension and vocabulary exercises.



Into numbers? Sunday special day for you

May 5, 2007

Retrieved June 2, 2007 from <http://www.nashuatelegraph.com/apps/pbcs.dll/article?AID=/20070505/OPINION04/205050308/-1/opinion>

Sunday morning at three minutes and four seconds after 2 a.m., it will be exactly 02:03:04 05/06/07. And if you find that so astounding that you won't be able to sleep till you've experienced this once-in-a-century¹¹ sequence, you are, in case you didn't know...a nerd¹². A numbers nerd, that is. No shame¹³ in that—I'm one, too. (Hey: one, too. Cool numbers are everywhere!) Folks like us find it hard not to shout, "Look—it's 12:34!" Even 2:34 is sweet¹⁴, as are 1:23, 3:45, and of course, 4:56.

And when it's 11:11—well, it just doesn't get much better than that.

"I love 11:11, too," said the spokesman¹⁵ for the American Mathematical Society, Mike Breen. "You can turn your clock upside down." You can do that again at nine minutes after six (and six after nine).

The thrill¹⁶ of Sunday's time/date drama is felt keenly¹⁷ by people like Breen, who also appreciates the numbers on license plates. "I might look at the last three digits and see if it's prime¹⁸," he said. "Or if the digits are a perfect square¹⁹." Fun!

The other folks tingling with anticipation²⁰ seem to be those with fond²¹ memories of numerical alignments²² past.

Publicist²³ Nancy Lovell was in the college student council²⁴ office nearly three decades ago when her friend suddenly yelled from the office next door, "'Lovell, come in here!' I went in,

11 Century (count noun): 100 years.

12 Nerd (count noun): geek.

13 Shame (non-count noun): a bad feeling you get when you do something bad.

14 Sweet (adjective): good.

15 Spokesman (count noun): representative.

16 Thrill (count noun): excitement.

17 Keenly (adverb): sharply; greatly.

18 Prime (adjective): a number that can only be divided by 1 and itself, such as 2, 3, 5, 7, and 11.

19 Perfect square (count noun): a number that is the square of another number, such as 9 (3²) or 25 (5²).

20 Tingle with anticipation (phrase): be excited while waiting for something.

21 Fond (adjective): pleasant; feeling that you like something.

22 Numerical alignment (count noun): when numbers come together in a significant way, like in the time 11:11 or the date 5/6/7.

23 Publicist (count noun): a person who tells the public about a celebrity, book, movie, etc.

24 Student council (count noun): student government.

and the clock said it was 12:34,” Lovell still vividly²⁵ recalled. That was May 6, 1978, which made the time exactly 12:34 5/6/78.

“We both kind of stood and said, ‘Huh.’”

Unfortunately, “Huh,” seems to be the standard response one gets when one points out a numerical sequence, no matter how cool. Kids appreciate these occurrences a little more (emphasis²⁶ on “little”), but with adults, the conversation just grinds to a halt²⁷.

And yet, people do feel the pull²⁸ of special numbers even if they don’t readily²⁹ admit it. How else to explain the rash³⁰ of weddings planned for 07/07/07?

“All of us in this business have seen an extreme interest in the date,” wedding planner Jennifer Brisman said. When Eva Longoria and Tony Parker³¹ announced their plans to wed on that date, the lucky seven sequence³² soared³³ into national consciousness³⁴. “Every bride had to ask about it,” Brisman said. In fact, the date is so popular that florists³⁵ and caterers³⁶ are having a hard time meeting the demand.



By contrast, last year’s 06/06/06³⁷ was a date some assumed would usher³⁸ in the end of the world.

It didn’t.

25 Vividly (adverb): clearly.

26 Emphasis (non-count noun): stress, focus.

27 Grind to a halt (phrase): stop.

28 Feel the pull (phrase): feel interest.

29 Readily (adverb): easily, quickly.

30 Rash (count noun): many occurrences during a short time.

31 Eva Longoria and Tony Parker (proper nouns): celebrities. She is an actress and he is a basketball player.

32 Lucky seven sequence (count noun): three sevens in a row. If three sevens come up on a slot machine (gambling), you win!

33 Soar (verb): came quickly, rose quickly.

34 National consciousness (count noun): the minds of the people of a nation.

35 Florist (count noun): someone who sells flowers.

36 Caterer (count noun): someone who provides food for an event.

37 666 (expression): the number of the devil.

38 Usher (verb): bring.

Even those who scorn³⁹ such superstition⁴⁰ are not above a little fun with dates. Math clubs around the country celebrate “Pi Day” on March 14, which happens to be 3/14 – the first three digits of the number pi.

“There’s a pie-eating contest where you have, of course, three minutes and 14 seconds to eat pie using only your hands,” said the faculty sponsor⁴¹ of the Harvard Math Club, Professor Noam Elkies.

He has heard of chemists who celebrate Oct. 23 as something called “mole” day – because 10 to the 23rd power is important (somehow), in chemistry (and it’s called mole).

And in Europe, where the day is written before the month, Jan. 27 marks “e Day,” celebrating the number e, 2.71..., which is (sorry, I could not understand a thing he said about this) significant, too.

That European way of writing the date, by the way, means that 2:03:04 05/06/07 won’t happen until June 5 over there, so if you’re planning an overseas vacation, you could get to celebrate it twice. I hope you appreciate that!

But probably . . . you don’t.



39 Scorn (verb): dislike something.

40 Superstition (count noun): belief in something such as a horseshoe bringing good luck or a black cat bringing bad luck.

41 Faculty sponsor (count noun): a professor who supervises a student club.

After you read

Discuss the following questions with your group.

- 1) When will be the next date with its numbers in a sequence like 5/6/07? The next after that?
- 2) The article mentions 11:11, 6:09, and 9:06 as times that you can turn your clock upside down. Can you think of any others?
- 3) Do you ever look at license plate numbers? Have you seen any interesting ones?
- 4) Imagine that someone pointed out to you that it was 12:34 on 5/6/78. What would your reaction be?
- 5) Would/did you choose a lucky date for your wedding? Why or why not?
- 6) In your culture, do you have any special days that are determined by the numbers of the date?

