

The Na'vi Number System

Preface:

Kaltxi ma smuktu!

I came up with the idea to write a little "How to use the Na'vi Number System". I got everything from the *Na'vi-German Dictionary*, *Na'vi - Grammar and Rules*, and *Horen Li'fyayä leNa'vi* then summarized here.

Here I discuss only the numerical system of the Na'vi language and I hope that this is clearly written.

This PDF file is a translation of the German version (that I wrote). Thanks to Tirea Aean for correction.

The Na'vi knows an octal number system with the base eight.

Instead of numbers of the form of $m \times 10 + n$, in Na'vi, one uses numbers of the form $m \times 8 + n$.

For example, $4 \times 8 + 4 = 44_8$. 36_{10} and 44_8 are equivalent.

Note: The subscript numbers indicate the base of the number system.

Let's start with the basic numbers of the Na'vi:

Basic Numbers

Number	Na'vi	Basic	Rest
0	kew		
1	'aw		-aw
2	mune	me-	-mun
3	pxey	pxe-	-pey
4	tsìng	tsì-	-sìng
5	mrr	mrr-	-mrr
6	pukap	pu-	-fu
7	kinä	ki-	-hin
8 (10₈)	vol	vo-	
64 (100₈)	zam	za-	
512 (1000₈)	vozam	voza-	
4096 (10000₈)	zazam	zaza-	

If you want to use numbers greater than eight, it is done as follows:

nine **volaw** **vol + -aw** → **8 + 1**

ten **vomun** **vo(l) + -mun** → **8 + 2**

Note: The l from vol falls off if the part after starts with a consonant.

A similar thing is done if you want to say numbers greater than fifteen.

In this case, the following scheme is used:

Basic + **vol** + Rest

thirty-two **tsìvol** **tsì- + vol** *four times 8* **4 x 10₈** 40₈ / 32₁₀

fifty-three **puvomrr** **pu- + vo(l) + -mrr** *six times 8 + 5* **6 x 10₈ + 5** 65₈ / 53₁₀

Notes: 1. Lenition is pervasive in the counting system.

2. Stress is on the first syllable in the following: *mune*, *pukap*, *kinä*, *mevol*, *pxevol*, *tsìvol*, *mrrvol*, *puvol*, *ktivol*, *zavol*, *vozam*, *zazam*. In all other cases stress is on the final syllable.

Table 1

Na'vi Numbers	Number	Na'vi	Number	Na'vi	Number	Na'vi	Number	Na'vi	Number	Na'vi
decimal: 0	0	kew	8	vol	16	mevol	24	pxevol	32	tsìvol
octal: 0	0		10		20		30		40	
decimal: 1	1	'aw	9	volaw	17	mevolaw	25	pxevolaw	33	tsìvolaw
octal: 1	1		11		21		31		41	
decimal: 2	2	mune	10	vomun	18	mevomun	26	pxevomun	34	tsìvomun
octal: 2	2		12		22		32		42	
decimal: 3	3	pxey	11	vopey	19	mevopey	27	pxevopey	35	tsìvopey
octal: 3	3		13		23		33		43	
decimal: 4	4	tsìng	12	vosìng	20	mevosìng	28	pxevosìng	36	tsìvosìng
octal: 4	4		14		24		34		44	
decimal: 5	5	mrr	13	vomrr	21	mevomrr	29	pxevomrr	37	tsìvomrr
octal: 5	5		15		25		35		45	
decimal: 6	6	pukap	14	vofu	22	mevofu	30	pxevofu	38	tsìvofu
octal: 6	6		16		26		36		46	
decimal: 7	7	kinä	15	vohin	23	mevohin	31	pxevohin	39	tsìvohin
octal: 7	7		17		27		37		47	

Table 2

Na'vi Numbers	Number	Na'vi	Number	Na'vi	Number	Na'vi	Number	Na'vi	Number	Na'vi
decimal: 40	40	mrrvol	48	puvol	56	kivol	64	zam	72	zavol
octal: 50	50		60		70		100		110	
decimal: 41	41	mrrvolaw	49	puvolaw	57	kivolaw	65	zamaw	73	zavolaw
octal: 51	51		61		71		101		111	
decimal: 42	42	mrrvomun	50	puvomun	58	kivomun	66	zamun	74	zavomun
octal: 52	52		62		72		102		112	
decimal: 43	43	mrrvopey	51	puvopey	59	kivopey	67	zapey	75	zavopey
octal: 53	53		63		73		103		113	
decimal: 44	44	mrrvosìng	52	puvosìng	60	kivosìng	68	zasìng	76	zavosìng
octal: 54	54		64		74		104		114	
decimal: 45	45	mrrvomrr	53	puvomrr	61	kivomrr	69	zamrr	77	zavomrr
octal: 55	55		65		75		105		115	
decimal: 46	46	mrrvofu	54	puvofu	62	kivofu	70	zafu	78	zavofu
octal: 56	56		66		76		106		116	
decimal: 47	47	mrrvohin	55	puvohin	63	kivohin	71	zahin	79	zavohin
octal: 57	57		67		77		107		117	

Note: The m from zam falls off if the part after starts with a consonant.

In the table are also numbers greater than 64₁₀. 64₁₀ is equivalent to 100₈.

sixty-five zamaw zam + -aw 64₁₀ + 1 100₈ + 1 101₈ / 65₁₀

sixty-eight zasìng za(m) + -sìng 64₁₀ + 4 100₈ + 4 104₈ / 68₁₀

Big Numbers

See the table:

Na'vi Numbers	Number	Na'vi	Number	Na'vi	Number	Na'vi
decimal: 64 octal: 100		zam	512 1000	vozam	4096 10000	zazam
decimal: 128 octal: 200		mezam	1024 2000	mevozam	8192 20000	mezazam
decimal: 192 octal: 300		pxezam	1536 3000	pxevozam	12288 30000	pxezazam
decimal: 256 octal: 400		tsìzam	2048 4000	tsìvozam	16384 40000	tsìzazam
decimal: 320 octal: 500		mrrzam	2560 5000	mrrvozam	20480 50000	mrrzazam
decimal: 384 octal: 600		puzam	3072 6000	puvozam	24576 60000	puzazam
decimal: 448 octal: 700		kizam	3584 7000	kivozam	28672 70000	kizazam

To write a big number use this schema:

(Prefix + **zaza(m)**) + (prefix + **voza(m)**) + (prefix + **za(m)**) + prefix + **vo(l)** + suffix

Any parts in parentheses can be omitted.

<i>three-hundred-eighty-four</i> 384 ₁₀ / 600 ₈	puzam	pu- + zam 6 x 100 ₈	six times 64 6 x 64 ₁₀
<i>In LearnNa'vi.org colors</i>	600₈	(6 * 8 * 8) + (0 * 8) + 0	pu-zam
<i>four-hundred-sixty-one</i> 461 ₁₀ / 715 ₈	kizavomrr	ki- + za + vo + -mrr 7 x 100 ₈ + 10 ₈ + 5	seven times 64 + 8 + 5 7 x 64 ₁₀ + 8 ₁₀ + 5
<i>In LearnNa'vi.org colors</i>	715₈	(7 * 8 * 8) + (1 * 8) + 5	ki-za-vo-mrr
<i>four-hundred-ninety-eight</i> 498 ₁₀ / 762 ₈	kizapuvomun	ki- + za + pu- + vo + -mun 7 x 100 ₈ + 6 x 10 ₈ + 2	seven times 64 + six times 8 + 2 7 x 64 ₁₀ + 6 x 8 ₁₀ + 2
<i>In LearnNa'vi.org colors</i>	762₈	(7 * 8 * 8) + (6 * 8) + 2	ki-za-pu-vo-mun

If you want to try to say or write a greater number, it's not currently possible because a new word is needed for 32768 (100,000₈) and any higher power of 8.

Using the Numbers

The numbers are used as adjectives.

Examples:

5 trees → **mrrra** utral / utral **amrr** → **number** + **a** ← which refers to the noun.

14 people → **vofua** tawtute / tawtute **avofu**

And then we write it as a figure:

5 trees → °**5a** utral / utral **a5°** → ° + **digit** + **a** ← which refers to the noun.

14 people → °**16a** tawtute / tawtute **a16°**

The degree symbol ° indicates that the number means as octal, so as an alternative to the subscript 8 } X₈.

Non-Na'vi Numbers

The Na'vi has two loanwords among its numbers from English. These would be **'eyt** and **nayn**.

Use these **not** for counting (*whoever does will be eaten by Palulukan!* 🤖), but as digits. For example, phone numbers, license plates, IDs, etc.

Ordinal Numbers

The ordinal numbers are formed by the suffix **-ve**.

See the table:

Na'vi Numbers	Number	Na'vi	Number	Na'vi
decimal: 0 th	0 th	-	8 th	volve
octal: 0 th	0 th	-	10 th	
decimal: 1 st	1 st	'awve	9 th	volawve
octal: 1 st	1 st	'awve	11 th	
decimal: 2 nd	2 nd	muve	10 th	vomuve
octal: 2 nd	2 nd	muve	12 th	
decimal: 3 rd	3 rd	pxeyve	11 th	vopeyve
octal: 3 rd	3 rd	pxeyve	13 th	
decimal: 4 th	4 th	tsive	12 th	vosive
octal: 4 th	4 th	tsive	14 th	
decimal: 5 th	5 th	mrrve	13 th	vomrrve
octal: 5 th	5 th	mrrve	15 th	
decimal: 6 th	6 th	puve	14 th	vofuve
octal: 6 th	6 th	puve	16 th	
decimal: 7 th	7 th	kive	15 th	vohive
octal: 7 th	7 th	kive	17 th	

See the table:

Na'vi Numbers	Number	Na'vi
decimal: 64 th	64 th	zave
octal: 100 th	100 th	
decimal: 512 th	512 th	vozave
octal: 1000 th	1000 th	
decimal: 4096 th	4096 th	zazave
octal: 10000 th	10000 th	

*Note: The ordinal suffix **-ve** is never stressed, and does not disturb the stress pattern of the base to which it is attached.*

Repetitions

Number of repetitions (For ex. five times, seven times, etc.) expressed about the word **alo**, which is used as a noun:

five times: **alo amrr** / **mrra alo**

six times: **alo apukap** / **pukapa alo**

This can also develop:

fifth time: **alo amrrve** / **mrrvea alo**

sixth time: **alo apuve** / **puvea alo**

Valid words:

one time: **'awa alo** / **alo a'aw**

(almost always shortened to **'awlo**)

two times: **munea alo** / **alo amune**

(almost always shortened to **melo**)

three times: **pxeya alo** / **alo apxey**

(almost always shortened to **pxelo**)

Fractions

Fractions are formed with the help of **-pxì**, except *half* and *third*.

half	mawl	sixth	pupxì
third	pan	seventh	kipxì
fourth	tsìpxì	eighth	vopxì
fifth	mrrpxì	ninth	volawpxì

Special writing: **mefan** is two-thirds (Dual of **pan**).

Note: Fractures are treated as nouns.

To make higher fractions, combine a number with a fraction. Note that you have to use the number like an adjective – so use **-a-** attribute.

munea mrrpxì - two fifths

kinäa vopxì - seven eighths

Useful Info

Here you can find the LearnNavi.org [Numbers](#)

Language updates board: [Ordinal zam, vozam and zazam](#)

Final word:

So, I hope that this PDF file is helpful.

Sources: *Dictionary: Na'vi - German*, the *Na'vi - Grammar and Rules* and *Horen Li'fyayä leNa'vi*

Please let me know if you find errors or have suggestions for improvement - Irayo!

- ta T̄itstewan

‘/vong Na’vi!

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