

**Tau** According to *The Greater Key of Solomon* a luminary, by the pronouncing of the name “*God brought on the Deluge.*”

<http://www.angelfire.com/journal/cathbodua/Angels/Tangels.html>

# Taw

From Wikipedia, the free encyclopedia

**Taw**, **tav**, or **taf** is the twenty-second and last letter in many Semitic abjads, including Phoenician, Aramaic, Hebrew **תַּו** (Modern Hebrew: **טַו**) ת and Arabic alphabet **ت** *tā'* ت (see below). Its original sound value is /t/.

The Phoenician letter gave rise to the Greek *tau* (Τ), Latin T, and Cyrillic Т.

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← Shin	Taw			
Phoenician	Hebrew	Aramaic	Syriac	Arabic
𐤏	ת	ܬ	ܬ	ت, ث
<b>Phonemic representation</b>			t (also θ, s)	
<b>Position in alphabet</b>			22	
<b>Numerical value</b>			400	
<b>Alphabetic derivatives of the Phoenician</b>				
Greek	Latin		Cyrillic	
Τ	T		Т	

## Origins of taw

Taw is said to have come from a *mark* or asterisk-like marking, perhaps indicating a signature. Its literal usage in the Torah denotes a **wound**, or in modern semantics, carving into a surface.

## Hebrew tav

Orthographic variants				
Various Print Fonts			Cursive Hebrew	Rashi Script
Serif	Sans-serif	Monospaced		
<span>ת</span>	<span>ת</span>	<span>ת</span>	<span>ת</span>	<span>ת</span>

Hebrew spelling: תָּו

## Hebrew pronunciation

The letter *tav* in modern Hebrew usually represents a voiceless alveolar plosive /t/).

## Variations on written form and pronunciation

The letter *tav* is one of the six letters which can receive a dagesh kal. The six are bet, gimel, dalet, kaph, pe, and tav (see Hebrew Alphabet for more about these letters). Three of them, bet, kaph, and pe, have their sound values changed in modern Hebrew from the fricative to the plosive by adding a dagesh. The other three have the same pronunciation in modern Hebrew, but have had alternate pronunciations at other times and places. In traditional Ashkenazi pronunciation, tav represented an /s/ (a form which is still heard today, especially among Diaspora Jews) without the dagesh, and had the plosive form when it had the dagesh. In some Sephardi areas, some Chassidic groups, as well as Yemen, tav without a dagesh represented a voiceless dental fricative /θ/ without a dagesh and the plosive form with the dagesh. In traditional Italian pronunciation tav without a dagesh is sometimes spelled as /s/ (for example in the word Tallit that is pronounced *talled*). See bet, dalet, kaph, pe, and gimel.

## Significance of tav

In gematria tav represents the number 400, the largest single number that can be represented without using the *sophit* forms (see kaph, mem, nun, pe, and tzade).

In representing names from foreign languages, a *geresh* or *chupchik* can also be placed after the tav (תׁ), making it represent /θ/.

## In Judaism

Tav is the last letter of the Hebrew word *emet*, which means 'truth'. The midrash explains that *emet* is made up of the first, middle, and last letters of the Hebrew alphabet (aleph, mem, and tav: אמת). *Sheqer* (falsehood), on the other hand, is made up of the 19th, 20th, and 21st (and penultimate) letters.

Thus, truth is all-encompassing, while falsehood is narrow and deceiving. In Jewish mythology it was the word *emet* that was carved into the head of the golem which ultimately gave it life. But when the letter *aleph* was erased from the golem's forehead, what was left was "*met*"—dead. And so the golem died.

*Ezekiel* 9:4 depicts a vision in which the *tav* plays a Passover role similar to the blood on the lintel and doorposts of a Hebrew home in Egypt.<sup>[1]</sup> In Ezekiel's vision, the Lord has his angels separate the demographic wheat from the chaff by going through Jerusalem, the capital city of ancient Israel, and inscribing a mark, a tav,

“upon the foreheads of the men that sigh and that cry for all the abominations that be done in the midst thereof.”

In Ezekiel's vision, then, the Lord is counting tav-marked Israelites as worthwhile to spare, but counts the people worthy of annihilation who lack the tav and the critical attitude it signifies. In other words, looking askance at a culture marked by dire moral decline is a kind of shibboleth for loyalty and zeal for God.<sup>[2]</sup>

### Sayings with taf

"From aleph to taf" describes something from beginning to end, the Hebrew equivalent of the English "From A to Z."

## Syriac taw

In the Syriac alphabet, as in the Hebrew and Phoenician alphabets, taw (ܐ) is the last letter in the alphabet. It represents either /t/ (voiceless alveolar plosive) or between a t and d sound.

Estrangelā (classical)	Madnḥāyā (eastern)	Unicode character
<span>ܐ</span>	<span>ܐ</span>	ܐ

## Arabic tāʾ

The letter is named *tāʾ*. It is written in several ways depending on its position in the word:

Position in word:	Isolated	Final	Medial	Initial
Glyph form:	<span>ت</span>	<span>ت</span>	<span>ت</span>	<span>ت</span>

Final ت (*fathah*, then *tāʾ* with a sukun on it, pronounced /at/, though diacritics are normally omitted) is used to mark feminine gender for third-person perfective/past tense verbs, while final ت (*tāʾ-fathah*, /ta/) is used to mark past-tense second-person singular masculine verbs, final ت (*tāʾ-kasrah*, /ti/) to mark past-tense second-person singular feminine verbs, and final ت (*tāʾ-dammah*, /tu/) to mark past-tense first-person singular verbs. The plural form of Arabic letter ت is *Altaaʿat* (التاءات).

Recently the isolated ت has been used online because it resembles a smiling face.

### Tāʾ marbūṭah

An alternative form called *tāʾ marbūṭah* (Arabic: تاء مربوطة, meaning 'bound *tāʾ*') is used at the end of words to mark feminine gender for nouns and adjectives. It denotes the final sound /-a/ and, when in construct state, /-at/. Regular *tāʾ*, to distinguish it from *tāʾ marbūṭah*, is referred to as *tāʾ maftūḥah* (Arabic: تاء مفتوحة, meaning 'open *tāʾ*').

Position in word:	Isolated	Final	Medial	Initial
Glyph form:	ة	ة	ة	ة

In words such as *risālah* رسالة ('letter, message'), *tā' marbūṭah* is denoted as *h*, and pronounced as /-a/. Historically, it was pronounced as the /t/ sound in all positions, but in coda positions it eventually developed into an weakly aspirated /h/ sound (which is why *tā' marbūṭah* looks like a *hā'* (ه)); this /h/ itself was eventually left pronounced. When a word ending with a *tā' marbūṭah* is suffixed with a grammatical case ending or (in Modern Standard Arabic or the dialects) any other suffix, the /t/ is clearly pronounced. For example, the word رسالة ('letter, message') is pronounced as risāla(h) in pausa but is pronounced risālatu in the nominative case (/u/ being the nominative case ending). The pronunciation is /t/, just like a regular *tā'* (ت), but the identity of the "character" remains a *tā' marbūṭah*. Note that the isolated and final forms of this letter combine the shape of *hā'* and the two dots of *tā'*.

When words containing the symbol are borrowed into other languages written in the Arabic alphabet (such as Persian), *tā' marbūṭah* usually becomes either a regular ه or a regular ت.

## Character encodings

Character	ת		ت		ܐ	
	Unicode name	HEBREW LETTER TAV	ARABIC LETTER TAH	SYRIAC LETTER TAW		
Encodings	decimal	hex	decimal	hex	decimal	hex
Unicode	1514	U+05EA	1578	U+062A	1836	U+072C
UTF-8	215 170	D7 AA	216 170	D8 AA	220 172	DC AC
Numeric character reference	&#1514;	&#x5EA;	&#1578;	&#x62A;	&#1836;	&#x72C;

Character	𐤀		𐤁		𐤂	
	Unicode name	SAMARITAN LETTER TAAF	IMPERIAL ARAMAIC LETTER TAW	PHOENICIAN LETTER TAU		
Encodings	decimal	hex	decimal	hex	decimal	hex
Unicode	2069	U+0815	67669	U+10855	67861	U+10915
UTF-8	224 160 149	E0 A0 95	240 144 161 149	F0 90 A1 95	240 144 164 149	F0 90 A4 95
UTF-16	2069	0815	55298 56405	D802 DC55	55298 56597	D802 DD15
Numeric character reference	&#2069;	&#x815;	&#67669;	&#x10855;	&#67861;	&#x10915;

## See also

- Taw (number)

## Footnotes

- ↑ *Exodus* 12:7,12.
- ↑ Cf. the New Testament's condemnation of lukewarmness in *Revelation* 3:15-16

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Categories: Phoenician alphabet | Arabic letters | Hebrew alphabet

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# Tau

From Wikipedia, the free encyclopedia

**Tau** (uppercase **T**, lowercase **τ**; Greek: ταυ [taf]) is the 19th letter of the Greek alphabet. In the system of Greek numerals it has a value of 300.

Look up *T* or *τ* in Wiktionary, the free dictionary.

The name in English is pronounced /ˈtaʊ/, but in modern Greek it is [taf]. This is because the pronunciation of the combination of Greek letters αυ has changed from ancient to modern times from one of [au] to either [av] or [af], depending on what follows (see Greek orthography).

Tau was derived from the Phoenician letter taw 𐤏. Letters that arose from tau include Roman T and Cyrillic Te (Т, т).

The letter occupies the Unicode slots U+03C4 (lowercase) and U+03A4 (uppercase). In HTML, they can be produced with named entities (&tau; and &Tau;), decimal references (&#964; and &#932;), or hexadecimal references (&#x3C4; and &#x3A4;).

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## Modern usage

The lower-case letter τ is used as a symbol for:

- specific tax amount.
- TAU (spacecraft), proposed spacecraft

### Biology

- The expressed period of the freerunning rhythm of an animal, i.e., the length of the daily cycle of an animal when kept in constant light or constant darkness.
- The dose interval in pharmacokinetics
- The core variable in General Tau Theory
- Tau (protein) in biochemistry is a protein associated with microtubules and is implicated in neurodegenerative diseases such as Alzheimer's disease, some forms of Frontotemporal lobar degeneration, and Chronic traumatic encephalopathy

### Mathematics

- divisor function in number theory, also denoted *d* or σ<sub>0</sub>
- golden ratio (1.618...), although φ (phi) is more common.<sup>[1]</sup>
- Kendall tau rank correlation coefficient in statistics
- Stopping time in stochastic processes
- Tau (2π) (6.283...), a proposed name for the ratio constant of a circle's circumference to radius
- Tau-function in number theory.
- Torsion of a curve in differential geometry

### Physics

- The prefix of many stars, via the Bayer stellar designation system. (Tau Ceti is such a star)
- Proper time in relativity
- Shear stress in continuum mechanics
- The lifetime of a spontaneous emission process
- tau lepton, an elementary particle in particle physics
- Tau in astronomy is a measure of optical depth, or how much sunlight cannot penetrate the atmosphere
- In the physical sciences, tau is sometimes used as time variable, to avoid confusing *t* as temperature
- time constant of any device, such as an RC circuit
- Torque, the rotational force in mechanics

- The symbol for tortuosity in hydrogeology

## Symbolism

- In ancient times, Tau was used as a symbol for life and/or resurrection, whereas the eighth letter of the Greek alphabet, theta, was considered the symbol of death.
- In Biblical times, the Taw was put on men to distinguish those who lamented sin, although newer versions of the Bible have replaced the ancient term "Taw" with "mark" (Ezekiel 9:4) or "signature" (Job 31:35). Its original sound value is a voiceless alveolar plosive, IPA /t/
- The symbolism of the cross was connected not only to the letter chi but also to tau, the equivalent of the last letter in the Phoenician and Old Hebrew alphabets, and which was originally cruciform in shape; see Cross of Tau
- An essay written around 160 AD, attributed to Lucian, a mock legal prosecution called *The Consonants at Law — Sigma v. Tau in the Court of Seven Vowels* contains a reference to the cross attribution. Sigma petitions the court to sentence Tau to death by crucifixion, saying:
 

*Men weep, and bewail their lot, and curse Cadmus with many curses for introducing Tau into the family of letters; they say it was his body that tyrants took for a model, his shape that they imitated, when they set up structures on which men are crucified. Stauros (cross) the vile engine is called, and it derives its vile name from him. Now, with all these crimes upon him, does he not deserve death, nay, many deaths? For my part I know none bad enough but that supplied by his own shape — that shape which he gave to the gibbet named stauros after him by men*
- Tau is usually considered as the symbol of Franciscan orders due to St. Francis' love for it, symbol of the redemption and of the Cross. Almost all Franciscan churches have painted a tau with two crossing arms, both with stigmata, the one of Jesus and the other of Francis; usually members of the Secular Franciscan Order wear a wooden τ in a string with three knots around the neck

## Character Encodings

- Greek / Coptic Tau<sup>[2]</sup>

Character	Τ		τ		Ⲛ		Ⲛ	
Unicode name	GREEK CAPITAL LETTER TAU		GREEK SMALL LETTER TAU		COPTIC CAPITAL LETTER TAU		COPTIC SMALL LETTER TAU	
Encodings	decimal	hex	decimal	hex	decimal	hex	decimal	hex
Unicode	932	U+03A4	964	U+03C4	11430	U+2CA6	11431	U+2CA7
UTF-8	206 164	CE A4	207 132	CF 84	226 178 166	E2 B2 A6	226 178 167	E2 B2 A7
Numeric character reference	&#932;	&#x3A4;	&#964;	&#x3C4;	&#11430;	&#x2CA6;	&#11431;	&#x2CA7;
Named character reference	&Tau;		&tau;					
DOS Greek	147	93	171	AB				
DOS Greek-2	208	D0	238	EE				
Windows 1253	212	D4	244	F4				
TeX			\tau					

- Mathematical Tau

Character	Τ		τ		𝄐		𝄑		𝄒		𝄓	
Unicode name	MATHEMATICAL BOLD CAPITAL TAU		MATHEMATICAL BOLD SMALL TAU		MATHEMATICAL ITALIC CAPITAL TAU		MATHEMATICAL ITALIC SMALL TAU		MATHEMATICAL BOLD ITALIC CAPITAL TAU		MATHEMATICAL BOLD ITALIC SMALL TAU	
Encodings	decimal	hex	decimal	hex	decimal	hex	decimal	hex	decimal	hex	decimal	hex
Unicode	120507	U+1D6BB	120533	U+1D6D5	120565	U+1D6F5	120591	U+1D70F	120623	U+1D72F	120649	U+1D749
UTF-8	240 157 154 187	F0 9D 9A BB	240 157 155 149	F0 9D 9B 95	240 157 155 181	F0 9D 9B B5	240 157 156 143	F0 9D 9C 8F	240 157 156 175	F0 9D 9C AF	240 157 157 137	F0 9D 9D 89
UTF-16	55349 57019	D835 DEBB	55349 57045	D835 DED5	55349 57077	D835 DEF5	55349 57103	D835 DF0F	55349 57135	D835 DF2F	55349 57161	D835 DF49
Numeric character reference	&#120507;	&#x1D6BB;	&#120533;	&#x1D6D5;	&#120565;	&#x1D6F5;	&#120591;	&#x1D70F;	&#120623;	&#x1D72F;	&#120649;	&#x1D749;



Character	<b>Τ</b>		<b>τ</b>		<b>Τ</b>		<b>τ</b>	
Unicode name	MATHEMATICAL SANS-SERIF BOLD CAPITAL TAU		MATHEMATICAL SANS-SERIF BOLD SMALL TAU		MATHEMATICAL SANS-SERIF BOLD ITALIC CAPITAL TAU		MATHEMATICAL SANS-SERIF BOLD ITALIC SMALL TAU	
Encodings	decimal	hex	decimal	hex	decimal	hex	decimal	hex
Unicode	120681	U+1D769	120707	U+1D783	120739	U+1D7A3	120765	U+1D7BD
UTF-8	240 157 157 169	F0 9D 9D A9	240 157 158 131	F0 9D 9E 83	240 157 158 163	F0 9D 9E A3	240 157 158 189	F0 9D 9E BD
UTF-16	55349 57193	D835 DF69	55349 57219	D835 DF83	55349 57251	D835 DFA3	55349 57277	D835 DFBD
Numeric character reference	&#120681;	&#x1D769;	&#120707;	&#x1D783;	&#120739;	&#x1D7A3;	&#120765;	&#x1D7BD;

These characters are used only as mathematical symbols. Stylized Greek text should be encoded using the normal Greek letters, with markup and formatting to indicate text style.

## References

- ↑ Weisstein, Eric W., "Golden Ratio" (http://mathworld.wolfram.com/GoldenRatio.html), *MathWorld*.
- ↑ Unicode Code Charts: Greek and Coptic (Range: 0370-03FF) (http://www.unicode.org/charts/PDF/U0370.pdf)

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# Hebrew alphabet

From Wikipedia, the free encyclopedia

The **Hebrew alphabet** (Hebrew: [a]אֱלֶפֶת עִבְרִית‎, *alefbet Ivri*), known variously by scholars as the **Jewish script**, **square script**, **block script**, is used in the writing of the Hebrew language, as well as other Jewish languages, most notably Yiddish, Ladino, and Judeo-Arabic. There have been two script forms in use; the original old Hebrew script is known as the paleo-Hebrew script (which has been largely preserved, in an altered form, in the Samaritan script), while the present "square" form of the Hebrew alphabet is a stylized form of the Aramaic script. Various "styles" (in current terms, "fonts") of representation of the letters exist. There is also a cursive Hebrew script, which has also varied over time and place.

The Hebrew alphabet has 22 letters, of which five have different forms when used at the end of a word. Hebrew is written from right to left. Originally, the alphabet was an abjad consisting only of consonants. Like other abjads, such as the Arabic alphabet, means were later devised to indicate vowels by separate vowel points, known in Hebrew as *niqqud*. In rabbinic Hebrew, the letters ם ן ן ן ן are also used as *matres lectionis* to represent vowels. When used to write Yiddish, the writing system is a true alphabet (except for borrowed Hebrew words). In modern usage of the alphabet, as in the case of Yiddish (except that װ replaces ן) and to some extent modern Israeli Hebrew, vowels may be indicated. Today, the trend is toward full spelling with these letters acting as true vowels.

א ב ג ד ה ו ז ח ט י  
 כ ך ל ם ן ן ס ע פ  
 ף צ ץ ק ר ש ת • װ

Features: Abjad • Mater lectionis • Begadkefat  
 Variants: Cursive • Rashi • Braille  
 Numerals: Gematria • Numeration  
 Ancillaries: Diacritics • Punctuation • Cantillation  
 Translit.: Romanization of Hebrew • Hebrewization of English • IPA • ISO  
 Computers: Keyboard • Unicode and HTML

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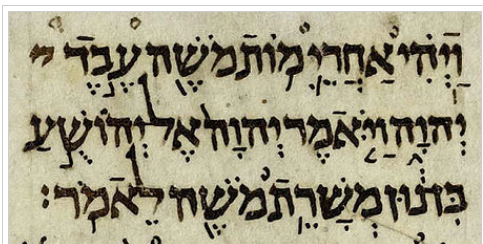
## Hebrew alphabet

אֱלֶפֶת עִבְרִית

<b>Type</b>	Abjad (for Hebrew, Aramaic, and Judeo-Arabic) True alphabet (for Yiddish)
<b>Languages</b>	Hebrew, Yiddish, Ladino, and Judeo-Arabic (see Jewish languages)
<b>Time period</b>	3rd century BCE to present
<b>Parent systems</b>	Egyptian hieroglyphs <ul style="list-style-type: none"> <li>■ Proto-Sinaitic                     <ul style="list-style-type: none"> <li>■ Phoenician alphabet                             <ul style="list-style-type: none"> <li>■ Aramaic alphabet                                     <ul style="list-style-type: none"> <li>■ Hebrew alphabet</li> </ul> </li> </ul> </li> </ul> </li> </ul>
<b>Sister systems</b>	Arabic Nabataean Syriac Palmyrene Mandaic Brāhmī Pahlavi Sogdian
<b>ISO 15924</b>	Hebr, 125
<b>Direction</b>	Right-to-left
<b>Unicode alias</b>	Hebrew
<b>Unicode range</b>	U+0590 to U+05FF ( <a href="http://www.unicode.org/charts/PDF/U0590.pdf">http://www.unicode.org/charts/PDF/U0590.pdf</a> ), U+FB1D to U+FB4F ( <a href="http://www.unicode.org/charts/PDF/UFB00.pdf">http://www.unicode.org/charts/PDF/UFB00.pdf</a> )

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## History



Aleppo Codex: 10th century CE Hebrew Bible with Masoretic pointing. Text of Joshua 1:1

According to contemporary scholars, the original Hebrew script developed during the late second and first millennia BCE alongside others used in the region. It is closely related to the Phoenician script, which was also an abjad, and which itself probably gave rise to the use of alphabetic writing in Greece (Greek alphabet). A distinct Hebrew variant, called the paleo-Hebrew alphabet, emerged by the 10th century BCE,<sup>[1]</sup> an example of which is represented in the Gezer calendar.

The paleo-Hebrew alphabet was commonly used in the ancient Israelite kingdoms of Israel and Judah, as well as by the Samaritans. Following the exile of the Kingdom of Judah in the 6th century BCE, in the Babylonian exile, Jews began using a form of the Assyrian script, which was another offshoot of the same family of scripts. During the 3rd century BCE, Jews began to use a stylized, "square" form of the Aramaic alphabet that was used by the Persian Empire (which in turn was adopted from the Assyrians),<sup>[2]</sup> while the Samaritans continued to use a form of the paleo-Hebrew script, called the Samaritan script. After the fall of the Persian Empire, Jews used both scripts before settling on the Assyrian form. For a limited time thereafter, the use of the paleo-Hebrew script among Jews was retained only to write the Tetragrammaton, but soon that custom was also abandoned.

The square Hebrew alphabet was later adapted and used for writing languages of the Jewish diaspora – such as Karaim, Judæo-Arabic, Ladino, Yiddish, etc. The Hebrew alphabet continued in use for scholarly writing in Hebrew and came again into everyday use with the rebirth of the Hebrew language as a spoken language in the 18th and 19th centuries, especially in Israel.

## Description

### General

In the traditional form, the Hebrew alphabet is an abjad consisting only of consonants, written from right to left. It has 22 letters, five of which use different forms at the end of a word.

### Vowels

In the traditional form, vowels are indicated by the weak consonants Aleph (א), He (ה), Vav (ו), or Yodh (י) serving as vowel letters, or *matres lectionis*: the letter is combined with a previous vowel and becomes silent, or by imitation of such cases in the spelling of other forms. Also, a system of vowel points to indicate vowels (diacritics), called *niqqud*, was developed. In modern forms of the alphabet, as in the case of Yiddish and to some extent modern Israeli Hebrew, vowels may be indicated. Today, the trend is toward full spelling with the weak letters acting as true vowels.

When used to write Yiddish, vowels are indicated, using certain letters, either with or without *niqqud*-diacritics (e.g., respectively: "י", "אָ" or "ע", "י"), except for Hebrew words, which in Yiddish are written in their Hebrew spelling.

To preserve the proper vowel sounds, scholars developed several different sets of vocalization and diacritical symbols called *niqqud* (ניקוד, literally "applying points"). One of these, the Tiberian system, eventually prevailed. Aaron ben Moses ben Asher, and his family for several generations, are credited for refining and maintaining the system. These points are normally used only for special purposes, such



A Jewish stele near the archeological excavations of the early medieval walls of Serdica



Hebrew script on the bustier of Jan van Scorel's *Maria Magdalena*, 1530.

as Biblical books intended for study, in poetry or when teaching the language to children. The Tiberian system also includes a set of cantillation marks, called "trope", used to indicate how scriptural passages should be chanted in synagogue recitations of scripture (although these marks do not appear in the scrolls). In everyday writing of modern Hebrew, *niqqud* are absent; however, patterns of how words are derived from Hebrew roots (called *shorashim*, or root letters) allow Hebrew speakers to determine the vowel-structure of a given word from its consonants based on the word's context and part of speech.

### Alphabet

Neither the old Hebrew script nor the modern Hebrew script have case, but five letters have special final forms,<sup>[c]</sup> called **sofit** (Hebrew: סופית, meaning in this case "final" or "ending") form, used only at the end of a word, somewhat as in the Greek or in the Arabic and Mandaic alphabets.<sup>[b]</sup> These are shown below the normal form in the following table (letter names are Unicode standard<sup>[3][4]</sup>). Although Hebrew is read and written from right to left, the following table shows the letters in order from left to right.

Alef	Bet	Gimel	Dalet	He	Vav	Zayin	Het	Tet	Yod	Kaf
א	ב	ג	ד	ה	ו	ז	ח	ט	י	כ ך
Lamed	Mem	Nun	Samekh	Ayin	Pe	Tsadi	Qof	Resh	Shin	Tav
ל	מ ם	נ ן	ס	ע	פ ף	צ ץ	ק	ר	ש	ת

**Note:** This alphabet chart reads from left to right.

### Pronunciation of letter names



Hebrew Alphabet - souvenir from Israel.

letter	Name of letter			Established pronunciation in English <sup>[5]</sup>	standard Israeli pronunciation	colloquial Israeli pronunciation (if differing)	Yiddish / Ashkenazi pronunciation
	MW <sup>[5]</sup>	Unicode <sup>[3][4]</sup>	Hebrew <sup>[6]</sup>				
א	Aleph	Alef	אָלֶף	<span>/ˈaːləf/, ˈaːlif/</span>	<span>/ˈalef/</span>		<span>/ˈalef/</span>
ב	Beth	Bet	בֵּית	<span>/bɛθ/, ˈbeɪt/</span>	<span>/bet/</span>		<span>/bɛɪs/</span>
ב			בִּית		<span>/vet/</span>		<span>/vɛɪs/</span>
ג	Gimel	Gimel	גִּמֵל	<span>/ˈɡiməl/</span>	<span>/ˈgimel/</span>		<span>/ˈɡimːɛl/</span>
ד	Daleth	Dalet	דָּלֶת	<span>/ˈdaːliθ/, ˈdaːlət/</span>	<span>/ˈdalet/</span>	<span>/ˈdaled/</span>	<span>/ˈdales/</span>
ה	He	He	הָא, הֵה, הִי	<span>/hɛɪ/</span>	<span>/he/</span>	<span>/hej/</span>	<span>/hɛɪ/</span>
ו	Waw	Vav	וָו, וֵאוּ, וִיו	<span>/vaːv/, ˈwaːw/</span>	<span>/vav/</span>		<span>/vɔv/</span>
ז	Zayin	Zayin	זַיִן	<span>/ˈzai.in/</span>	<span>/ˈzajin/</span>	<span>/ˈza.in/</span>	<span>/ˈzajin/</span>
ח	Heth	Het	חֵת	<span>/hɛθ/, ˈxɛɪt/</span>	<span>/het/</span>	<span>/χɛt/</span>	<span>/χɛs/</span>
ט	Teth	Tet	טֵית	<span>/tɛθ/, ˈtɛɪt/</span>	<span>/tet/</span>		<span>/tɛs/</span>
י	Yod	Yod	יוֹד	<span>/jɔːd/</span>	<span>/jod/</span>	<span>/jud/</span>	<span>/jud/</span>
כ	Kaph	Kaf	כָּף	<span>/kaːf/</span>	<span>/kaf/</span>		<span>/kɔf/</span>
כ			כֶּף	<span>/xaːf/, ˈkaːf/</span>	<span>/χaf/</span>		<span>/χɔf/</span>
ך		Final Kaf	כֶּף סּוֹפִית	<span>/kaːf/</span>	<span>/kaf sofit/</span>		<span>/lanɣe kɔf/</span>
ך			כֶּף סּוֹפִית	<span>/xaːf/, ˈkaːf/</span>	<span>/χaf sofit/</span>		<span>/lanɣe χɔf/</span>
ל	Lamed	Lamed	לָמֵד	<span>/ˈlaːmɛd/</span>	<span>/ˈlamed/</span>		<span>/ˈlamɛd/</span>
מ	Mem	Mem	מֵם	<span>/mɛm/</span>	<span>/mem/</span>		<span>/mɛm/</span>
ם		Final Mem	מֵם סּוֹפִית	<span>/mɛm/</span>	<span>/mem sofit/</span>		<span>/ʃlɔs mɛm/</span>
נ	Nun	Nun	נוּן	<span>/nuːn/</span>	<span>/nun/</span>		<span>/nun/</span>
ן		Final Nun	נוּן סּוֹפִית	<span>/nuːn/</span>	<span>/nun sofit/</span>		<span>/lanɣe nun/</span>
ס	Samekh	Samekh	סָמֵךְ	<span>/ˈsaːmɛk/, ˈsaːmɛx/</span>	<span>/ˈsameχ/</span>		<span>/ˈsameχ/</span>
ע	Ayin	Ayin	עַיִן	<span>/ˈaɪ.in/</span>	<span>/ˈʕajin/</span>	<span>/ˈʔa.in/</span>	<span>/ˈajin/</span>
פ	Pe	Pe	פֵּה, פָּה	<span>/pɛɪ/</span>	<span>/pe/</span>	<span>/pej/</span>	<span>/pɛɪ/</span>
פ			פִּה, פֶּה	<span>/fɛɪ/</span>	<span>/fe/</span>	<span>/fej/</span>	<span>/fɛɪ/</span>
ף		Final Pe	פֵּה סּוֹפִית, פָּה סּוֹפִית	<span>/pɛɪ/, ˈfɛɪ/</span>	<span>/pe sofit/</span>	<span>/pej sofit/</span>	<span>/lanɣe fɛɪ/</span>
צ	Sadhe	Tsadi	צָדִי, צְדִיק		<span>/ˈtsadi/</span>		<span>/ˈtsɔdi/, ˈtsɔdik/, ˈtsadek/</span>
ץ		Final Tsadi	צָדִי סּוֹפִית, צְדִיק סּוֹפִית	<span>/ˈsaːdɔ/, ˈsaːdi/</span>	<span>/ˈtsadi sofit/</span>		<span>/lanɣe ˈtsadek/</span>

ק	Qoph	Qof	קוף	<span>/kɔːf/</span>	<span>/kof/</span>	<span>/kuf/</span>	<span>/kuf/</span>
ר	Resh	Resh	רֵישׁ	<span>/rɛj/</span> , <span>/rɛi/</span>	<span>/ʁɛj/</span>	<span>/ʁɛjʃ/</span>	<span>/rɛiʃ/</span>
ש	Shin	Shin	שֵׁן	<span>/ʃiːn/</span> , <span>/ʃin/</span>	<span>/ʃin/</span>		<span>/ʃin/</span>
שׁ			שֵׁן	<span>/siːn/</span> , <span>/sɪn/</span>	<span>/sin/</span>		<span>/sin/</span>
ת	Taw	Tav	תּוֹ, תֵּוֹ	<span>/tɑːf/</span> , <span>/tɔːv/</span>	<span>/tav/</span>	<span>/taf/</span>	<span>/tɔv/</span> , <span>/tɔf/</span>
תׁ			תּוֹ, תֵּוֹ				<span>/sɔv/</span> , <span>/sɔf/</span>

## Stylistic variants

The following table displays typographic and chirographic variants of each letter. For the five letters that have a different final form used at the end of words, the final forms are displayed beneath the regular form.

The three lettering variants currently in use are block, cursive and Rashi. Block and Rashi are used in books. Block lettering dominates, with Rashi lettering typically used for certain editorial inserts (as in the glosses of Isserles to the Shulchan Aruch) or biblical commentaries (as in the commentary of Rashi) in various standard literary works. Cursive is used almost exclusively when handwriting, unless block lettering is desired for stylistic purposes (as in signage).

Letter name (Unicode)	Variants							
	Modern Hebrew					Ancestral		
	Serif	Sans-serif	Mono-spaced	Cursive	Rashi	Phoenician	Paleo-Hebrew	Aramaic
Alef	א	א	א	א	א	𐤀	𐤁	א
Bet	ב	ב	ב	ב	ב	𐤂	𐤃	ב
Gimel	ג	ג	ג	ג	ג	𐤄	𐤅	ג
Dalet	ד	ד	ד	ד	ד	𐤆	𐤇	ד
He	ה	ה	ה	ה	ה	𐤈	𐤉	ה
Vav	ו	ו	ו	ו	ו	𐤊	𐤋	ו
Zayin	ז	ז	ז	ז	ז	𐤌	𐤍	ז
Het	ח	ח	ח	ח	ח	𐤎	𐤏	ח
Tet	ט	ט	ט	ט	ט	𐤐	𐤑	ט
Yod	י	י	י	י	י	𐤒	𐤓	י
Kaf	כ	כ	כ	כ	כ	𐤔	𐤕	כ
Final Kaf	ך	ך	ך	ך	ך			
Lamed	ל	ל	ל	ל	ל	𐤖	𐤗	ל
Mem	מ	מ	מ	מ	מ	𐤘	𐤙	מ
Final Mem	ם	ם	ם	ם	ם			
Nun	נ	נ	נ	נ	נ	𐤚	𐤛	נ
Final Nun	ן	ן	ן	ן	ן			
Samekh	ס	ס	ס	ס	ס	𐤜	𐤝	ס
Ayin	ע	ע	ע	ע	ע	𐤞	𐤟	ע

Pe	פ	פּ	פֿ	פּ	פּ	ך	ך	ך
Final Pe	ף	ף	ף	ף	ף			
Tsadi	צ	צ	צ	צ	צ	ץ	ץ	ץ, ץ
Final Tsadi	ץ	ץ	ץ	ץ	ץ			
Qof	ק	ק	ק	ק	ק	ק	ק	ק
Resh	ר	ר	ר	ר	ר	ר	ר	ר
Shin	ש	ש	ש	ש	ש	ש	ש	ש
Tav	ת	ת	ת	ת	ת	ת	ת	ת

**Yiddish symbols**

Symbol	Explanation
ן ן יי ךי	These are intended for Yiddish. They are not used in Hebrew, aside from in loan words <sup>[d]</sup> .
ב	The <i>rafe</i> (רפה) diacritic is no longer regularly used in Hebrew. In masoretic manuscripts and some other older texts the soft fricative consonants and sometimes <i>matres lectionis</i> are indicated by a small line on top of the letter. Its use has been largely discontinued in modern printed texts. It is still used to mark fricative consonants in the YIVO orthography of Yiddish.

**Numeric values of letters**

Hebrew letters are used to denote numbers, nowadays used only in specific contexts, e.g. denoting dates in the Hebrew calendar, denoting grades of school in Israel, other listings (e.g. שלב א', שלב ב' – "phase a, phase b"), commonly in Kabbalah (Jewish mysticism) in a practice known as gematria, and often in religious contexts.

letter	numeric value	letter	numeric value	letter	numeric value
א	1	י	10	ק	100
ב	2	כ	20	ר	200
ג	3	ל	30	ש	300
ד	4	מ	40	ת	400
ה	5	נ	50	ך	500
ו	6	ס	60	ם	600
ז	7	ע	70	ן	700
ח	8	פ	80	ף	800
ט	9	צ	90	ץ	900

The numbers 500, 600, 700, 800 and 900 are commonly represented by the juxtapositions ת"ק, ת"ר, ת"ש, ת"ת, and תת"ק respectively. Adding a gersh ("") to a letter multiplies its value by one thousand, for example, the year 5769 is portrayed as ה'תשס"ט, where ה represents 5000, and תשס"ט represents 769.



## Transliterations and transcriptions

The following table lists transliterations and transcriptions of Hebrew letters used in Modern Hebrew.

Clarifications:

- For some letters, the Academy of the Hebrew Language offers a *precise* transliteration that differs from the *regular* standard it has set. When omitted, no such precise alternative exists and the regular standard applies.
- The IPA phonemic transcription is specified whenever it uses a different symbol from the one used for the **regular** standard Israeli transliteration.
- The IPA phonetic transcription is specified whenever it differs from IPA **phonemic** transcription.

Note: SBL's transliteration system, recommended in its *Handbook of Style*,<sup>[7]</sup> differs slightly from the 2006 *precise* transliteration system of the Academy of the Hebrew Language; for "צ" SBL uses "ṣ" (≠ AHL "z"), and for בג"ד כפ"ת with no dagesh, SBL uses the same symbols as for with dagesh (i.e. "b", "g", "d", "k", "f", "t").

CLICK "SHOW" TO VIEW EXTENDED TABLE INCLUDING EXAMPLES.										
Hebrew letter	example	Translation	Standard Israeli transliteration –regular <sup>[8]</sup>	example	standard Israeli transliteration –precise <sup>[8]</sup>	example	IPA phonemic transcription	example	IPA phonetic transcription	example
א consonantal, in initial word positions	אם	if	<i>none</i> <sup>[A1]</sup>	im					[ʔ]	[ʔim]
א consonantal, in non initial word positions	שָׁאַל	asked	'	sha'ál	'	sha'ál	/ʔ/	/ja'ʔal/		
א silent	רִאשׁוֹן	first	<i>none</i> <sup>[A2]</sup>	rishón						
ב	בֵּן	son	b	ben						
ב	טוֹב	good	v	tov						
ג	גַּג	roof	g	gag	g	gaḡ				
ג					ḡ					
ג	גִּיק	roach	ḡ <sup>[B1][9]</sup>	ḡuk			/d͡ʒ/	/d͡ʒuk/		
ד	דִּד	boiler	d	dud	d	duḏ				
ד					ḏ					
ה consonantal	הֶד	echo	h	hed						
ה silent	פֹּה	here	<i>none</i> <sup>[A3]</sup>	po						
ו consonantal	וָו	hook	v	vav	w	waw				
ו	הוּא	he	u	hu						
ו	לוֹ	to him	o	lo					[ʋ] or [ʌ]	[lʋ, lʌ]
ז	זֶה	this	z	ze						
ז	זְרָגוֹן	jargon	ž <sup>[B2][9]</sup>	žargón			/ʒ/	/zar'gon/		
ח	חָם	hot	ḥ <sup>[C1]</sup>	ḥam	ḥ	ḥam	/x/ or /χ/	/xam/	[χ]	[χam]
					dialectal [h]		[ḥam]			
ט	טֵט	tiny	t	kat	ṭ	kaṭ				
י consonantal	יָם	sea	y	yam			/j/	/jam/		

ב	part of hirik male (/i/ vowel)	בִּי	in me	i	bi						
י	part of tserere male (/e/ vowel or /ei/ diphthong)	מֵידָע	information	e	medá	é	médá	/e/ or /ej/	/me'da/ or /mej'da/	[ɛ] or /ej/	[mɛ'da] or [mej'da]
כּ, כַּ, [10]		כֹּה	so	k	ko						
ךּ, כֶּ		סֵבֵב	branch-roofing	kh <sup>[C2]</sup>	skhakh	ḵ	sḵaḵ	/x/ or /χ/	/sxax/	[χ]	[sχaχ]
ל		לִי	to me	l	li						
מ, מֶ		מוֹם	defect	m	mum						
נ, נֶן		נֵינ	great-grandson	n	nin						
ס		סוֹף	end	s	sof						
ע	in initial or final word positions	עֵדְלֵאֲדָע	Purim-parade	<i>none</i> <sup>[A4]</sup>	adloyáda	‘	‘adloyáda			only in initial word position [ʔ]	[,ʔadlo'jada]
ע	in medial word positions	מוֹעִיל	useful	'	mo'íl	‘	mo'íl	dialectal /ʕ/	/ʕadlo'jadaʕ/		
								/ʔ/	/mo'ʔil/		
								dialectal /ʕ/	/mo'ʕil/		
פּ [D]		טֵיפ	tip	p	tip						
פּ, פֶּ		פִּסְפָּס	missed	f	fisfés						
צ, צֶץ		צִיץ	bud	ts	tsits	z	ziz	/ʈs/	/ʈsits/		
צִי, צִיץ		רִיצִירָץ	zip	ʧ <sup>[B3][9]</sup>	ríčrač			/ʈʃ/	/'ritʃratʃ/		
ק		קוֹל	sound	k	kol	q	qol				
ר		עִיר	city	r	ir					[R] or [ʁ]	[iR] or [iʁ]
										dialectal [r] or [r̥]	[ir] or [ir̥]
שׁ		שָׁם	there	sh	sham	š	šam	/ʃ/	/ʃam/		
שׂ		שָׂם	put	s	sam	ś	śam				
תּ		תּוֹת	strawberry	t	tut	t	tut				
תּ						ṭ					

Hebrew letter	Standard Israeli transliteration – regular <sup>[8]</sup>	standard Israeli transliteration – precise <sup>[8]</sup>	IPA phonemic transcription	IPA phonetic transcription
א consonantal, in initial word positions	<i>none</i> <sup>[A1]</sup>			[ʔ]
א consonantal, in non initial word positions	'	'	/ʔ/	
א silent	<i>none</i> <sup>[A2]</sup>			
ב	b			
ב	v			
ג	g	g		
ג		ḡ		
גּ	ḡ <sup>[B1][9]</sup>		/d͡ʒ/	
ד	d	d		
ד		d̥		
ה consonantal	h			
ה silent	<i>none</i> <sup>[A3]</sup>			
ו consonantal	v	w		
ו	u			
וּ	o			[ɔ] or [ɔ̄]
ז	z			
ז	z̄ <sup>[B2][9]</sup>		/z/	
ח	h̥ <sup>[C1]</sup>	ħ	/x/ or /χ/ dialectal [ħ]	[χ]
ט	t	ṭ		
י consonantal	y		/j/	
י part of hirik male (i/ vowel)	i			

י	part of tserere male (/e/ vowel or /ei/ diphthong)	e	é	/e/ or /ej/	[ɛ] or [ɛj]/
[10]ך, כּ, פּ		k			
ך, כּ		kh <sup>[C2]</sup>	ḵ	/x/ or /χ/	[χ]
ל		l			
ם, מ		m			
ן, נ		n			
ס		s			
ע	in initial or final word positions	none <sup>[A4]</sup>	◌̣		only in initial word position [ʔ]
ע	in medial word positions	,	◌̣	dialectal /ʕ/	
[D]פּ		p		dialectal /ʕ/	
ף, פּ		f			
ץ, צ		ts	ẕ	/t͡s/	
ץ, צ׳		ç <sup>[B3][9]</sup>		/t͡ʃ/	
ק		k	q		
ר		r			[ʀ] or [ʁ] dialectal [r] or [ɾ]
שׁ		sh	š	/ʃ/	
שׂ		s	ś		
תּ		t	t		
תּ		t	ṭ		

**Notes**

**A**<sup>1</sup> **2**<sup>^</sup> **3**<sup>^</sup> **4**<sup>^</sup> In transliterations of modern Israeli Hebrew, initial and final ץ (in regular transliteration), silent or initial ם, and silent ת are *not* transliterated. To the eye of readers orientating themselves on Latin (or similar) alphabets, these letters might seem to be transliterated as vowel letters; however, these are in fact transliterations of the vowel diacritics – niqqud (or are representations of the spoken vowels). E.g., in םא ("if", [ʔim]), םא ("mother", [ʔem]) and םא ("nut", [ʔom]), the letter ם always represents the same consonant: [ʔ] (glottal stop), whereas the vowels /i/, /e/ and /o/ respectively represent the spoken vowel, whether it is orthographically denoted by diacritics or not. Since the Academy of the Hebrew Language ascertains that ם in initial position is not transliterated, the symbol for the glottal stop ׀ is omitted from the transliteration, and only the subsequent vowels are transliterated (whether or not their corresponding vowel diacritics appeared in the text being transliterated), resulting in "im", "em" and "om", respectively.

**B**<sup>1</sup> **2**<sup>^</sup> **3**<sup>^</sup> The diacritic gersh – "׃" – is used with some other letters as well (ת׃, ר׃, ע׃, ט׃, ה׃, ד׃), but only to transliterate *from* other languages *to*

Hebrew – never to spell Hebrew words; therefore they were not included in this table (correctly translating a Hebrew text with these letters would require using the spelling in the language from which the transliteration to Hebrew was originally made). The non-standard "וּ" and "וּו" <sup>[e1]</sup> are sometimes used to represent /w/, which like /d͡z/, /z/ and /t͡ʃ/ appears in Hebrew slang and loanwords.

<sup>C1^ 2^</sup> The Sound /ç/ (as "ch" in loch) is often transcribed "ch", inconsistently with the guidelines specified by the Academy of the Hebrew Language: חם /çam/ → "cham"; סכך /sçaç/ → "schach".

<sup>D^</sup> Although the Bible does include a single occurrence of a final pe with a dagesh (Book of Proverbs 30, 6: "אֶל-תּוֹסֵף עַל-דְּבָרָיו: פֶּן-יִזְכֶּיחַ בְּדָ": "וְיִזְכָּרְתָּ"), in modern Hebrew /p/ is always represented by pe in its regular, not final, form "פ", even when in final word position, which occurs with loanwords (e.g. שופ /ʃop/ "shop"), foreign names (e.g. פִּילִיפּ /'filip/ "Philip") and some slang (e.g. חָרַפּ /çap/ "slept deeply").

## Pronunciation

The descriptions that follow are based on the pronunciation of modern standard Israeli Hebrew.

Letters	א	ב	ב	ג	ג	ג'	ד	ד	ד'	ה	ו	ו	וּ	וּו, וּו'	ז	ז'	ח	ט	י
IPA	[ʔ], ∅	[b]	[v]	[g]	[d͡z]	[d]	[ð]	[h~ʔ], ∅	[v]~[w]	[u]	[ɔ]	[w]	[z]	[ʒ]	[ç]~[h]	[t]	[j]		
Letters	י	כ	כ	ל	מ	נ	ס	ע	פ	פ	צ	צ'	ק	ר	ש	ש	ת	ת	ת'
IPA	[i]	[k]	[ç]	[l]	[m]	[n]	[s]	[ʔ]~[ʕ], ∅	[p]	[f]	[ts]	[tʃ]	[k]	[ʁ]~[r]	[ʃ]	[s]	[t]	[θ]	

### Shin and sin

*Shin* and *sin* are represented by the same letter, ש, but are two separate phonemes. They are not mutually allophonic. When vowel diacritics are used, the two phonemes are differentiated with a *shin*-dot or *sin*-dot; the *shin*-dot is above the upper-right side of the letter, and the *sin*-dot is above the upper-left side of the letter.

Symbol	Name	Transliteration	IPA	Example
ש (right dot)	<i>shin</i>	sh	/ʃ/	shop
ש (left dot)	<i>sin</i>	s	/s/	sour

Historically, *left-dot-sin* corresponds to Proto-Semitic \*ś, which in biblical-Judaic-Hebrew corresponded to a voiceless alveolar lateral fricative /l̥/, as is evident in Greek transliteration of Hebrew words such as *Balsam* (בַּשָּׁם) (the *ls* - 'ש') as is evident in the Targum Onkelos. Rendering of proto-semitic \*ś as /l̥/, is still evident in the Soqotri language.

### Dagesh

Historically, the consonants ב *beth*, ג *gimel*, ד *daleth*, כ *kaf*, פ *pe* and ת *tav* each had two sounds: one hard (plosive), and one soft (fricative), depending on the position of the letter and other factors. When vowel diacritics are used, the hard sounds are indicated by a central dot called *dagesh* (דגש), while the soft sounds lack a *dagesh*. In modern Hebrew, however, the *dagesh* only changes the pronunciation of ב *beth*, כ *kaf*, and פ *pe*, and doesn't affect the name of the letter. The differences are as follows:

Name	With dagesh				Without dagesh			
	Symbol	Transliteration	IPA	Example	Symbol	Transliteration	IPA	Example
<i>beth</i>	<b>בּ</b>	b	/b/	<b>bun</b>	<b>ב</b>	v	/v/	<b>van</b>
<i>kaf</i>	<b>כּ</b> <b>כַּ</b> <sup>[10]</sup>	k	/k/	<b>kangaroo</b>	<b>כ</b>	kh/ch/x	/χ/	<b>loch</b>
<i>pe</i>	<b>פּ</b>	p	/p/	<b>pass</b>	<b>פ</b>	f/ph	/f/	<b>find</b>

In other dialects (mainly liturgical) there are variations from this pattern.

- In some Sephardi and Mizrahi dialects, *bet* without dagesh is pronounced [b], like *bet* with dagesh
- In Syrian and Yemenite Hebrew, *gimel* without dagesh is pronounced [ɣ].
- In Yemenite Hebrew, and in the Iraqi pronunciation of the word "Adonai", *dalet* without dagesh is pronounced [ð] as in "these"
- In Ashkenazi Hebrew, *tav* without dagesh is pronounced [s] as in "silk"
- In Iraqi and Yemenite Hebrew, and formerly in some other dialects, *tav* without dagesh is pronounced [θ] is in "thick"

### Identical pronunciation

In Israel's general population, many consonants have the same pronunciation. They are as follows:

Letters		Transliteration	Pronunciation (IPA)		
א <i>Alef</i> *	ע <i>Ayin</i> *	not transliterated	Usually when in medial word position: /./ (separation of vowels in a hiatus)		
			When in initial or final word position, sometimes also in medial word position: silent		
		' or '	alternatingly /ʔ/ (glottal stop)		
ב <i>Bet (without dagesh)</i>	ו <i>Vav</i>	v	/v/		
ח <i>Het</i>	כ <i>Kaf (without dagesh)</i>	kh/ch/h	/χ/		
ט <i>Tet</i>	ת <i>Tav</i>	t	/t/		
כ <i>Kaf (with dagesh)</i>	ק <i>Qof</i>	k	/k/		
ס <i>Samekh</i>	ש <i>Sin (with left dot)</i>	s	/s/		
צ <i>Tsadi</i> *	תס <i>Tav-Samekh</i> *	and	תש <i>Tav-Sin</i> *	ts/tz	/ts/
צ' <i>Tsadi (with geresh)</i>	טש <i>Tet-Shin</i> *	and	תש <i>Tav-Shin</i> *	ch/tsh (chair)	/tʃ/

\* Varyingly

### Ancient Hebrew pronunciation

Some of the variations in sound mentioned above are due to a systematic feature of Ancient Hebrew. The six consonants /b g d k p t/ were pronounced differently depending on their position. These letters were also called *BeGeD KeFeT* letters /beɪgɛd kefɛt/. The full details are very complex; this summary omits some points. They were pronounced as plosives /b g d k p t/ at the beginning of a syllable, or when doubled. They were pronounced as fricatives /v ɣ ð x f θ/ when preceded by a vowel (commonly indicated with a macron, ב̄ ג̄ ד̄ כ̄ פ̄ ת̄). The plosive and double pronunciations were indicated by the *dagesh*. In Modern Hebrew the sounds ד and ג have reverted to [d] and [g], respectively, and ת has become [t], so only the remaining three consonants /b k p/ show variation. **ך** *resh* may have also been a "doubled" letter, making the list *BeGeD KePoReS*. (Sefer Yetzirah, 4:1)

- **ח** *chet* and **ע** *ayin* represented pharyngeal fricatives, **צ** *tsadi* represented the emphatic consonant /sʕ/, **ט** *tet* represented the emphatic consonant /tʕ/, and **ק** *qof* represented the uvular plosive /q/. All these are common Semitic consonants.
- **ש** *sin* (the /s/ variant of **ש** *shin*) was originally different from both **ש** *shin* and **ס** *samekh*, but had become /s/ the same as **ס** *samekh* by the time the vowel pointing was devised. Because of cognates with other Semitic languages, this phoneme is known to have originally been a lateral consonant, most likely the voiceless alveolar lateral fricative /ɬ/ (the sound of modern Welsh *ll*) or the voiceless alveolar



lateral affricate /tʃ/ (like Náhuatl *tʃ*).

## Vowels

### Matres lectionis

א *alef*, ה *he*, ו *vav* and י *yod* are letters that can sometimes indicate a vowel instead of a consonant (which would be, respectively, /ʔ/, /h/, /v/ and /j/). When they do, ו and י are considered to constitute part of the vowel designation in combination with a niqqud symbol – a vowel diacritic (whether or not the diacritic is marked), whereas א and ה are considered to be mute, their role being purely indicative of the non-marked vowel.

Letter	Name of letter	Consonant indicated when letter consonantal	Vowel designation	Name of vowel designation	Indicated Vowel
א	<i>alef</i>	/ʔ/	—	—	ê, ê̂, â, â̂, ô
ה	<i>he</i>	/h/	—	—	ê, ê̂, â, â̂, ô
ו	<i>vav</i>	/v/	ו̇	ḥolám malé	ô
			ו̆	shurúq	û
י	<i>yud</i>	/j/	י̇	ḥiríq malé	î
			י̆	tseré malé	ê, ê̂

### Vowel points

*Niqqud* is the system of dots that help determine vowels and consonants. In Hebrew, all forms of *niqqud* are often omitted in writing, except for children's books, prayer books, poetry, foreign words, and words which would be ambiguous to pronounce. Israeli Hebrew has five vowel phonemes, /i e a o u/, but many more written symbols for them:

Name	Symbol	Israeli Hebrew		
		IPA	Transliteration	English example
Hiriq	◌ִ	[i]	i	mandi
Zeire	◌ֵ	[e], ([ej] with succeeding yod)	e, (ei with succeeding yod)	men, main
Segol	◌ֶ	[ɛ]	e	men
Patach	◌ַ	[ä]	a	father
Kamatz	◌ָ	[ä], (or [ɔ])	a, (or o)	father
Holam Haser	◌ֹ	[ɔ]	o	over
Holam Male	◌ׁ	[ɔ]	o	over
Shuruk	◌ׂ	[u]	u	moon
Kubutz	◌׃	[u]	u	moon

**Note 1:** The symbol "◌" represents whatever Hebrew letter is used.

**Note 2:** The pronunciation of *zeire* and sometimes *segol* – with or without the letter *yod* – is sometimes *ei* in Modern Hebrew. This is not correct in the normative pronunciation and not consistent in the spoken language.<sup>[11]</sup>

**Note 3:** The *dagesh*, *mappiq*, and *shuruk* have different functions, even though they look the same.

**Note 4:** The letter ׀ (*vav*) is used since it can only be represented by that letter.

### Meteg

By adding a vertical line (called *Meteg*) underneath the letter and to the left of the vowel point, the vowel is made long. The *meteg* is only used in Biblical Hebrew, not Modern Hebrew.

### Sh'va

By adding two vertical dots (called *Sh'va*) underneath the letter, the vowel is made very short.

Name	Symbol	Israeli Hebrew		
		IPA	Transliteration	English example
Shva	◌ְ	[ɛ] or ∅	<i>apostrophe</i> , e, or <i>nothing</i>	<b>h</b> as pronounced in <b>herb</b>
Reduced Segol	◌ֱ	[ɛ]	e	men
Reduced Patach	◌ֲ	[ä]	a	father
Reduced Kamatz	◌ֳ	[ɔ]	o	father

### Comparison table

Vowel comparison table <sup>[12]</sup>					
Vowel Length (phonetically not manifested in Israeli Hebrew)			IPA	Transliteration	English example
Long	Short	Very Short			
א	ַ	ֵ	[ä]	a	spa
ב	בַּ	בֵּ	[e]	e	temp
ג	גַּ	גֵּ	[o]	o	Congo
ד	דַּ	n/a	[u]	u	soon
ה	הַ		[i]	i	ski
<b>Note I:</b>		By adding two vertical dots ( <i>sh'va</i> ) <sub>:</sub> the vowel is made very short.			
<b>Note II:</b>		The short <i>o</i> and long <i>a</i> have the same <i>niqqud</i> .			
<b>Note III:</b>		The short <i>o</i> is usually promoted to a long <i>o</i> in Israeli writing for the sake of disambiguation			
<b>Note IV:</b>		The short <i>u</i> is usually promoted to a long <i>u</i> in Israeli writing for the sake of disambiguation			

## Gershayim

The symbol ם is called a gershayim and is a punctuation mark used in the Hebrew language to denote acronyms. It is written before the last letter in the acronym, e.g. ת"ם. Gershayim is also the name of a note of cantillation in the reading of the Torah, printed above the accented letter, e.g. שׁ.

## Sounds represented with diacritic geresh

The sounds [t̪], [d̪], [ʒ], written "ט", "ג", "צ", and [w], non-standardly sometimes transliterated וּ or <sup>[e3]</sup>וּ, are often found in slang and loanwords that are part of the everyday Hebrew colloquial vocabulary. The apostrophe-looking symbol after the Hebrew letter modifies the pronunciation of the letter and is called a *geresh*. (As mentioned above, while still done, using ן to represent [w] is non-standard; standard spelling rules allow no usage of ן whatsoever<sup>[e4]</sup>).

Hebrew slang and loanwords						
Name	Symbol	IPA	Transliteration	Example		
Gimel with a geresh	גֹּ	[d͡ʒ]	ǰ <sup>[9]</sup>	ǰáhnnun	[ˈd͡ʒaχnʊn]	גֹּחַנוֹן
Zayin with a geresh	זֹ	[ʒ]	ž <sup>[9]</sup>	koláž	[koˈlaʒ]	קוֹלֵאֵז
Tsadi with a geresh	צֹ	[t͡ʃ]	č <sup>[9]</sup>	čupár (treat)	[t͡ʃuˈpar]	צוֹפֵר
Vav with a geresh or double Vav	וּ or וֹ (non standard) <sup>[e5]</sup>	[w]	w	awánta (boastful act)	[aˈwanta]	אוֹנָטָה

The pronunciation of the following letters can also be modified with the geresh diacritic, the represented sounds are however foreign to Hebrew phonology, i.e., these symbols only represent sounds in foreign words or names when transliterated with the Hebrew alphabet, and never loanwords.

Transliteration of non-native sounds						
Name	Symbol	IPA	Arabic letter	Example		Comment
Dalet with a geresh	דֹּ	[ð]	<i>Dhāl</i> (ذ) Voiced th	<i>Dhū al-Hijjah</i> (ذو الحجة)	דֹּו אל-חיג'ה	* Also used for English voiced th * Often a simple ד is written.
Tav with a geresh	תֹּ	[θ]	<i>Thā'</i> (ث) Voiceless th	Thurston	תֹּרסטון	
Het with a geresh	חֹ	[χ]	<i>Khā'</i> (خ) Sheikh (شيخ)		חֹייה'	* Unlike the other sounds in this table, the sound [χ] represented by 'ח is indeed a native sound in Hebrew; the geresh is however used only when transliteration must distinguish between [χ] and [h], in which case 'ח transliterates the former and ח the latter, whereas in everyday usage ח without geresh is pronounced [h] only dialectically but [χ] commonly.
Resh with a geresh	רֹ or עֹ	[ʁ]	<i>Ghayn</i> (غ) Ghajar (عجر)		רֹג'ר	Sometimes an 'ayin with a geresh (עֹ) is used to transliterate ġ – inconsistently with the guidelines specified by the Academy of the Hebrew Language

A *geresh* is also used to denote acronyms pronounced as a string of letters, and to denote a Hebrew numeral. Geresh also is the name of one of the notes of cantillation in the reading of the Torah, but its appearance and function is different.

## Religious use

The letters of the Hebrew alphabet have played varied roles in Jewish religious literature over the centuries, primarily in mystical texts. Some sources in classical rabbinical literature seem to acknowledge the historical provenance of the currently used Hebrew alphabet and deal with them as a mundane subject (the Jerusalem Talmud, for example, records that "the Israelites took for themselves square calligraphy", and that the letters "came with the Israelites from Ashur [Assyria]");<sup>[13]</sup> others attribute mystical significance to the letters, connecting them with the process of creation or the redemption. In mystical conceptions, the alphabet is considered eternal, pre-existent to the Earth, and the letters themselves are seen as having holiness and power, sometimes to such an extent that several stories from the Talmud illustrate the idea that they cannot be destroyed.<sup>[14]</sup>

The idea of the letters' creative power finds its greatest vehicle in the *Sefer Yezirah*, or *Book of Creation*, a mystical text of uncertain origin which describes a story of creation highly divergent from that in the Book of Genesis, largely through exposition on the powers of the letters of the alphabet. The supposed creative powers of the letters are also referenced in the Talmud and Zohar.<sup>[15][16]</sup>



The four-pronged Shin

Another book, the 13th-century Kabbalistic text *Sefer HaTemunah*, holds that a single letter of unknown pronunciation, held by some to be the four-pronged shin on one side of the tefillin box, is missing from the current alphabet. The world's flaws, the book teaches, are related to the absence of this letter, the eventual revelation of which will repair the universe.<sup>[17]</sup> Another example of messianic significance attached to the letters is the teaching of Rabbi Eliezer that the five letters of the alphabet with final forms hold the "secret of redemption".<sup>[17]</sup>

In addition, the letters occasionally feature in aggadic portions of non-mystical rabbinic literature. In such aggada the letters are often given anthropomorphic qualities and depicted as speaking to God. Commonly their shapes are used in parables to illustrate points of ethics or theology. An example from the Babylonian Talmud (a parable intended to discourage speculation about the universe before creation):

*Why does the story of creation begin with bet?... In the same manner that the letter bet is closed on all sides and only open in front, similarly you are not permitted to inquire into what is before or what was behind, but only from the actual time of Creation.*

Babylonian Talmud, Tractate Hagigah, 77c

Extensive instructions about the proper methods of forming the letters are found in *Mishnat Soferim*, within *Mishna Berura* of Yisrael Meir Kagan.

## Mathematical use

In set theory the letter aleph with a subscript 0 ( $\aleph_0$ ) is used to mark the cardinal number of an infinite set. It is pronounced aleph-naught. Similarly the letter beth is used for infinite ordinals. See *aleph number* and *beth number*.

## Unicode and HTML

The Unicode Hebrew block extends from U+0590 to U+05FF and from U+FB1D to U+FB4F. It includes letters, ligatures, combining diacritical marks (*niqqud* and cantillation marks) and punctuation.<sup>[3]</sup> The Numeric Character References is included for HTML. These can be used in many markup languages, and they are often used in Wiki to create the Hebrew glyphs compatible with the majority of web browsers.

## See also

- Biblical Hebrew orthography
- Gershayim
- Hebrew braille
- Hebrew diacritics
- Hebrew keyboard
- Hebrew punctuation
- Help:Hebrew
- History of the Hebrew language
- Inverted nun
- Koren Type
- Rashi script
- Romanization of Hebrew
- Significance of numbers of Judaism
- Syriac alphabet

## Notes

<sup>a</sup> "Alef-bet" is commonly written in Israeli Hebrew without the *maqaf* (מקף, "[Hebrew] hyphen"), אלפבית עברי, as opposed to with the hyphen, אֶלֶף־בֵּית עֵבְרִי.

<sup>b</sup>^ The Arabic letters generally (as six of the primary letters can have only two variants) have four forms, according to their place in the word. The same goes with the Mandaic ones, except for three of the 22 letters, which have only one form.

<sup>c</sup>^ In forms of Hebrew older than Modern Hebrew, **בִּי״ת**, **כִּי״ה** and **פִּי״ס** can only be read *b*, *k* and *p*, respectively, at the beginning of a word, while they will have the sole value of *v*, *kh* and *f* in a *sofit* (final) position, with few exceptions.<sup>[10]</sup> In medial positions, both pronunciations are possible. In Modern Hebrew this restriction is not absolute, e.g. **פִּיזיקָא** /fizi'kaj/ and never /pizi'kaj/ (= "physicist"), **סְנוֹב** /snob/ and never /snov/ (= "snob"). A *dagesh* may be inserted to unambiguously denote the plosive variant: **בּ** = /b/, **כּ** = /k/, **פּ** = /p/; similarly (though today very rare in Hebrew and common only in Yiddish) a rafé placed above the letter unambiguously denotes the fricative variant: **בֿ** = /v/, **כֿ** = /χ/ and **פֿ** = /f/. In Modern Hebrew orthography, the sound [p] at the end of a word is denoted by the regular form "פ", as opposed to the final form "ף", which always denotes [f] (see table of transliterations and transcriptions, comment<sup>[D]</sup>).

<sup>d</sup>^ However, **וּ** (two separate vavs), used in Ktiv male, is to be distinguished from the *Yiddish ligature* **ווּ** (also two vavs but together as one character).

<sup>e1</sup>^ <sup>e2</sup>^ <sup>e3</sup>^ <sup>e4</sup>^ <sup>e5</sup>^ The Academy of the Hebrew Language states that both [v] and [w] be indistinguishably represented in Hebrew using the letter Vav.<sup>[18]</sup> Sometimes the Vav is indeed doubled, however not to denote [w] as opposed to [v] but rather, when spelling without niqqud, to denote the phoneme /v/ at a non-initial and non-final position in the word, whereas a single Vav at a non-initial and non-final position in the word in spelling without niqqud denotes one of the phonemes /u/ or /o/. To pronounce foreign words and loanwords containing the sound [w], Hebrew readers must therefore rely on former knowledge and context.

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- <sup>1</sup> ^ Ancient Scripts.com: *Old Hebrew* ([http://www.ancientscripts.com/old\\_hebrew.html](http://www.ancientscripts.com/old_hebrew.html))
- <sup>2</sup> ^ *A History of the Hebrew Language*. Cambridge, England: Cambridge University Press. 1993. ISBN 0-521-55634-1.
- <sup>3</sup> ^ *a b c* Chart of Hebrew glyphs at unicode.org (<http://www.unicode.org/charts/PDF/U0590.pdf>)
- <sup>4</sup> ^ *a b* Unicode names of Hebrew characters at fileformat.info (<http://www.fileformat.info/info/unicode/block/hebrew/list.htm>).
- <sup>5</sup> ^ *a b* *Merriam Webster's Collegiate Dictionary* (<http://www.merriam-webster.com/table/dict/alphabet.htm>)
- <sup>6</sup> ^ Kaplan, Aryeh. *Sefer Yetzirah: The Book of Creation*. pp. 8, 22.
- <sup>7</sup> ^ Resources for New Testament Exegesis – Transliteration Standards of The SBL Handbook of Style (<http://www.viceregency.com/Translit.htm>)
- <sup>8</sup> ^ *a b c d* Transliteration guidelines (<http://hebrew-academy.huji.ac.il/hahlatot/TheTranscription/Documents/taatiq2007.pdf>) by the Academy of the Hebrew Language, November 2006
- <sup>9</sup> ^ *a b c d e f g h i* Transliteration guidelines preceding 2006-update (<http://hebrew-academy.huji.ac.il/hahlatot/TheTranscription/Documents/ATAR1.pdf>), p. 3 Academy of the Hebrew Language
- <sup>10</sup> ^ *a b c d e* "ף" is rare but exists, e.g. last word in Deuteronomy 7 1 (תִּנְיָ מְנוּקָד, דְּבָרִים פָּרָק ז' פְּסוּק א') in the word "מִנְפֹּךְ" – see דְּבָרִים פָּרָק ז' פְּסוּק א' (<http://www.mechon-mamre.org/i/t/t0507.htm>). There is a single occurrence of "ף", see this comment<sup>[D]</sup>.
- <sup>11</sup> ^ Laufer, Asher (2008). *Chapters in Phonetics and Phonetic Transcription*. Jerusalem: Magnes. pp. 207–211. ISBN 978-965-493-401-5.
- <sup>12</sup> ^ Hebrew lessons for Christians ([http://www.hebrew4christians.com/Grammar/Unit\\_Two/unit\\_two.html](http://www.hebrew4christians.com/Grammar/Unit_Two/unit_two.html))
- <sup>13</sup> ^ Jerusalem Talmud, Tractate Sanhedrin 21b
- <sup>14</sup> ^ Babylonian Talmud, Tractate Pesach 87b, Avodah Zarah 18a.
- <sup>15</sup> ^ Babylonian Talmud, Tractate Berachot 55c
- <sup>16</sup> ^ Zohar 1:3; 2:152
- <sup>17</sup> ^ *a b* *The Book of Letters*. Woodstock, Vermont: Jewish Lights Publishing, Woodstock. 1990
- <sup>18</sup> ^ "Transliteration Rules" (<http://hebrew-academy.huji.ac.il/hahlatot/TheTranscription/Documents/taatiq2007.pdf>) (PDF). issued by the Academy of the Hebrew Language.

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- Mathers table
- Hebrew Alphabet Guide* (<http://www.hebrewlanguageguide.com/hebrew-alphabet/>)

## External links

## General



Wikimedia Commons has media related to ***Hebrew alphabet***.

- The Hebrew alphabet, meanings, and spiritual symbolism (<http://www.inner.org/hebleter/index.htm>)
- How to draw letters (<http://www.levsoftware.com/alefbet.htm>)
- Official Unicode standards document for Hebrew (<http://www.unicode.org/charts/PDF/U0590.pdf>)
- Transliterate your English name into Hebrew Letters (<http://www.kabalahyoga.com/name>)
- Hebrew Alphabet Charts (<http://www.jr.co.il/alef-bet.htm>)
- Interactive Hebrew Alphabet Lesson (<http://www.makorehebrew.com/lesson/plan/1439/Consonants>)
- Mobile OCR Hebrew Dictionary (<http://www.cymraeg.ru/daoulagad.html>)

## Keyboards

- LiteType.com (<http://litype.com/?lang=hebrew&style=moon>) – Virtual & Interactive Hebrew Keyboard
- Hebrew calligraphy alphabet (<http://www.script-sign.com>) Model Hebrew calligraphy Alphabet
- Mikledet.com (<http://www.mikledet.com>) – For typing Hebrew with an English keyboard (Hebrew keyboard|Hebrew layout)
- Hebrew Writing (<http://hebrew-keyboard.com>) – Typing Hebrew and Nikud using extended English keyboard (Hebrew keyboard|Hebrew Writing layout)
- Prize Find: Oldest Hebrew Inscription (<http://www.bib-arch.org/bar/article.asp?PubID=BSBA&Volume=36&Issue=2&ArticleID=9>) Biblical Archaeology Review

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