

Essentials of Phonetic and Structural Analysis ¶

From the 1972 Edition of Economy Publishing's ¶

Keys to Reading ¶

1. Vowels→Keys 1 – 28→Page 272 – 281 ¶
2. Consonants→Keys 29 – 56→Page 282 – 290 ¶
3. Syllables→Keys 57 – 71→Page 290 – 294 ¶
4. Compound Words→Key 72→Page 295 ¶
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6. Root Words, Prefixes, SuffixesKey 74 – 83→Page 295 – ¶
7. Speech Sounds ¶
and How to Form Them→Pages 300 – 305 ¶

The “Phonetic Keys to Reading” were taken from the 1972 edition of the Economy Publishing’s Teacher’s Manual for the first grade reader, *Green Feet*. ¶

Books in Series ¶

Level 1: *Stepping Stones*→Readiness ¶

Level 2: *Pug*→Primer 1 ¶

Level 3: *Sun Tree*→Primer 2 ¶

Level 4: *Zip! Pop! Go!*→Primer 3 ¶

Level 5: *Green Feet*→Primer ¶

Level 6: *Blue Dilly Dilly*→First Reader ¶

Level 7: *Curbstone Dragons*→2-1 Reader ¶

Level 8: *Mustard Seed Magic*→2-2 Reader ¶

Level 9: *Air-Pudding and Wind Sauce*→3-1 Reader ¶

Level 10: *Mysterious Wisteria*→3-2 Reader ¶

Mr. Donald Potter prepared this document in order to share with teachers and researchers the once well-known *Phonetics Keys to Reading*. Mr. Potter’s first child learned to read with this excellent program. It is to be regretted that this excellent phonics approach to reading is no longer available. www.donpotter.net ¶

Section Three

Essentials of Phonetic and Structural Analysis

(The numbers in the following guide to Key information are Key numbers.)

Compound words: 72

Consonant blends: 40

Consonant digraphs: ch, 41; ck, 42; gh, 43; ng, 44; ph, 45; sh, 46; th, 47; wh, 48

Consonant letters: b, 29; c, 30; d, 31; double, 39; f, 29; g, 32; h, j, k, l, m, 29; n, 33; p, q, r, 29; s, 34; t, 35; v, w, 29; x, 36; y, 37; z, 38

Contractions: 73

Diphthongs: oi, 26; ou, 27; ow, 27; oy, 26

Prefixes: 74

Spellings representing consonant sounds: dge, 49; ge, 49; gn, 51; gu, 53; kn, 51; nk, 56; qu, 54; sc, 55; se, 50; wr, 52

Spellings representing vowel sounds: au, 13; aw, 13; ay, 14; eau, 15; eigh, 16; eye, 17; igh, 18; uy, 17; ye, 17

Suffix addition: double consonant, 79; drop e, 80; final f, fe, 83; final y, 82; retain e, 81

Suffixes: ed, 76; es, 78; s, 77; sounding, 75

Syllables: ble, cle, tle, 71; ex, 70; sion, 68; tain, 69; tion, 67; word division, 57, 58

Vowel letters followed by r: air, 24; ar, 20, 22; ar, or, er, and ir followed by r, 23; ear, 25; er, 21, 22; ir, 21; or, 19, 22; ur, 21, 22

Vowel letters in monosyllables: a after w, 8; a before ll or lk, 7; ey, 10; final e, 9; i before ld or nd, 12; more than one vowel letter, 1, 3; o before two consonant letters, 5, 6; one vowel letter, 2, 4

Vowel letters in plurisyllables: a after w, 8; ey, 10; final e, 9; ie, 11

Vowel sounds determined by word meaning and context: 28

Vowel sounds in syllables: represented by a, unstressed, 64; by e, unstressed, 61; by i, stressed and unstressed, 65; by o, unstressed, 62; by one vowel letter, stressed, 59; by u, unstressed, 63; by y, unstressed, 66; schwa, 60

Word division: 57, 58

The material presented in this section includes Keys together with definitions and explanations of terminology needed as a background for developing skill in word analysis. This material is primarily for the teacher, but the teacher eventually gives the information to the child in simple language as he progresses from level to level.

The Keys explain the relationships between sounds and letters, and they present generalizations that may be applied in word identification. They are the tools used to “unlock” words, that is, to relate speech sounds to letters and letter combinations as a means of identifying words. The Keys are numbered consecutively and may have several parts. Most of the Keys are introduced in the primary grades. However, only part of them are presented at any one level, and the pupils

apply the Keys to words commonly used in their spoken language.

The information in the Keys should be presented to the children in simplified form as emphasized in the instructional plans. The fuller statements are solely for the teacher's use.

Most of the sounds represented by letters are given in this section, but no attempt has been made to include all sounds. Infrequent occurrence of some sounds in primary reading material makes it advisable to postpone them until they are needed. Until these additional relationships between sounds and letters are presented, it may be necessary to teach an occasional word by sight. Slight variations in sounds are also omitted, partly because the auditory perception of a young child is not keen enough to detect them and partly because many such variations are simply characteristic of different regions of the country. Since all regional variations cannot be presented, the child should be encouraged to apply in word analysis the sounds presented in the Keys. By using these sounds, he will achieve pronunciations approximating those of his own speech. He should then read words in context as he normally speaks them.

Diacritical symbols and key words are used in this program as means of identifying sounds for word analysis. Most of the diacritical symbols are those found in *The Harcourt Brace School Dictionary* and are enclosed in virgules, / /. When they occur, they should be interpreted as sounds, not letters. (See the pronunciation key at the front of this book.)

In this program one phonetic symbol is used to represent most unstressed vowel sounds. The symbol ə, called *schwa*, represents a sound almost like /ū/ but weaker. This symbol has been included because most dictionaries use ə to respell unstressed vowel sounds.

One diacritical symbol which is not found in most elementary dictionaries is used as a teaching device in this program. The child is allowed to mark vowel letters with the breve (˘) to show which vowel letter in a word represents a short vowel sound and to show that he can distinguish short vowel sounds from long vowel sounds which he marks with a macron (¯).

The material is organized under the following headings: (1) Vowels, (2) Consonants, (3) Syllables, (4) Compound Words, (5) Contractions, (6) Root Words, Prefixes, and Suffixes, and (7) Speech Sounds and How to Form Them. The Keys, the sounds, and the definitions and explanations are interwoven instead of being arranged in separate lists. The statements used in developing each heading are brief, but they include enough information to clarify the various letter-sound relationships and to explain phonetic and structural analysis of words.

Vowels

The letters a, e, i, o, and u represent vowel sounds and are called vowel letters. They are important letters because each word and each syllable in a word must contain at least one of them or y to represent a vowel sound. The five vowel letters represent a number of different vowel sounds, usually counted as thirteen or fourteen, knowledge of which is essential to independent identification of words.

The letters w and y often represent vowel sounds. When the letter w immediately follows a vowel letter in a word of one syllable or in the same syllable, the combination usually represents a vowel sound. The letter y usually represents a vowel sound when it is at the end of a word or syllable, when there are no vowel letters in the word or syllable, when it immediately follows a vowel letter in a word or syllable, and when it precedes a consonant letter in one-syllable words ending with e.

down, show, new, blew, towel;

pony, bicycle, my, day, type

There are different ways to determine which vowel sounds are represented in printed or written words. Among methods used in this program are the following: (1) looking for the number of vowel letters in the word, (2) observing the position of the vowel letter or the group of vowel letters in the word, and (3) using word meaning and context.


The following information pertaining to vowel sounds is presented in six parts. The first three parts present sounds determined, respectively, by the number of vowel letters in a word, the position of the vowel letter or letters, and the spellings representing vowel sounds. Sounds represented by spellings comprised of vowel letters immediately followed by the consonant letter r are introduced in the fourth part, diphthongs in the fifth, and vowel sounds determined by word meaning and context in the sixth. The notes following some of the Keys add special information about the sounds or point out exceptions to the Keys.

Sounds Determined by the Number of Vowel Letters in a Word

In words of one syllable the long and short vowel sounds are often determined by the number of vowel letters in a word. In identifying monosyllables, the child is taught to look for the number of vowel letters and to apply Keys 1 and 2.

As soon as the child can identify the long and short vowel sounds and a few consonant sounds and can associate them with the letters representing the sounds, these Keys can be applied.

The analysis of words that are exceptions to Keys 1 and 2 is delayed until word meaning and context can be used as a means of attacking words containing letters or groups of letters which could represent several different sounds.

 1

When a word of one syllable contains two or more vowel letters, the first usually stands for a long vowel sound. All other vowel letters in the word are silent.

boat, rain, geese, rope, cake, pie

Note: Some common exceptions are **give**, **love**, and **have**.

The vowel letters referred to in this Key may come together as in **boat**, or they may be separated by a single consonant letter as in **rope** and **cake**. Technically, two vowel letters together that represent a single vowel sound in a syllable form a vowel digraph. For example, the **ai** in **rain** and the **eo** in **people** are vowel digraphs. In this program vowel digraphs will not be taught as such at the primary level.

The letter **u** is a special case since it represents one of two vowel sounds or a consonant sound. When **u** is the first of two or more vowel letters in a one-syllable word, it usually represents /ū/ (/yōō/) or /ōō/, but in some words it represents the consonant /w/. See **gu** and **qu**, Key 53 Note and Key 54.

 2

When a one-syllable word contains only one vowel letter, the letter usually represents a short vowel sound unless it is at the end of the word.

top, hat, pig, pet, nut


Note: In deliberate pronunciation of words containing **e** as a single vowel letter, the **e** usually represents /ē/, but in some regions the single letter **e** represents /ī/ before the nasal consonant sounds /m/ and /n/ and sometimes before /ng/.

See Key 4 for sounds represented by a vowel letter at the end of a word and Keys 5 and 6 for **o** before two consonant letters at the end of a monosyllable.

*Vowel Sounds
Determined by
Letter Position*

The position of a vowel letter or a group of vowel letters within a word is often a clue to the sound it represents. Keys 3-12 explain instances in which position affects the vowel sounds represented by specific letters.


With the introduction of the generalizations contained in Keys 3-12, the child learns that when Keys 1 and 2 are applied to some words, they will not help him identify the words. In such instances he soon learns that he must apply these additional generalizations.

 3

If a word of one syllable contains two or more vowel letters separated by more than one consonant letter, the first vowel letter usually stands for a short vowel sound, and the other is silent.

edge, fringe, dance, judge


Note: The words **range**, **change**, and **strange** are common exceptions.

 4

At the end of a word of one syllable the letter **e**, **o**, or **y** stands for a long vowel sound when it is the only letter in the word that could represent a vowel sound.

he, me, no, my

Note: When **y** takes the place of a vowel letter in a word, it usually stands for /ī/, /ī/, or /ē/. For example, **y** in **my** represents /ī/, **y** in **pony** represents /ē/ or in some regions /ī/, and **y** in **bicycle** represents /ī/.

 5

When *o* immediately precedes *ld* at the end of a monosyllable, it stands for /*ō*/.

cold, told, sold

Note: The letter *o* represents /*ō*/ before *mb* in *comb*. The *b* in *comb* is silent.

 6

If the vowel letter *o* immediately precedes two consonant letters at the end of a one-syllable word, it usually represents /*ō*/ or /*ò*/.

song, long, moss, frost, moth, soft, off

Note: The letter *o* may also represent /*ō*/ when it precedes two consonant letters at the end of a one-syllable word as in *post*, *most*, *ghost*, *folk*, *both*, and *bolt*. It represents /*ō*/ in words such as *cold* and *hold*. See Key 5.

 7

When *a* immediately precedes *ll* or *lk*, it usually represents /*ò*/.

tall, talk, ball, balk, wall, walk

Note: Only one of the *l*'s in *ll* is sounded (Key 39), and the *l* in *lk* is usually silent.

 8

When *a* immediately follows *w* and is the only vowel letter in a monosyllable or a syllable, it usually represents /*ō*/ or /*ò*/.

wand, wasp, wash

Note: In some regions *a* preceded by *w* represents /*ō*/ unless it is immediately followed by *ll*, *lk*, or *r* (Keys 7 and 20b). Adjust the Key to the regional preference, /*ò*/ or /*ō*/.

In a few one-syllable words such as *wag* and *wax*, *a* after *w* represents /*ǎ*/; and in unstressed *was*, *a* represents /*ə*/.

 9

The letter *e* is usually silent at the end of a word.

lake, ride, little, bubble

 10

a. The spelling *ey* usually stands for /*ā*/ when it is at the end of a monosyllable.

they, prey, whey

Note: The word *key* is a common exception.

b. The spelling *ey* at the end of a plurisyllable usually represents /*ā*/ when the last syllable in the word is stressed.

obey, convey

c. The spelling *ey* at the end of a plurisyllable usually represents /*ē*/ when the last syllable is unstressed.

money, chimney, turkey, honey


Note: In many regions the unstressed *ey* at the end of a plurisyllable represents /*ī*/.

 11

The spelling *ie* at the end of a plurisyllable usually represents /*ē*/.

cookie, prairie, brownie

Note: In many regions *ie* at the end of an unstressed final syllable represents /*ī*/.
See Key 1 and Key 28l for other sounds that *ie* represents.

 12


The letter *i* usually represents /i/ when it immediately precedes *ld* or *nd* at the end of a monosyllable.

wild, child, kind, find

Note: The letter *i* also represents /i/ before *mb* in *climb*. The letter *b* in the *mb* combination is silent.

*Spellings
Representing
Vowel Sounds*


Certain combinations made up of two or more letters represent single vowel sounds. Since these combinations do not exhibit the phonetic correlations described in earlier Keys, they are presented as spellings representing vowel sounds, and their sound relationships are described in Keys 13-18.

 13

The spellings *au* and *aw* usually represent /ô/.

pause, taught, saucer, paw, awful, law

Note: Speakers who do not distinguish between *cot* and *caught* are not likely to have a full /ô/ for *au* and *aw*. They will probably pronounce *taught*, *laundry*, and similar words with /ă/. The spelling *au* also represents /ă/ or in some regions /ä/ in *laugh* and *aunt*.

 14

At the end of a word or a syllable the spelling *ay* usually represents /ā/.

say, day, payment, playing

Note: In some unstressed final syllables *ay* may represent /ē/ or in some regions /ī/.

Sunday, Monday, Tuesday

 15

The spelling *eau* represents /ū/ or /ō/.


beauty, beau, bureau

 16

The spelling *igh* usually represents /ā/.

eight, freight, weight

Note: The word *height* is a common exception.

 17

a. The spelling *eye* represents /ī/.

eye, eyebrow, eyelet, buckeye

b. Immediately following a consonant letter, the spellings *ye* and *uy* represent /ī/.

dye, lye, buying

 18

The spelling *igh* represents /ī/.

high, light, night

*Vowel Letters
Followed by r*

When the consonant letter *r* immediately follows a vowel letter or group of vowel letters in a monosyllable or syllable, the vowel sound

is usually affected. For this reason, the children are taught specific sounds to associate with spellings such as *er*, *ir*, *ur*, and *air*.

In Keys 19-22 the symbols *ûr* and *ær* represent essentially the same sound, varying only in degree of stress, or loudness. The symbol *ûr* is used to indicate the stressed sound and the symbol *ær* to indicate the unstressed sound.

An easily recognized feature of some dialects is the pronunciation of *r* immediately following vowel letters. Many people in some large dialect groups substitute /ûh/ or /əh/ for /r/ in words such as **hair**, **bear**, **deer**, **here**, **four**, and **more**. But in other dialect groups a sound more closely associated with that of the initial /r/ is used in pronouncing final *r*. The choice of the sound to be presented to the pupils should be determined by the regional dialect.

19

or /ōr/ or /ôr/ as in **more**
/ôr/ as in **fork**
/ûr/ as in **word**
/ær/ as in **doctor** (Key 22)

a. The spelling *or* is usually pronounced /ôr/ as in *fork* unless it is immediately preceded by *w*, is immediately followed by *e* at the end of a monosyllable or a syllable, or is unstressed at the end of a plurisyllable.

horn, corn, corner, storm

Note: In some regions the spelling *or* represents /ōr/ in words such as *porch*, *fort*, *port*, *sport*, *pork*, *torn*, and *ford*.

b. When *or* immediately follows *w*, it usually represents /ûr/.

word, work, world, worship

c. If *or* is immediately followed by *e* at the end of a one-syllable word or other syllable, it may represent /ōr/ or /ôr/.

store, more, before, soreness

Note: For speakers using /ôr/ for *or* followed by *e*, the expression “followed by *e* at the end of a monosyllable or a syllable” in Key 19a and all of Key 19c may be disregarded. See Key 22 for the sound represented by *or* at the end of a plurisyllable.

20

ar /är/ as in **car**
/ôr/ as in **warm**
/âr/ as in **care**
/ær/ as in **burglar** (Key 22)

a. The spelling *ar* usually represents /är/ unless it is immediately preceded by *w*, is immediately followed by *e* at the end of a one-syllable word, or is at the end of a word of more than one syllable.

car, farm, barn, park


b. When *ar* is immediately preceded by *w*, it usually represents /ôr/ unless it is immediately followed by *e*, is immediately followed by *r*, or is at the end of a word of more than one syllable.

war, warm, warp, ward

c. If *ar* is immediately followed by *e* at the end of a word or a syllable, it usually represents /âr/.

care, fare, beware, bare

See Key 22 for the sound represented by *ar* at the end of a plurisyllable.

 21

er /ûr/ as in *her*
/ər/ as in *letter* (Key 22)

ir /ûr/ as in *bird*
/îr/ as in *fire*

ur /ûr/ as in *hurt*
/yöör/ as in *cure*
/ər/ as in *murmur* (Key 22)

a. The spellings *er*, *ir*, and *ur* usually represent /ûr/ unless they are immediately followed by *e* or come at the end of a plurisyllable.

her, girl, church

b. When *ir* is immediately followed by *e* at the end of a word, it represents /îr/.

fire, wire, hire, tire

c. When *ur* is immediately followed by *e* at the end of a monosyllable or final syllable, it usually represents /yöör/ or /ər/.

pure, cure, endure; nature, picture


Note: In stressed syllables *ur* immediately followed by *e* represents /yöör/, and in unstressed syllables it represents /ər/. The combination *er* immediately followed by *e* occurs in such sight words as *here*, *were*, *there*, and *where*. See Key 22 for *er* and *ur* in final unstressed syllables.

 22

When unstressed *or*, *ar*, *er*, or *ur* is at the end of a word of more than one syllable, it usually represents /ər/.

doctor, dollar, butter, murmur


Note: These spellings also represent /ər/ in many other unstressed syllables.

 23

When the spelling *ar*, *or*, *er*, or *ir* is immediately followed by another *r* in a word, the vowel letter usually represents its short sound.

carry, borrow, merry, irregular

Note: The *orr* in *horror* and *horrible* may represent /ôr/ or /ôr/.

 24

The spelling *air* usually represents /âr/.

fair, hair, pair

The spelling *ear* represents /īr/ as in *dear*, /âr/ as in *bear*, or /ûr/ as in *earth*. Word meaning and context clues must be used to determine which sound this spelling represents in a given word.

hear, pear, earn

Diphthongs

A diphthong is a complex vowel sound produced when the tongue glides from one vowel position to another vowel position in pronouncing a monosyllable or another single syllable.

Technically, long vowel sounds are diphthongs and may be represented by one vowel letter or two vowel letters. But the glide in each of these diphthongs is articulated so quickly that it is difficult to tell where one sound leaves off and the other begins. The untrained ear recognizes only a single vowel sound. For this reason the long vowels are not taught as diphthongs in this program. Keys 26 and 27 explain the diphthongs to be taught as such.

The spellings *oi* and *oy* represent the diphthong /oi/.

noise, voice, oil, toy, boy

The spellings *ou* and *ow* often represent the diphthong /ou/.

house, mouth, cow, down

Note: Both spellings may represent /ō/ as in *dough* and *bowl*. The spelling *ou* also represents /ōō/ as in *you*, /ò/ as in *thought*, /ū/ as in *rough*, and /ōō/ as in *could*. The sound to be applied in identifying a word containing one of these spellings may be determined by word meaning or context.

Vowel Sounds Determined by Word Meaning and Context

When a single vowel letter or a group of vowel letters in a word could represent one of two or three sounds, the spelling of the word may be described as partially phonetic. Different clues may be used to determine which vowel sound to apply in pronouncing words whose spellings are partially phonetic. If the number of vowel letters (Keys 1 and 2) and the position of the vowel letter or group of vowel letters in a word (Keys 3-12) do not indicate which vowel sound is to be used in the pronunciation of the word, word meaning or context must be used as a clue. Sometimes both may be needed.

The meaning of a word can be drawn upon when the word the child is analyzing is already in his acquired speech vocabulary. If among various possible pronunciations of a word there is only one already known to the child, he will almost automatically select that particular pronunciation. For example, the spelling *oo* can represent any of three different vowel sounds: /ō/, /ōō/, or /ōō/. When a child sees *took*, he will quickly reject /tōk/ and /tōōk/, since such forms do not exist in his vocabulary, and he will then accept /tōōk/ as the right pronunciation.

The use of context can be introduced early and drawn upon more and more as progress is made in reading skill. Because there are many vowel sounds which cannot be determined by any other method, it is essential in word analysis to introduce this means of determining sounds as soon as possible. The use of context also increases the recognition vocabulary.

The vowel letter combination *ea* can represent any of three different vowel sounds: /ē/, /ě/, or /ā/. Occasionally two or even three of these sounds placed with the other sounds represented in a spelling may produce a word in the speaking vocabulary. For instance, in pronouncing **bread**, the use of /ē/ produces /brēd/; /ā/, /brād/; and ě, /brěd/. The sound represented by *ea* in this printed word can be determined only by its use in a sentence. In **He ate some bread and butter**, the use of context shows that *ea* represents /ě/ in this word.

28

The sounds represented by vowel letters in words whose spellings are only partially phonetic must be determined through the use of word meaning and context. If the relationship between a vowel letter and a vowel sound is one that occurs in only a few words, the words may be taught as sight words. For example, *said*, *pretty*, and *you* may be taught as sight words.

a. The letter *o* represents:

- /ō/ as in **rope** (Key 1)
- /ö/ as in **cot** (Key 2)
- /ōō/ as in **do**
- /ũ/ as in **come**

b. The letter *a* represents:

- /ā/ as in **cake** (Key 1)
- /ǎ/ as in **bat** (Key 2)
- /ě/ as in **many**

c. The letter *e* represents:

- /ē/ as in **seed** (Key 1)
- /ě/ as in **set** (Key 2)
- /ī/ as in **pretty**

d. The letter *i* represents:

- /ī/ as in **kite** (Key 1)
- /ĩ/ as in **sit** (Key 2)
- /ē/ as in **police** (Key 65c)

e. The letter *u* represents:

- /ũ/ as in **use** (Key 1)
- /ōō/ as in **rule**
- /ũ/ as in **cup** (Key 2)
- /ōō/ as in **pull**

f. The combination *oo* represents:

- /ōō/ as in **moon**
- /ōō/ as in **look**
- /ō/ or /ô/ as in **door** (Key 1)
- /ũ/ as in **blood**

g. The combination *ou* represents:

- /ou/ as in **house** (Key 27)
- /ō/ as in **dough** (Key 27 Note)
- /ōō/ as in **you**
- /ōō/ as in **could**
- /ũ/ as in **rough**
- /ô/ as in **thought**

- h. The combination *ow* represents:**
 /ou/ as in *cow* (Key 27)
 /ō/ as in *show* (Key 27 Note)
- i. The combination *ea* represents:**
 /ē/ as in *bean* (Key 1)
 /ā/ as in *great*
 /ĕ/ as in *bread*
- j. The combination *ei* represents:**
 /ē/ as in *seize* (Key 1)
 /ā/ as in *veil*
 /ĕ/ as in *heifer*
 /ī/ as in *foreign*
- k. The combination *ew* represents:**
 /ū/ as in *few*
 /ō/ as in *flew*
- l. The combination *ie* represents:**
 /ī/ as in *die* (Key 1)
 /ĕ/ as in *friend*
 /ē/ as in *cookie* (Key 11), *chief*
 /ī/ as in *sieve*
- m. The spelling *ear* represents one of the following: /âr/, /īr/, or /ûr/ (Key 25).**

Consonants

All letters of the alphabet except the vowel letters are consonant letters. The twenty-one consonant letters include *w* and *y*, both of which may represent either vowel or consonant sounds.

Some consonant letters and groups of consonant letters represent single sounds; others represent two or more sounds. The letter *x* represents a combination of two consonant sounds, /ks/, as does the unique spelling *qu*, /kw/.

Consonant sounds are either voiced (accompanied by vibration of the vocal cords) or voiceless (without vibration of the vocal cords). Awareness of this difference is important in producing the sounds represented by the consonant letters. It is also important because it provides clues to the sounds represented by certain suffixes—for example, the sounds represented by *ed*.

Consonant sounds may be determined in different ways. If a consonant letter or a group of consonant letters represents only one sound, then associating the sound with the letter or group of letters is all that is needed. On the other hand, if a consonant letter or group of such letters can represent more than one sound, the sound to use in pronouncing a word must be determined (1) by the position of the letter or group of letters in the word, (2) by a recognized meaning of the word, or (3) by its context.

Sounds represented by consonant letters and by groups of consonant letters vary slightly in stressed and unstressed syllables and in relation to their position in words. Reference to such variations is usually unnecessary with children who are native speakers of English.

The following information pertaining to consonant sounds is arranged under six headings: (1) Consonant Letters Representing One Sound, (2) Consonant Letters Representing More Than One Sound, (3) Double Consonant Letters, (4) Consonant Blends, (5) Consonant Digraphs, and (6) Spellings Representing Consonant Sounds. Included

under these headings are general statements, Keys for word analysis, and explanatory notes.

Consonant Letters Representing One Sound

Each of the consonant letters **b, f, h, j, k, l, m, p, q, r, v,** and **w** represents only one sound. The single exception is provided by **f**, which represents /v/ in the word **of**.

 29

Each consonant letter listed below represents the sound exemplified by the initial sound of the key word which begins with the same letter, and the sound is represented by a respelling enclosed in virgules.

Letters	Respellings Representing Sounds	Key Words	Sound Descriptions	Phonetic Symbols Representing Sounds
b	/b/	boy	voiced	[b]
f	/f/	fun	voiceless	[f]
h	/h/	home	voiceless	[h]
j	/j/	jump	voiced	[j]
k	/k/	kite	voiceless	[k]
l	/l/	look	voiced	[l]
m	/m/	man	voiced	[m]
p	/p/	pet	voiceless	[p]
q	/k/	quit	voiceless	[k]
r	/r/	run	voiced	[r]
v	/v/	vine	voiced	[v]
w	/w/	will	voiced	[w]

Note: The letter **q** presents a special case since it is usually combined with **u** to represent /kw/ at the beginning of a word or syllable. In this combination **u** does not represent a vowel but the consonant /w/.

quick, queen, request

In some words **qu** is a digraph, representing the single consonant sound /k/.
bouquet, conquer, plaque

The letter **r** also presents a special case since there are regional variations in the sound represented by this letter, especially when it immediately follows a vowel. At the beginning of the primary level, only /r/, the sound represented by **r** in an initial position, will be presented. See "Vowel Letters Followed by **r**."

Consonant Letters Representing More Than One Sound

Each of the consonant letters **c, d, g, n, s, t, x, y,** and **z** represents more than one sound. In the following list they are presented alphabetically, and the list is followed by Keys. The sounds to be associated with the consonant letter are those represented by the boldface letters in the key words.

Letters	Respellings Representing Sounds	Key Words	Sound Descriptions	Phonetic Symbols Representing Sounds
c	/k/	cat	voiceless	[k]
	/s/	cent	voiceless	[s]
d	/d/	duck	voiced	[d]
	/j/	soldier	voiced	[j]
g	/g/	go	voiced	[g]
	/j/	giant	voiced	[j]
n	/zh/	garage	voiced	[ʒ]
	/n/	no	voiced	[n]
s	/ng/	finger	voiced	[ŋ]
	/s/	see	voiceless	[s]
t	/z/	his	voiced	[z]
	/sh/	sure	voiceless	[ʃ]
x	/zh/	treasure	voiced	[ʒ]
	/t/	top	voiceless	[t]
y	/ch/	picture	voiceless	[ç]
	/ks/	box	voiceless	[ks]
z	/gz/	exact	voiced	[gz]
	/z/	xylophone	voiced	[z]
y	/y/	yes	voiced	[y]
	/ī/	my	voiced	[ai]
z	/ē/	baby	voiced	[i]
	/z/	zoo	voiced	[z]
z	/s/	waltz	voiceless	[s]
	/zh/	azure	voiced	[ʒ]

 30

a. The consonant letter *c* usually represents /k/ unless it immediately precedes *e*, *i*, *y*, or *h*.

cake, coat, cut, clock

b. When *c* is immediately followed by *e*, *i*, or *y*, it usually represents /s/.

center, cider, bicycle

See Key 41 for the combination *ch*.

 31

The consonant letter *d* usually represents /d/.

did, duck, day, indeed

Note: In some plurisyllables the consonant letter *d* represents /j/ as in *soldier* and *individual*.

 32

a. The consonant letter *g* usually represents /g/ unless it is immediately followed by *e*, *i*, *y*, or *n*.

gate, goat, glass, grass


b. If *g* is immediately followed by *e*, *i*, or *y*, it usually represents /j/.

gem, ginger, gypsy

Note: In a few commonly used words *g* before *e* or *i* represents /g/ as in *get* and *gift*. This possible variation in the sound represented by *g* should be pointed out to the children, and they should be reminded to use context as a means of determining which sound to use in pronouncing a word.

In a few words such as *garage*, *rouge*, and *beige*, which are derived from French, *g* represents /zh/.

See Key 51 for *g* followed by *n*, *gn*.

 33


a. The consonant letter *n* usually represents /n/.

not, can, name

b. The letter *n* represents /ng/ when it immediately precedes *k*, *c* representing /k/, or *g* representing /g/.

bank, uncle, finger, wrinkle

Note: Point out to the children that in words such as *finger* *n* represents /ng/ and *g* represents /g/ but that in derivatives of words ending with *ng*, the *n* and *g* together usually represent /ng/ as in *singer*.

 34

a. The consonant letter *s* usually represents /s/ when it is at the beginning of a word or syllable.

sell, sit, insist

b. The consonant letter *s* usually represents /s/ when it is the initial letter of a consonant blend (two or more consonant letters representing a cluster in a monosyllable or a syllable).

smoke, spring, best, task

c. A single *s* at the end of a monosyllable or a syllable represents /s/ or /z/.

bus, gas, basket; his, has, president

See Key 77 for *s* as a suffix.

d. The letter *s* usually represents /sh/ or /zh/ when it immediately precedes *ure*.

sure, insure, pleasure

Note: The consonant *s* also represents /sh/ in a few other words such as *sugar*, *issue*, and *tissue*.


 35

a. The consonant letter *t* usually represents /t/ unless it is immediately followed by *ure*.

time, tent, tell, until

b. When the consonant letter *t* is immediately followed by *ure*, it represents /ch/.

picture, pasture, nature


 36

a. The consonant letter *x* usually represents /ks/ unless it is at the beginning of a word or is in an unstressed syllable immediately preceding a vowel sound as in *exact*.

box, mix, wax, relax, saxophone

b. At the beginning of a word the consonant letter *x* represents /z/.
xylophone

For sounds represented by *x* in the spelling *ex*, see Key 70, which presents generalizations for this combination.

 37

The consonant letter *y* usually represents /y/.

yes, yellow, yard, beyond

See Key 4 Note and Key 66 for the use of *y* representing vowels.

 38

The consonant letter *z* usually represents /z/.

zebra, zone, doze

Note: Exceptions such as *waltz*, in which *z* represents /s/, and *azure*, in which *z* represents /zh/, should not be taught at the primary levels.

*Double
Consonant
Letters*

Many monosyllables contain double consonant letters. Letters frequently doubled at the end of a monosyllable are **f**, **l**, and **s**. Others less frequently doubled are **b**, **d**, **g**, **n**, **r**, **t**, and **z**.

puff, hill, miss; ebb, add, egg, inn, purr, mitt, fuzz

The consonants **c**, **h**, **j**, **k**, **q**, **v**, **w**, **x**, and **y** are not doubled at the end of a word, and **m** and **p** are rarely doubled.

Plurisyllables also contain double consonant letters in both medial and final positions. The following Key may be used as an aid in pronouncing words containing these combinations.

 39

Double consonant letters in words usually represent a single consonant sound.

hill, dress, buzz, little, balloon

Note: In plurisyllables containing double consonant letters, the letter representing the single consonant sound is usually in the stressed syllable. See the first paragraph of Key 58a Note.

In a compound such as *bookkeeper* or *cattail*, the double consonant letters represent a long consonant sound that has the acoustic effect of a double consonant sound. For example, compare the pronunciation of *cattail* with *catty*.

*Consonant
Blends*

A consonant blend in a word is two or more successive consonant letters which represent a sound combination that forms a **cluster**. Sometimes the terms **blend** and **cluster** are used interchangeably. In this program **blend** refers to a group of letters representing a cluster of sounds (the letters **bl** in **blue**, for example), and **cluster** refers to the sounds represented by a blend (the sound /bl/ in **blue**). The phonetic characteristic of a cluster, as demonstrated by

laboratory research, is that in actual speech one or more of the features of one consonant sound laps over, or blends with, features of the neighboring consonant sound.

Blends may be (1) initial, at the beginning of a word; (2) final, at the end of a word; or (3) medial, somewhere between the initial and final positions. Final blends should not be emphasized as such unless the child has difficulty in pronouncing words containing them.

Before a word containing a blend can be identified, the blend must be located and the sound combination, or cluster, associated with it.

40


The sounds represented by the consonant blends are those exemplified by key words in the following list:

bl /bl/ as in blue	shr /shr/ as in shrimp
br /br/ as in bring	sk /sk/ as in skate, mask
cl /kl/ as in clean	sl /sl/ as in sleep
cr /kr/ as in cream	sm /sm/ as in smoke
dr /dr/ as in dress	sn /sn/ as in snow
dw /dw/ as in dwarf	sp /sp/ as in spoon, clasp
fl /fl/ as in flag	spl /spl/ as in splash
fr /fr/ as in free	spr /spr/ as in spring
gl /gl/ as in glass	squ /skw/ as in squash
gr /gr/ as in grass	st /st/ as in stop, nest
phr /fr/ as in phrase	str /str/ as in string
pl /pl/ as in play	sw /sw/ as in swing
pr /pr/ as in pride	tch /ch/ as in match
sc /sk/ as in scold	thr /thr/ as in three
sch /sk/ as in school	tr /tr/ as in tree
scr /skr/ as in scratch	tw /tw/ as in twig

Consonant Digraphs

A consonant digraph is a combination of two consonant letters representing a single consonant sound. The combinations **gh** and **wh** are listed below because two of the sounds represented by each of them are single sounds. Both **gh** and **wh** have an additional representation—**gh** is often silent, and **wh** in some regions represents /hw/.

Letter Groups	Respellings Representing Sounds	Key Words	Sound Descriptions	Phonetic Symbols Representing Sounds
ch	/ch/	chain	voiceless	[ç]
ck	/k/	brick	voiceless	[k]
gh	/f/	rough	voiceless	[f]
	/g/	ghost thought	voiced silent	[g]
ng	/ng/	sing	voiced	[ŋ]
ph	/f/	telephone	voiceless	[f]
	/v/	Stephen	voiced	[v]
sh	/sh/	ship	voiceless	[ʃ]
th	/th/	thin	voiceless	[θ]
	/ð/	this	voiced	[ð]
wh	/hw/	white	voiced	[hw] [w]
	/w/	whole	voiceless	[h]

 41

The digraph *ch* usually represents /ch/.


church, chain, each

Note: The digraph *ch* also represents /k/ as in *chord* and /sh/ as in *machine*.

 42

The digraph *ck* represents /k/.

back, peck, stick, pocket

 43

a. The combination *gh* immediately preceding a vowel letter in a word of one syllable or in a syllable usually represents /g/.

ghost, ghistly, ghetto

b. Immediately following a vowel letter in a one-syllable word or syllable, *gh* usually represents /f/ or is silent.

rough, cough, laugh; bought, caught, through

Note: In a compound such as *bighorn*, *g* represents /g/ and *h* represents /h/, since the syllable break comes between the two letters.

 44

The digraph *ng* represents /ng/.

sing, rang, long, singer

Note: The combination *ng* is not always a digraph. In plurisyllables such as *linger*, *finger*, and *stronger* the consonant *n* represents /ng/ at the end of the first syllable, and *g* represents /g/ at the beginning of the last syllable.

 45

The digraph *ph* usually represents /f/.

telephone, photograph, phrase

Note: In a very few words *ph* represents /v/ as in *Stephen*.

The digraph *sh* usually represents /sh/.
shop, shine, wish, fish

The digraph *th* represents /th/ as in *think* and /~~th~~/ as in *this*.
thin, cloth—voiceless
this, clothe, feather—voiced

Note: When **th** is at the beginning of a word, it usually represents /th/. However, in pointing words such as **the**, **this**, **those**, and **there**, it represents /~~th~~/. When **th** is found in a medial or final position, word meaning and context should be used to determine whether it represents /th/ or /~~th~~/. In the word **with** both are acceptable regional variants.

a. The combination *wh* usually represents /hw/.
white, whip, wheel, whale

Note: The combination **wh** may also represent /w/, depending upon regional variations. However, most dictionaries respell **wh** as /hw/. For this reason /hw/ is given in this Key. The decision as to presenting /hw/ or /w/ as the sound represented by **wh** should be determined by the dialect of the region.


b. When *wh* immediately precedes *o*, it usually represents /h/.
who, whole, whoops

*Spellings
Representing
Consonant
Sounds*

There are several spellings which represent consonant sounds. Some consist of consonant letters, and others are made up of both vowel and consonant letters. Most of the spellings represent only a single sound, but a few represent both a single sound and a combination of two sounds. One spelling, **nk**, always represents a combination of two sounds—those represented by the digraph **ng** and the letter **k**, /ngk/.


The spellings are listed below and are followed by Keys pertaining to the sounds represented by the spellings.

Letter Groups	Respellings Representing Sounds	Key Words	Sound Descriptions	Phonetic Symbols Representing Sounds
dge	/j/	edge	voiced	[j]
ge	/j/	page	voiced	[j]
se	/s/	house	voiceless	[s]
	/z/	rose	voiced	[z]
gn	/n/	gnaw	voiced	[n]
kn	/n/	know	voiced	[n]
wr	/r/	write	voiced	[r]
gu	/g/	guess	voiced	[g]
	/gw/	guano	voiced	[gw]
qu	/k/ (Key 54)	antique	voiceless	[k]
	/kw/	quit	voiced	[kw]
sc	/s/	scene	voiceless	[s]
	/sk/ (Key 40)	scold	voiceless	[sk]
nk	/ngk/	bank	voiced	[ŋk]

 49


The spellings *dge* and *ge* represent /j/.

badge, bridge, cage, page

 50

When *se* is at the end of a word or a syllable, it represents /s/ or /z/.

house, horse, nose, rose


 51

In one-syllable words and syllables, *gn* and *kn* usually represent /n/.

gnaw, sign, know, knee, unknown


Note: In plurisyllables *gn* is often divided; each of the consonant letters in the spelling represents a sound—*g* represents /g/, and *n* represents /n/.

sig nal, sig net

 52

At the beginning of a word or a syllable, the spelling *wr* represents /r/.

write, wrap, wrong, unwrapped

 53

In a one-syllable word or in a stressed syllable the spelling *gu* usually represents /g/ when it immediately precedes a vowel letter.

guard, guest, guilt, fatigue, intrigue

Note: When *gu* precedes a consonant, the *g* represents /g/ and *u* represents /ü/ as in *gull* and *gush*.

In a few words *gu* preceding the vowel letter *a* or *i* represents /gw/ as in *guava*, *guano*, *language*, *languid*, and *penguin*.

The spelling *qu* usually represents /kw/.

quack, quick, queen, quit

Note: In words such as *antique*, *plaque*, and *mosquito* the spelling *qu* represents /k/. When it represents this single consonant sound, it is a digraph.

The spelling *sc* represents /s/ when it is immediately followed by *e*, *i*, or *y*.

scene, scissors, scythe

Note: The combination *sc* also represents the cluster /sk/. See Key 40.

The spelling *nk* at the end of a one-syllable word or a syllable represents /ngk/ as in *bank*.

sink, tank, think

Syllables

Knowledge of the structure of English words is often helpful in ascertaining their meaning and pronunciation. In our language, syllables constitute one element of word structure.

Phonetically a **syllable** is a speech segment having a single vocal impulse. It consists of a vowel sound with or without a preceding or a following consonant. Sometimes it may consist simply of a syllabic consonant such as /n/ in the last syllable of **button**.

The spoken syllable does not always correspond exactly to the written or printed syllable. It is often difficult to determine in speech where one syllable ends and another begins, and printing conventions for the division of words at the end of a line do not always follow the pattern of speech syllables. However, speech syllables and printed syllables do correspond frequently enough for the printed syllable to be used in dividing words into parts that can be readily analyzed and blended to pronounce words.

In this program a syllable is considered as the sequence of letters more or less approximating the syllable of speech. It may be a whole word or a part of a word.

A word of one syllable is called a **monosyllable**, and a word of two or more syllables a **plurisyllable**. Words having more than three syllables may be referred to as **polysyllables**.

In a word of more than one syllable the syllables are ordinarily spoken with varying degrees of stress. The loudest stress is marked with a primary accent mark (ˈ) and the next loudest with a secondary accent mark (ˈ). Unstressed syllables, those that have weak stress, are unmarked.

Structural analysis of plurisyllables is an aid in word identification. The division of a word into syllables makes possible the application of

phonetic generalizations in determining sounds represented by letters or groups of letters in syllables. This, in turn, helps in the pronunciation of the word.

The Keys used in pronouncing monosyllables can usually be applied to the stressed syllables of plurisyllables. But the reader should remember that a vowel letter or a group of vowel letters in an unstressed syllable is likely to represent the neutral vowel /ə/.

Stressed and Unstressed Syllables

The following statements may be used as guides to the location of stressed syllables in words.

1. The primary stress in an English plurisyllable tends to be at or near the beginning of the word.

min'er al, a rith'me tic, en'e my

2. A word having a prefix or a suffix generally retains the stress pattern of the root word.

re mind', re mind'ed; be lieve', be liev'a ble

3. A stressed syllable is often followed by a much weaker syllable.

va ca'tion, hol'i day

4. An English word, other than a compound, contains only one primary stress.

mar'ket, pa rade', re frig'er a'tor, tel'e vi'sion

Note: Dictionaries do not always agree in their marking of stressed syllables in compounds, but many of them indicate that some compound words contain more than one primary stress. Some dictionaries show primary stress on both words of the compound, as in *downtown* (down'town'), and on an element in each word of other compounds, as in *underwater* (un'der wa'ter).

5. In compound words containing both primary and secondary stress, primary stress is usually on the first word or an element in the first word of the compound, and secondary stress is on the second word or an element in the second word of the compound.

schoolroom (school'room') baseball (base'ball')

mockingbird (mock'ing bird') moneylender (mon'ey lend'er)

6. The final syllables **ble**, **cle**, and **tle** are unstressed.

bub'ble, cir'cle, bot'tle

Word Division

Keys 57 and 58 point out visual clues that may be used in word division.

57

Each syllable must contain one or more than one vowel letter or the letter *y*.

bub ble, chick en, pa rade, dad dy, bi cy cle

Note: Each spoken syllable contains a vowel sound or syllabic consonant. The vowel sound may be either simple or complex.

a. Words may be divided between double consonant letters.

lit tle, hap py, bub ble, din ner

Note: A double consonant letter represents only one consonant sound except in compounds such as *cattail* and *bookkeeper*. The single consonant sound is sometimes heard at the end of the first syllable and sometimes at the beginning of the last syllable, depending upon which syllable is stressed. The sound usually goes into the stressed syllable.

rab'bit, bal loon'

Many words containing double consonant letters end with syllables such as *ble*, *cle*, and *tle*. The final *e* in these syllables is usually silent and the syllabic /l/ is the final sound of the word. In some words /l/ is the only sound represented by the syllable. See Key 71.

b. Words may be divided between unlike consonant letters unless the letter combination represents a digraph, such as *ch*, *ck*, and *ng*, or is a spelling that represents a single speech sound, such as *dge*, *ge*, and *gu*.

bas ket, win dow

c. Words may be divided between a vowel letter and a consonant letter or a consonant letter and a vowel letter.

la dy, ba by, ta ble; rob in, cab in, riv er

d. Words may be divided between two vowel letters unless the letters represent a single vowel sound (vowel digraph) or a diphthong.

di et, du et, ra di o

Note: Vowel letter groups representing single vowel sounds, such as *ee* /ē/, *ea* /ě/, *ie* /ē/, and *ai* /ā/, are vowel digraphs and are not usually divided. The diphthongs *oi*, *oy*, *ou*, and *ow* are not divided.

*Vowel Sounds
in Syllables*

Vowel sounds in syllables are affected by the degree of stress on the syllable and by whether the surrounding consonants are articulated in the front of the mouth or elsewhere in the mouth. One basic feature of spoken English is that in any unstressed syllable the vowel sound tends to become a variety of *schwa*. It is not advisable to present to the children the numerous sounds that result from the effect of stress or the effect of articulation of consonant sounds. However, the following Keys present enough of the variations to permit independent identification of plurisyllables.

In a stressed syllable containing one vowel letter, the letter usually represents a long vowel sound when it ends the syllable or forms the entire syllable.

a'ble, i'ris, o'pen, ba'by, po'ny, te'pee, du'ty, cy'clone

In many unstressed syllables the sound a vowel letter or group of vowel letters represents is /ə/, a sound like /ü/ but weaker.

cir'cus, lo'cal, ob tain'

61

The vowel letter *e* in an unstressed syllable usually represents /ə/, /ɪ/, or /ē/ when it ends the syllable or forms the entire syllable.

el'e phant, el'e va'tor, re sult', e nor'mous, re turn',
tel'e vi'sion, re ac'tion

62

The vowel letter *o* in an unstressed syllable usually represents /ə/ or /ō/ when it ends the syllable or forms the entire syllable.

op'po site, mo men'tum, so ci'e ty, ra'di o, au'di o, po ta'to,
ki mo'no

63

The vowel letter *u* in an unstressed syllable represents /ə/, /ū/, or /ōō/ when it ends the syllable or forms the entire syllable.

pop'u lar, por'cu pine, mu se'um, u nit'ed, su preme'

Note: In speech *u* in unstressed syllables actually represents /ə/ or one of a variety of sounds approximating /ū/ or /ōō/.

64

a. When *a* is the only vowel letter in an unstressed syllable, it usually represents /ə/ if it ends the syllable or forms the entire syllable.

a way', ze'bra, ba nan'a, ca boose'

b. In syllables such as *ate*, *age*, and *ace* the vowel letter *a* may represent /ɪ/ if the syllable is unstressed.

vil'lage, sur'face, sen'ate

65

a. The vowel letter *i* in an unstressed syllable usually represents /ə/ or /ɪ/ when it ends the syllable or forms the entire syllable.

di vide', ob'li gate, an'i mal, cav'i ty

Note: The letter *i* at the end of unstressed syllables sometimes represents /ē/ as in *ab bre'vi ate* and *ac cor'di on*.

b. The vowel letter *i* often represents /ɪ/ in unstressed syllables having endings such as *ite*, *ive*, *ice*, and *ine*.

fa'vor ite, ac'tive, of'fice, ex am'ine

c. In stressed syllables with endings such as *ine* and *ice*, the vowel letter *i* sometimes represents /ē/.

mag'a zine', po lice', au'to mo bile'

66

When *y* is the only letter representing a vowel sound in an unstressed syllable, it usually stands for /ɪ/ or /ē/ if it ends the syllable or forms the entire syllable.

bi'cy cle, kit'ty, sleep'y

See Key 4 Note.

*Syllables
Presented
as Units*

In this program some syllables are presented as units to aid in quick recognition of words. The following Keys explain the sounds represented by these syllables.

67

a. The syllable *tion* usually represents /shən/ unless it immediately follows *s*.

action, attention, invitation, vacation

b. When *tion* immediately follows *s*, it represents /chən/.

digestion, question, suggestion

68

a. The syllable *sion* usually represents /shən/ when it immediately follows any consonant letter except *r*.

discussion, expression, mansion

b. The syllable *sion* usually represents /zhən/ when it immediately follows a vowel letter or the consonant letter *r*.

division, conclusion, excursion

Note: The spellings *ci* and *ti* usually represent /sh/ in final syllables such as *cial*, *cian*, *cient*, *cious*, *tial*, *tian*, and *tient*.

social, musician, efficient, delicious, partial, politician, patient

69

a. The syllable *tain* represents /tān/ when it is stressed.

con tain', ob tain', re tain'

b. Unstressed *tain* usually represents /tən/ or /tn/.

cap'tain, cur'tain, moun'tain

Note: When the combination *ai* in *tain* is silent, the consonant letter *t* is pronounced with the stressed syllable.

70

a. When the syllable *ex* is stressed, it usually represents /ĕks/.

ex'tra, ex'cel lent, ex'er cise

b. When the unstressed syllable *ex* precedes a consonant letter, it usually represents /ĩks/ or /ĕks/.

ex cept', ex cite', ex tend'

c. When the unstressed syllable *ex* precedes a vowel sound, it usually represents /ĕgz/ or /ĩgz/.

ex act', ex ist', ex haust'

Note: In the respellings of *ex*, the /s/ and the /z/ are indicated either at the end of the first syllable or at the beginning of the second syllable, depending upon their actual occurrence in speech.

71

a. In words without double consonant letters, unstressed syllables such as *tle*, *ble*, and *cle* usually represent the consonant sound in the syllable plus /əl/ — /təl/, /bəl/, /kəl/.

gen'tle, ta'ble, bi'cy cle

b. In words with double consonant letters, unstressed syllables such as *tle*, *ble*, and *cle* usually represent /əl/ or the syllabic /l/.

lit'tle, wig'gle, puz'zle

Compound Words

A compound word is a combination of two or more words.

snowman, scarecrow, upon, ice cream

The meaning of a compound word can often be determined by thinking of the meaning of the words that form it.

birdhouse, house for birds; cowhide, hide of a cow; towrope, rope used for towing

Words in a compound sometimes have a hyphen (-) between them.
shell-like, twenty-four, merry-go-round, man-of-war

A hyphen often joins two words that describe a noun if they precede the noun, but not if they follow it.

dark-gray rocks, rocks that are dark gray; well-known fact, fact that is well known

72

In pronouncing a compound word, sound its syllables as in pronouncing any other word of more than one syllable.

Contractions

A written or printed contraction represents the combination of a stressed word with another word so weakly stressed that one or more sounds are lost. An apostrophe usually shows the omission.

did not, didn't; we will, we'll; it is, it's

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In sounding a contraction, look for a whole word first, sound it, and then add the sound or sounds represented by the other letters.

Note: After pronouncing a contraction, one should always think about its meaning, or the words for which the contraction stands.

Root Words, Prefixes, and Suffixes

Many of the words in the English language are words that may be enlarged by the addition of certain elements which are meaningful units called **affixes**. Knowledge of this type of word structure is helpful not only in the pronunciation of certain words but also in ascertaining their meaning.

Words that can be enlarged are root words; the added elements are the affixes. The affixes include both prefixes and suffixes. A word may have one affix or several affixes.

Many roots, prefixes, and suffixes are derived from French or Latin or an earlier stage of English and are not easily identified by the child. For example, a in **about** is not easily identified as a prefix because the child does not see **bout** as a root. Suffixes are usually easier to identify than prefixes and their meanings more easily explained. They also occur earlier and more frequently in the child's reading materials than prefixes. For these reasons, more attention is given to suffixes than to prefixes at primary levels.

Words containing affixes may be analyzed by locating the root words and the affixes, determining the sounds in each, and then pronouncing the whole word smoothly.

Root Words

A **root word** is a word from which other words are derived by the addition of affixes. For example, words such as **call**, **come**, **sleep**, and **take** are root words.

In general, each affix that is added to a root word causes the addition of a syllable to the word. For example, **sudden** is a two-syllable word, but **suddenly** is a three-syllable word.

The addition of an affix makes a different word which may have a different meaning, and some affixes even change the meaning of the root word.

Prefixes

A **prefix** is an affix at the beginning of a word that adds to or changes the meaning of the word.

The following list of prefixes includes those that will be taught at primary levels and those commonly used at other levels.

Since the root word cannot be easily detected in some of the words containing these prefixes, many of these words may be analyzed as plurisyllables and the prefixes identified as stable syllables.

- a as in ago, ahead, awake
- al as in already, also, always
- be as in below, beside
- de as in defrost, delay, depart
- dis as in disappeared, dislike
- en as in enjoy, enlarge
- fore as in forefoot, forenoon
- mid as in midnight, midstream
- mis as in miscount, misplace, mistake
- non as in nonsense, nonskid
- re as in repaint, replace, return
- sub as in submarine, subway
- un as in unhappy, unload, unwise

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A prefix usually forms a syllable in a word and may be sounded as a syllable.

Suffixes


A **suffix** is an affix at the end of a word.

There are two kinds of suffixes. One kind, the **derivational ending**, is like the prefix in that it adds to or even changes the meaning of the root word.

The other kind of suffix, the **inflectional ending**, adds to but does not change the meaning of the root word. It shows how the word is used in a sentence by indicating tense, case, number, or degree. Inflectional endings are used with nouns, verbs, adjectives, and adverbs.


The following list includes the suffixes to be presented at the primary levels and those commonly used at other levels.

able as in reasonable	derivational	
age as in bandage, postage	derivational	
al as in natural, tropical	derivational	
an as in European	derivational	
dom as in freedom, kingdom	derivational	
ed as in called, looked, waited		inflectional
eer as in auctioneer	derivational	
en as in broken, darken, shaken		inflectional
en as in golden, wooden	derivational	
ent as in different, excellent	derivational	
er as in boiler, farmer	derivational	
er as in colder, faster		inflectional
ery as in bakery, hatchery	derivational	
es as in boxes, dishes		inflectional
es as in rushes, waxes		inflectional
ess as in princess	derivational	
est as in loudest, shortest		inflectional
ful as in joyful, tubful, useful	derivational	
ic as in heroic	derivational	
ier as in cashier	derivational	
ing as in calling, looking, waiting		inflectional
ish as in boyish, selfish	derivational	
less as in helpless, toothless	derivational	
ly as in loudly, quickly	derivational	
ment as in disappointment, refreshment	derivational	
n as in known, grown		inflectional
ness as in darkness, illness	derivational	
or as in actor, sailor	derivational	
ous as in famous, nervous	derivational	
s as in boats, dolls		inflectional
s as in jumps, runs, walks		inflectional
teen as in fourteen	derivational	
th as in growth	derivational	
ty as in safety, sixty	derivational	
y as in dirty, sleepy, velvety	derivational	

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A suffix usually forms a syllable in a word, but the syllable may begin with a letter other than the first letter of the suffix. Sound the suffix or the syllable which includes the suffix as you would any other syllable.

run ning, hop ping, quick ly, dark ness

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The suffix *ed* is added to a word for the purpose of showing past time. The pronunciation of this suffix is determined by the final sound of the root word. Parts a, b, and c of this Key present the variants of *ed*.

a. The suffix *ed* represents /t/ when the root word ends with any voiceless consonant letter except *t*.

helped, looked, wished

b. The suffix *ed* represents /d/ when the root word ends with a vowel or any voiced consonant letter except *d*.

played, filled, leaned, agreed, lassoed

c. The suffix *ed* represents the full syllable /éd/ or /íd/ when it immediately follows *d* or *t*.

wanted, shouted, loaded, landed

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Three different suffixes are formed with the letter *s*. (1) Added to nouns, the suffix *s* forms the plural as in *dolls* and *races*. (2) The suffix *s* is added to a noun used with an apostrophe to show ownership and other relationships of nouns as in *a boy's cap*, *an hour's time*, and *at arm's length*. (3) Added to verbs, the suffix *s* forms words which show that he, she, or it does what the root word indicates as in *runs—does run*, *wants—does want*.

The sounds represented by *s* are determined by the final sound of the root words. Parts a, b, and c of this Key represent the variants of *s*.

a. The suffix *s* represents /s/ if the root word ends with a voiceless consonant.


stops, wants, sacks

b. The suffix *s* represents /z/ when the root word ends with a letter or spelling representing a voiced sound.

runs, legs, shoes, toes

c. The suffix *s* represents the full syllable /ěz/ or /ĩz/ when the root word ends with the spelling *se* or *ce*.

roses, horses, cases, races

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Two different suffixes formed with *es* are used in place of suffixes formed with *s* when the root words end with hissing sounds such as those represented by *ch*, *sh*, *s*, *z*, and *x*. (1) Added to nouns, the suffix *es* forms the plural as in *dishes* and *glasses*. (2) Added to verbs, the suffix *es* forms words which show that he, she, or it

does what the root word indicates as in *watches—does watch, flies—does fly*.

The variants of *es* are presented in the a and b parts of this Key.
a. The suffix *es* represents /z/ when it immediately follows any letter that represents a voiced sound.

cries, pennies, calves, wives

b. The suffix *es* represents the full syllable /ɪz/, /ɛz/, or /əz/ when the root word ends with a letter or letters representing hissing sounds.

bushes, glasses, watches

Word Changes before Suffixes

Root words ending with *e*, *y*, or a final single consonant often undergo spelling changes when suffixes are added. The child must know what changes have been made before he can analyze words containing suffixes. The following Keys explain the changes made in root words and tell when they are made.

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a. If a word of one syllable ends with a single consonant letter preceded by a single vowel letter, the consonant letter is doubled before a suffix beginning with a vowel letter.

run, running; fun, funny; hop, hopped

Note: An exception to this Key is the consonant letter *x*, which represents the consonant sounds /ks/.

b. In plurisyllables, if the last syllable is stressed and ends with a single consonant letter preceded by a single vowel letter, the consonant letter is doubled before suffixes beginning with a vowel letter.

omit, omitted; regret, regretting

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a. If a word ends with *e*, the *e* is usually dropped before a suffix beginning with a vowel.

hope, hoped, hoping; wade, waded, wading

b. If a word ends with *e* immediately preceded by any other vowel letter, the *e* is usually dropped before a suffix beginning with a consonant.

awe, awful; true, truly

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If a word of one syllable contains more than one vowel letter and ends with *e* immediately preceded by *c* or *g*, the *e* is usually retained if the suffix begins with *a*, *o*, or a consonant letter.

strange, strangely; grace, graceful; slice, sliceable

- a. If a word ends with *y* immediately preceded by a consonant letter, the *y* is usually changed to *i* before a suffix unless the suffix begins with *i*.
cry, cries; funny, funniest; try, tried
- b. Words ending with *y* retain *y* before a suffix beginning with *i*.
baby, babyish; try, trying
- c. Words ending with *y* immediately preceded by a vowel letter usually retain *y* before a suffix.
play, playing; boy, boyish; buy, buying

The word endings *f* and *fe* are usually changed to *v* before the suffix *es*.
knife, knives; calf, calves

Speech Sounds and How to Form Them

Teachers who have had no training in speech need a general knowledge of the speech organs and speech sounds and of how to form these sounds before showing the children how to make the sounds. Though it is impossible to give a detailed description of such information in this manual, the brief statements which follow, along with the knowledge the teacher acquires from actually making the sounds, should prove sufficient. In cases where speech correction is needed, a speech consultant should be used.

Speech Organs

The organs used in producing speech sounds are the following:

1. The voice box (larynx, containing the vocal cords)
2. Articulators (tongue; teeth; lips; hard palate; soft palate, or velum; ridge behind upper teeth)
3. Resonators (mouth; pharynx, space at top of throat; nasal passage)
4. Breathing muscles (abdominal muscles, muscles of the thorax, and the diaphragm)

Vowel Sounds

All vowels are voiced, that is, are made with the vocal cords in vibration. In terms of how they are made, the vowels differ from one another in three respects. They differ (1) with respect to whether the tongue is in the front or the back of the mouth, (2) with respect to whether it is high or low in the mouth, and (3) with respect to whether the lips are slightly rounded or not. The relative positions of vowel articulation are shown on the chart below, which represents a vertical cross section of the mouth.

	front	central	back
high	ē		ōō
	ī		öö
mid	ā	ə	ō
	ě	ů	
low	ǎ	ǒ	ǒ

1. Front vowels

Five vowels are made with the tongue pushed forward in the mouth.

/ē/ as in **bee** [i]: The tongue is as far front as possible. The muscles of both the tongue and the cheeks are tense, and the lips are slightly spread.

/ī/ as in **pig** [ɪ]: The tongue is lowered and pulled back slightly from the /ē/ position, and the muscles of the tongue and cheek are relaxed.

/ā/ as in **cake** [e]: The tongue is far forward, halfway between high and low positions. The lips are spread slightly. The tongue and the cheek muscles are tense.

/ě/ as in **bed** [ɛ]: The tongue is pulled down and slightly back from the /ā/ position, and the tongue and cheek muscles are relaxed.

/ǎ/ as in **cat** [æ]: The tongue is far forward and as low as possible, and the tongue and cheek muscles are relaxed.

2. Central vowels

/ů/ as in **cup**, or schwa [ə]: The tongue is in mid-central or lower mid-central position. The unstressed /ů/ is often identified by the term **schwa**, with the symbol ə. All unstressed vowels in English tend to be more or less like schwa. The essential similarity of /ů/ and schwa is clear in pronouncing **above**, for the tongue does not need to change position at all since both consonants are made without tongue motion.

/ǎ/ [a]: This sound, most common in **father**, is made with the tongue in central position and as low as possible; the tongue and cheek muscles are relaxed. Many speakers have a short variety of this sound, traditionally called **short o**, with the tongue perhaps slightly farther back.

3. Back vowels

The back vowels are featured by rounding or slight protrusion of the lips.

/ō/ as in **boot** [u]: The tongue is as high as possible without touching the roof of the mouth and as far back as possible. The muscles of the cheeks and tongue are tense.

/õ/ as in **book** [v]: The tongue is slightly farther down and farther front than for /ō/, and the cheek and tongue muscles are relaxed.

/õ/ as in **rope** [o]: The tongue is far back and halfway between high and low.

/ô/ as in **saw** [ɔ]: The tongue is back and as low as possible. Many speakers do not have this vowel in their speech except before *r*.

4. Diphthongs

Unlike the simple vowels, diphthongs are complex. A diphthong is characterized by a gliding motion of the tongue from one vowel position to another within the same syllable, that is, under a single stress. In English the gliding motion is in any one of three directions: toward high front, toward high back, or toward mid-central positions.

a. Toward high front

/ī/ as in **pie** [ai]: The tongue moves under a single stress from the low central position for /ä/ in the direction of the position for /ē/.

/oi/ as in **oil** [ɔi]: From either the position for /ô/ or the position for /õ/ the tongue moves in the direction of /ē/.

b. Toward high back

/ou/ as in **house** [au]: The tongue moves from the low central position for /ä/ toward the high back position for /ō/.

/ū/ as in **cube** [yu]: Some speakers have a diphthong characterized by a tongue glide backward from the /ī/ position toward the high back position for /ō/. In **you**, however, or in words like **few** and **beauty**, /y/ followed by /ō/ is more usual.

c. Toward mid-central

Speakers who do not pronounce a sound represented by the consonant letter *r* when it follows a vowel usually replace it with schwa, thus producing a diphthong characterized by a glide from the position for the vowel to the mid-central position.

Consonant Sounds

1. Stops or plosives

All stop consonants are marked by complete obstruction of the stream of air passing from the lungs. The stream is blocked from the nose because the soft palate is raised to close the entrance to the nasal passage. The stream of air is cut off at one of three places in

the mouth, and two consonants are produced at each point, one voiceless and the other voiced.

/p/ [p]: Close the lips while breathing out. Cutting off the air produces the voiceless sound /p/. Usually it is followed by a quick release of air.

/b/ [b]: If the vocal cords are vibrating when the lips are closed, the sound is the voiced /b/.

/t/ [t]: Block the air in the mouth by pushing the tongue tip against the teeth ridge and the sides of the tongue against the teeth. The release is quick. The sound /t/ is voiceless.

/d/ [d]: Block the air as for /t/ but have the vocal cords vibrating. The result is the voiced sound /d/.

/k/ [k]: Block the air by raising the back of the tongue against the soft palate. Release the air quickly by withdrawing the tongue from the contact. The result is the voiceless sound /k/.

/g/ [g]: Proceed the same as for /k/, but with the vocal cords vibrating. The result is the voiced sound /g/.

2. Nasals

English has three nasal sounds, made with the air released through the nose but stopped in the mouth as for the stop consonants.

/m/ [m]: Close the lips as for /b/, with the vocal cords vibrating, to produce the voiced sound /m/.

/n/ [n]: Cut off the air as for /d/, with the vocal cords vibrating, to produce the voiced sound /n/.

/ŋ/ [ŋ]: Cut off the air as for /g/, with the vocal cords vibrating, to produce the voiced sound /ŋ/. Note that this is a single sound; it is not /n/ plus /g/.

3. Fricatives

Fricative consonants are made with audible friction caused by the expulsion of the air through a small opening. English has eight fricatives occurring in four matched pairs of voiceless and voiced sounds.

/f/ [f]: Place the lower lip against the upper teeth and force the breath through the narrow opening. The result is the voiceless sound /f/.

/v/ [v]: Proceed as for /f/, but produce voice at the same time by vibrating the vocal cords. The result is the voiced sound /v/.

/θ/ as in **think** [θ]: Place the tongue tip at the edge of the upper teeth and blow through the narrow opening to produce the voiceless sound /θ/.

/ð/ as in **then** [ð]: Proceed as for /θ/ but with the vocal cords vibrating. The result is the voiced sound /ð/.

/s/ [s]: Place the tongue tip near the teeth ridge so as to leave a

tiny groove through which a stream of air can be directed toward the edge of the lower teeth. The friction of the air passing over the edge produces the voiceless sound /s/. Some speakers achieve the same result by putting the tip of the tongue behind the lower teeth.

/z/ [z]: Proceed as for /s/, but with the vocal cords vibrating, to produce the voiced sound /z/.

/sh/ [š]: Place the tongue just behind the teethridge and at the front part of the hard palate, leaving a rather wide space through which to expel the air. The result is the voiceless sound /sh/.

/zh/ [ž]: Proceed as for /sh/ but with the vocal cords vibrating. The result is the voiced sound /zh/.

4. Non-nasal sonorants

/l/ [l]: Place the tonguetip as for /t/ or /d/ but with the sides of the tongue withdrawn, so that the air is released over the sides of the tongue while the vocal cords are vibrating. The result is the lateral consonant /l/, a voiced sound.

/r/ [r]: With the sides of the tongue in contact with the upper teeth, raise the tip of the tongue toward the roof of the mouth, even to the point where the tongue is slightly curled backward, and then move the tongue toward the position for a following vowel while the vocal cords are vibrating. Unlike /l/, which is static and can be held indefinitely, /r/ is dynamic; that is, it is a glide from one position to another. Speakers in some regions hold the tongue in the curled back, or retroflex, position in sounding /r/ when it follows a vowel, lending vowel quality to the voiced sound /r/.

5. Affricates

An affricate is characterized by a slow, friction-producing release of the tongue from the position for a stop consonant. English has only two affricates, made in the same position. One is voiceless, and the other is voiced.

/ch/ [č]: From a position slightly back of that for /t/, the tongue is slowly withdrawn through the position for /sh/ to produce the voiceless sound /ch/.

/j/ [j]: Move the tongue as for /sh/ but with accompanying vibration of the vocal cords to produce the voiced sound /j/.

6. Glides

Besides /r/, two sounds are ordinarily classed as glides from one position to that of a following vowel.

/y/ [y]: Move the tongue quickly from a position even higher and tenser than that for /ē/ to that of a following vowel. The vocal cords vibrate to produce the voiced sound /y/.

/w/ [w]: Move the tongue quickly, while the lips are rounded,

from a position slightly higher and tenser than that for / $\bar{o}o$ / to the position of a following vowel. The vocal cords vibrate to produce the voiced sound /w/.

7. The unique sound /h/ [h]

Although by some classed as a voiceless vowel glide from mid-central position, this voiceless sound is perhaps most easily described here as a strongly aspirated voiceless beginning of any vowel. For example, with the tongue in the / \bar{a} / position, breathe out fairly heavily before beginning the vibration of the vocal cords. The sound /h/ is produced before the following vowel / \bar{a} /.