* A grapheme is a symbol, such as a letter, used to represent a sound. Often multiple letters, such as “igh”, are used to represent a sound.
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Introduction

[To prepare for literacy] spoken words had to be treated as consisting of component parts, which could then be represented by a much smaller number of graphical symbols. (Seidenberg, 2017, p. 63)

We take it as obvious that speech consists of units such as words, syllables, and phonemes, but these units are phonological abstractions that had to be discovered. Writing in the phonological way of thinking [with sounds linked to graphemes] coevolved over a long period. (Seidenberg, 2017, p. 49)

The Literacy Bug

Grapheme Map
### Phoneme-Grapheme Map

#### Alphabet (uppercase & lowercase)

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | y | z |

#### Facts
- 26 letters
- 27 consonants (5 or 6 vowels)
- 45 phonemes
- 73 basic phonograms
- 23 other common phonograms
- 6 common syllable types

#### Six Most Common Syllable Patterns

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed</td>
<td>affixed</td>
<td>contains a consonant and contains a single following, often in its short form</td>
</tr>
<tr>
<td>Open</td>
<td>affixed</td>
<td>contains a vowel and the vowel is often long</td>
</tr>
<tr>
<td>Silent e or vowel consonant e (CVC)</td>
<td>affixed</td>
<td>this syllable has a silent e at the end which often signals that the vowel will be long</td>
</tr>
<tr>
<td>Vowel team or vowel pair</td>
<td>affixed</td>
<td>this syllable type contains two vowels that make one sound</td>
</tr>
<tr>
<td>R-controlled vowel</td>
<td>affixed</td>
<td>this syllable contains a vowel with the letter r, and the vowel is neither short nor long</td>
</tr>
</tbody>
</table>

#### Stages of Spelling Development (Bear, et al., 2014)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergent</td>
<td>Spellers = 3 - 5 yrs old</td>
</tr>
<tr>
<td>Letter Name-Alphabetic (Semi-Phonetic) Spelling</td>
<td>4 - 7 yrs old</td>
</tr>
<tr>
<td>Consolidated (orthographic) phase</td>
<td>7 - 9 yrs old</td>
</tr>
</tbody>
</table>

#### Stages of Spelling Development (Zbih, 2005)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-phonemic phase (by visual or visual/sound)</td>
<td>3 - 5 yrs old</td>
</tr>
<tr>
<td>Partial alphabetic phase (by visual/sound)</td>
<td>4 - 6 yrs old</td>
</tr>
<tr>
<td>Decoding alphabetic phase (by grapheme/phonemes)</td>
<td>5 - 7 yrs old</td>
</tr>
<tr>
<td>Consolidated alphabetic phase</td>
<td>7 - 9 yrs old</td>
</tr>
</tbody>
</table>

#### The Literacy Bug

<table>
<thead>
<tr>
<th>Contact</th>
<th><a href="mailto:info@theliteracybug.com">info@theliteracybug.com</a></th>
<th><a href="http://www.theliteracybug.com">www.theliteracybug.com</a></th>
<th>21 consonants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Prefixes</td>
<td>Sample Suffixes</td>
<td>Sample Bases</td>
<td>Sample Words</td>
</tr>
<tr>
<td>1. Pre-speech - by imitation</td>
<td>1. Pre-speech - by imitation</td>
<td>1. Pre-speech - by imitation</td>
<td>1. Pre-speech - by imitation</td>
</tr>
<tr>
<td>2. Pre-oral phase by imitation</td>
<td>2. Pre-oral phase by imitation</td>
<td>2. Pre-oral phase by imitation</td>
<td>2. Pre-oral phase by imitation</td>
</tr>
<tr>
<td>3. Pre-oral phase by imitation</td>
<td>3. Pre-oral phase by imitation</td>
<td>3. Pre-oral phase by imitation</td>
<td>3. Pre-oral phase by imitation</td>
</tr>
<tr>
<td>4. Pre-oral phase by imitation</td>
<td>4. Pre-oral phase by imitation</td>
<td>4. Pre-oral phase by imitation</td>
<td>4. Pre-oral phase by imitation</td>
</tr>
<tr>
<td>5. Pre-oral phase by imitation</td>
<td>5. Pre-oral phase by imitation</td>
<td>5. Pre-oral phase by imitation</td>
<td>5. Pre-oral phase by imitation</td>
</tr>
<tr>
<td>6. Pre-oral phase by imitation</td>
<td>6. Pre-oral phase by imitation</td>
<td>6. Pre-oral phase by imitation</td>
<td>6. Pre-oral phase by imitation</td>
</tr>
</tbody>
</table>

#### Sample Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Letter Name Alphabetic (Semi-Phonetic) Spelling</td>
<td>4 - 7 yrs old</td>
</tr>
<tr>
<td>2. Decoding Alphabetic Phase (by Grapheme/Phonemes)</td>
<td>5 - 7 yrs old</td>
</tr>
<tr>
<td>3. Consolidated Alphabetic Phase</td>
<td>7 - 9 yrs old</td>
</tr>
</tbody>
</table>

#### Morphology & Inflectional Endings

- Over time, learners identify meaningful patterns within words. These are referred to as morphemes, which are linguistic units like the plural suffix "s" or "es," prefixes like "un" or "re," Latin roots such as "spis" meaning "saw," and grammatical suffixes like "-ed." They also learn that words not only add suffixes to given stems but also change stems: "when I drop the "a" or "e" when do they turn to "i" or "y" when I double the first consonant?"

#### First Word

- We must remember that the code is a means to an ends, and not an end in itself. And while it is true that a skilled reader can use the features of a word (e.g. its Latin root or morpheme decompositions) todecode the meaning or use of that word, this occurs much later in the learner's development.

- So the code is what we use to make ourselves understood in print as long as the reader recognizes words and language conventions and a few world words and whome, The code is the interface between what I want to say and what I write, what I know to know, what I need to know. We must remember that a child's written skills may be up to three years behind their oral skills, as the child learns to coordinate the demands of the written code and their understanding and use of the written code as a vehicle for spontaneous thoughts (Chall 1998).

- We line up letters, words, and punctuation on a page, and, collectively, we are doing all sorts of things we hope - at times vaguely - that we will be understood. "And the words slide into the slots ordained by syntax, and gather as with atmospheric dust with those impurities which we call meaning." (Burgess, 1996, Endlessly Outside). And, with such a simplified attention, we learn something about language, the world, and how we can state we say or say the natural history of our oral sentences (onward to grammar and grammatical facts). We line up letters, words, and punctuation on a page, and, collectively, we are doing all sorts of things we hope - at times vaguely - that we will be understood. "And the words slide into the slots ordained by syntax, and gather as with atmospheric dust with those impurities which we call meaning." (Burgess, 1996, Endlessly Outside).

- With each additional turn of the attention, we learn something about language, the world, and how we can state we say or say the natural history of our oral sentences (onward to grammar and grammatical facts).
The Alphabetic Code
the interface between oral and print language

https://youtu.be/dA4nt3rxTYM

Sound-Letter Correspondences
Exploring phoneme-to-grapheme relationships


Analysing Spoken Words
An activity that helps learners develop their awareness of the sound patterns within familiar words (a.k.a. phonological awareness) … and which uses this awareness as one of the foundations for understanding the logic of the alphabetic principle.

https://youtu.be/8DVPbK0HSyY
Alphabet Cards
(with consonant digraphs - ch, sh, th and ng)
“f” makes the /v/ sound “of”
“s” makes the /sh/ sound in “sure”
“s” makes the /z/ sound in “is”
“t” makes the /ch/ sound in “future”

makes /z/ sound in “xylophone”

1 consonant & 3 vowel sounds
makes the /k/ sound in "chord"
makes the /sh/ sound in "chef"
makes the /t/ sound in "thyme"
Ch  Sh  Th

Wh
Consonant Graphemes
Letter Tiles: Consonants (1 of 2)

b 1
c 3
d 1
f 2
g 2
h 1*
j 1
k 1*
l 1
m 1
n 2
p 1*
qu 1
r 1
s 4
t 3
v 1
w 1*
x 3**
y 1**
z 2
ch 3
sh 1
th 2*
wh 3
-ng 1
bb 1
dd 1
ff 1
gg 1
ll 1
mm 1
nn 1
pp 1
rr 1
ss 2
tt 1
zz 1
-ck 1
-tch 1
-ed 2
ph 1
## Letter Tiles: Consonants (2 of 2)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>1</th>
<th>1*</th>
<th>1</th>
<th>1</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>-lf</td>
<td>gh</td>
<td>gu-</td>
<td>-ge</td>
<td>-dge</td>
<td>pn</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>-le</td>
<td>kn-</td>
<td>-que</td>
<td>mn</td>
<td>mb</td>
<td>gn</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>rh</td>
<td>wr</td>
<td>sc</td>
<td>si-</td>
<td>ssi</td>
<td>sci</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2*</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ci-</td>
<td>-ce</td>
<td>ps-</td>
<td>sch</td>
<td>shi</td>
<td>ti-</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1*</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>-bt</td>
<td>-ve</td>
<td>i</td>
<td>-se</td>
<td>-ze</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*as a consonant*
bh is /b/ as in Bhutan (uncommon)

bb is /b/ as in bubbly
b is /b/ as in bed baby

the double b (bb) occurs after the short form of the vowel (e.g. bubble) and not the long form (baby)

bt is /t/ in doubt
mb is /m/ in thumb

bh is /b/ as in Bhutan (uncommon)

ch- is /ch/ in cheese
ch is /k/ in chord
ch is /sh/ in chef

ch is /k/ in cat
ch is /s/ in circle or bicycle
ch is /sh/ in appreciate

C softens to /s/ when followed by E, I or Y. Otherwise, C says /k/

sc is /s/ in scent
sc is /s/ + /k/ in scare

-tch is /ch/ in catch
tch is /ch/ in catch
-tch is only used after a single vowel that does NOT say its name

ch is /ch/ in cheese
t is /ch/ in future
tch is /ch/ in catch
-ch is /k/ in chord
ch is /sh/ in chef

d is /d/ as in dog
dd is /d/ as in daddy

-ed is /d/ as in moved
-ed is /t/ as in jumped

the double d (dd) occurs after the short form of the vowel (e.g. daddy).
<table>
<thead>
<tr>
<th>Sound</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ph</strong></td>
<td><strong>Ph</strong></td>
<td>/φ/ as in phone</td>
</tr>
<tr>
<td>-<strong>Ff</strong></td>
<td>-<strong>Ff</strong></td>
<td>/φ/ as in stuffy, /f/ as in fun, /f/ as in calf</td>
</tr>
<tr>
<td><strong>Gg</strong></td>
<td><strong>Gg</strong></td>
<td>/g/ as in giggle, /g/ as in game</td>
</tr>
<tr>
<td>-<strong>Lf</strong></td>
<td>-<strong>Lf</strong></td>
<td>/f/ as in calf, /f/ as in fun, /f/ as in stuffy</td>
</tr>
<tr>
<td><strong>Gh</strong></td>
<td><strong>Gh</strong></td>
<td>/g/ as in ghost, /f/ as in stuffy, /f/ as in fun, /f/ as in calf</td>
</tr>
<tr>
<td><strong>Gu</strong></td>
<td><strong>Gu</strong></td>
<td>/g/ as in guide, /g/ as in game, /g/ as in giggle</td>
</tr>
</tbody>
</table>
**h**

- **h** is /h/ in **hole**
- **wh** are /h/ in **whole**

**j**

- **j** is /j/ as in **jar**
- **j** is /zh/ in **deja-vu** (rare)

**ge**

- **-ge** is /j/ as in **cage**
- **-ge** is /zh/ in **beige** (rare)

**dge**

- **dge** is only /j/ as in **judge**
- yet **g •-ge & -dge** can also make the /j/ sound

**k**

- **k** is /k/ in **kite**
- **-ck** is /k/ in **back**

**ck**

- **-ck** is /k/ in **back**
- **-ck** is used only after a single vowel which says its short sound. Otherwise **-ge** is used as in **cage**.

**-que**

- **-que** is /k/ as in **cheque**

**-que**

- whereas, **qu-** is /kw/ as in **quick**

**ch, k & -ck** can also make the /k/ sound.

In American spelling, **cheque** is **check**.
I is /i/ in little
II is /i/ in silly
-le is /i/ in simple

If is /f/ in calf and in half
al is /aw/ in walk
oul is /short oo/ in would

-ll is /l/ in silly
-l is /l/ in simple
-le is /l/ in simple

the double l (ll) occurs after the short form of the vowel (e.g. full or fall or ball).

m is /m/ in milk
mm is /m/ in summer
mb is /m/ in thumb
-mn is /m/ in autumn

m is always /m/, except in the rare mn- is /n/ in mnemonic

mm is /m/ in summer
m is /m/ in milk
mb is /m/ in thumb
-mn is /m/ in autumn

the double m (mm) occurs after the short form of the vowel (e.g. mummy or hammer).

m is always /m/, except in the rare mn- is /n/ in mnemonic

-mb is /m/ in thumb
m is /m/ in milk
mm is /m/ in summer
-mn is /m/ in autumn

m is always /m/, except in the rare mn- is /n/ in mnemonic

-mn is /m/ in autumn
m is /m/ in milk
mm is /m/ in summer
mb is /m/ in thumb

m is always /m/, except in the rare mn- is /n/ in mnemonic
### ng

- **n** is /n/ in *now*
- **ng** is /ng/ in *think*
- **nn** is /n/ in *sunny*
- **kn** is /n/ in *know*
- **gn** is /n/ in *gnat*
- **pn** is /n/ in *pneumonia*

- **mn** is /m/ in *autumn*
- **-ng** is /ng/ in *sing*

### kn-

- **kn** is /n/ in *know*
- **n** is /n/ in *now*
- **nn** is /n/ in *sunny*
- **gn** is /n/ in *gnat*
- **pn** is /n/ in *pneumonia*

- **mn** is /m/ in *autumn*
- **ng** is /ng/ in *sing*

### -nn

- **nn** is /n/ in *sunny*
- **n** is /n/ in *now*
- **kn** is /n/ in *know*
- **gn** is /n/ in *gnat*

**the double n (nn) occurs after the short form of the vowel (e.g. funny). A word does not end with nn**

### gn-

- **gn** is /n/ in *gnat*
- **n** is /n/ in *now*
- **nn** is /n/ in *sunny*
- **kn** is /n/ in *know*
- **pn** is /n/ in *pneumonia*

- **mn** is /m/ in *autumn*
- **ng** is /ng/ in *sing*

### pn-

- **pn** is /n/ in *pneumonia*
- **n** is /n/ in *now*
- **nn** is /n/ in *sunny*
- **kn** is /n/ in *know*
- **gn** is /n/ in *gnat*

- **mn** is /m/ in *autumn*
- **ng** is /ng/ in *sing*

### -ng

- **ng** is always /ng/ as in *sing*
  and in *singing*
- **n** is also /ng/ in *think*

### p

- **p** is /p/ in *pie*
- **pp** is /p/ in *puppy*

- **ph** is /f/ in *phone*
- **p** is silent in *pn-* and *pt-* and *ps-*

**the double p (pp) occurs after the short form of the vowel (e.g. puppy). A word does not end with pp**
### qu-

<table>
<thead>
<tr>
<th>qu- is /kw/ as in quick</th>
</tr>
</thead>
</table>

whereas, -que is /k/ as in cheque

q is always accompanied by the “u” and so “u” is not considered a vowel in this case.

### r

<table>
<thead>
<tr>
<th>r is /r/ in rain</th>
</tr>
</thead>
<tbody>
<tr>
<td>rr is /r/ in hurry</td>
</tr>
<tr>
<td>wr is /r/ in write</td>
</tr>
<tr>
<td>rh is /r/ in rhyme</td>
</tr>
</tbody>
</table>

r is always /r/ and r appears in controlled-r vowels as in far

### rr

<table>
<thead>
<tr>
<th>rr is /r/ in hurry</th>
</tr>
</thead>
<tbody>
<tr>
<td>r is /r/ in rain</td>
</tr>
<tr>
<td>wr is /r/ in write</td>
</tr>
</tbody>
</table>

the double r (rr) occurs after the short form of the vowel and does not create a controlled-r vowel (e.g. hurry). A word does not end with rr

### rh

<table>
<thead>
<tr>
<th>rh is /r/ in rhyme</th>
</tr>
</thead>
<tbody>
<tr>
<td>r is /r/ in rain</td>
</tr>
<tr>
<td>rr is /r/ in hurry</td>
</tr>
<tr>
<td>wr is /r/ in write</td>
</tr>
</tbody>
</table>

r is always /r/ and r appears in controlled-r vowels as in far

### wr

<table>
<thead>
<tr>
<th>wr is /r/ in write</th>
</tr>
</thead>
<tbody>
<tr>
<td>r is /r/ in rain</td>
</tr>
<tr>
<td>rr is /r/ in hurry</td>
</tr>
<tr>
<td>rh is /r/ in rhyme</td>
</tr>
</tbody>
</table>

r is always /r/ and r appears in controlled-r vowels as in far

### S

<table>
<thead>
<tr>
<th>s is /s/ in snake</th>
</tr>
</thead>
<tbody>
<tr>
<td>s is /sh/ in sure</td>
</tr>
<tr>
<td>s is /zh/ in casual</td>
</tr>
<tr>
<td>s is /z/ in is</td>
</tr>
<tr>
<td>sc is /s/ in scent</td>
</tr>
<tr>
<td>-se is /s/ in mouse</td>
</tr>
<tr>
<td>ss is /s/ in messy</td>
</tr>
<tr>
<td>ps is /s/ in psychiatry</td>
</tr>
<tr>
<td>ss is /sh/ in pressure</td>
</tr>
<tr>
<td>-se is /z/ in choose</td>
</tr>
<tr>
<td>c -ce are /s/ in cease &amp; peace</td>
</tr>
</tbody>
</table>

ps is /s/ in psychiatry or psychiatrist

p is silent in pn- and pt- and ps-

### -ce

| -ce are /s/ in peace & pace |

C softens to /s/ when followed by E, I or Y. Otherwise, C says /k/
**sh**

- *sh* is /sh/ in ship, share,
  - *s* is /sh/ in sugar
  - *ss* is /sh/ in pressure
  - *ssi* is /sh/ in mission
  - *sci* is /sh/ in conscience
  - *ti* is /sh/ in nation
  - *si* is /sh/ in confusion
  - *ci* is /sh/ in physician
  - *ch* is /sh/ in chef

**sci**

- *sci* is /sh/ + long *i* in science
- *sci* is /sh/ in conscience

**ssi**

- *ssi* is /sh/ in mission
- *ti* is /sh/ in nation
- *si* is /sh/ in confusion
- *ci* is /sh/ in physician

**sch**

- *sch* is /sh/ in schnitzel (rare)

**shi**

- *shi* is /sh/ in fashion

**sc**

- *sc* is /s/ in scent or scenery
  - *sc* is /sh/ in fascism
  - *sc* is /s/ + /k/ in scare

C softens to /s/ when followed by E, I or Y. Otherwise, C says /k/

**sci**

- *sci* is /s/ + long *i* in science
  - *sci* is /sh/ in conscience

**ss**

- *ss* is /s/ in messy
  - *ss* is /sh/ in pressure
  - *s* is /s/ in snake
  - *s* is /sh/ in sugar

**si**

- *si* is /s/ + *V* in single /*sing*
  - *si* is /sh/ in pension
  - *si* is /zh/ in confusion

**ci-**

- *ci* is /s/+ *V* in *citation* or *circle*
  - *ci* is /sh/ in clinician

**ti-**

- *ti* is /sh/ in nation
  - *si* is /sh/ in confusion
  - *ci* is /sh/ in physician
the double t (tt) occurs after the short form of the vowel (e.g. little).

English words do not end in "v", which is why there is the "ve" form

English words do not end in "v", which is why there is the "ve" form

English words do not end in "v", which is why there is the "ve" form
**WO**

wo is /w/+schwa in won
o is /w+schwa/ in one

w is /w/ in water

wh are /w/ in whale
wh is /hw/ in while
wh is /h/ in whole
wr is /r/ in write

**X**

x is /ks/ in fox or ox
yet
x is /z/ in xylophone
(this is irregular)
and
x is /ks/+sh/ in luxury
yet
x is /z/ in xylophone
(this is irregular)

**Xi**

xi is /ks/+sh/ in anxious
x is /ks/+sh/ in luxury

**Y**

(y as a consonant)

y is /y/ as in yellow when a consonant

y often appears in vowel sounds, which is presented in a separate card

**I**

(i as a consonant)

i is /y/ as in onion, when a consonant

i is primarily a vowel, and infrequently makes the /y/ sound

**Z**

z is /z/ in zoo
zz is /z/ in fuzzy
-ze is /z/ in snooze
z is /zh/ in seizure

x is /z/ in xylophone
s is /z/ in is
-se is /z/ in choose

**-ZZ**

zz is /z/ in fuzzy
z is /z/ in zoo
-ze is /z/ in snooze

the double z (zz) occurs after the short form of the vowel (e.g. buzz) as opposed to the long vowel (e.g. faze)

**-Ze**

z is /z/ in zoo
zz is /z/ in fuzzy
-ze is /z/ in snooze

x is /z/ in xylophone
s is /z/ in is
-se is /z/ in choose

**-Se**

-se is /s/ in moose or mouse
-se is /z/ in chose or choose or nose
Vowel Graphemes
Letter Tiles: Vowels (1 of 2)

- a
- e
- i
- o
- u
- y
- a_e
- e_e
- i_e
- o_e
- u_e
- -ye
- ai
- ay
- aw
- au
- al
- aigh
- augh
- ar
- are
- air
- ee
- ea
- ei
- ey
- eigh
- ew
- er
- ear
- eer
- ie
- igh
- ir
- ier
- oa
- oe
- oo
- ou
- oul
- ough
- ow
# Letter Tiles: Vowels (2 of 2)

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A vowel says its name (long form) at the end of a syllable as in paper.

**ae**
- ae is /short a/ in aesthetic
- are is /air/ as in aerial or aeroplane

nb: are is /air/ as in aerial or aeroplane
- ae is /short a/ in aesthetic

**a_e**
- a_e is /long a/ in mate
- a_e is /short a/ in have
- a_e is /air/ in care

**ai**
- ai is commonly /long a/ in rain
- ai is /short a/ in plaid
- ai is /short e/ in said

**aigh**
- aigh is commonly /long a/ in straight

**ay**
- ay is commonly /long a/ in day
- ay usually makes the /long a/ sound at the end of a base words as in the compound word payday

**aw**
- aw is /aw/ in law
- a is /aw/ in father
- au is /aw/ in fraud
- al is /aw/ in walk
- ough is /aw/ in ought
- augh is /aw/ in taught

**al**
- al is /aw/ in walk
- a is /aw/ in father
- au is /aw/ in fraud
- aw is /aw/ in law
- ough is /aw/ in ought
- augh is /aw/ in taught
**1. au**

- **au** is /aw/ in *fraud*
- **a** is /aw/ in *father*
- **ai** is /aw/ in *walk*
- **aw** is /aw/ in *law*
- **ough** is /aw/ in *ought*
- **augh** is /aw/ in *taught*

**2. are**

- **are** is /air/ in *care*
- **are** is /ar/ in *are*
- **air** is /air/ in *chair*
- **irregular cases**
  - **ai** is /short a/ in *plaid*
  - **ai** is /short e/ in *said*

- **are** is /air/ in *care*
- **are** is /ar/ in *are*

**3. ea**

- **ea** is /long a/ in *steak*
- **ea** is /short e/ in *bread*
- **ea** is /long e/ in *seat*

**e**

- **e** is /short e/ in *bed*
- **e** is /long e/ in *she*
- **e** is /schwa/ in *jacket*

- **a vowel says its name (long form) at the end of a syllable as in she.**

**ee**

- **ee** is /long e/ in *meet*
- **e** is /long e/ in *she*
- **e_e** is /long e/ in *eve*
- **ea** is /long e/ in *each*
- **ei** is /long e/ in *receive*
- **ie** is /long e/ in *believe*
- **i_e** is /long e/ in *petite*
e_e 1

e-e is /long e/ in eve

e is /long e/ in she
ea is /long e/ in each
ei is /long e/ in receive
ie is /long e/ in believe
i_e is /long e/ in petite

ei 2

ei is /long a/ in vein
ei /long e/ in receive

ey 2

ey is /long e/ in key
ey is /long a/ in they

eigh 2

eigh is /long a/ in eight

eigh is /long i/ in height

eau 2

eau is /long u/ in beauty

eau /long o/ in bureau

ew 2

ew is /long u/ in few

ew is /long oo/ in new

the two sounds - /long u/ & /long oo/ - sound near identical if not exactly the same

er 1

er is /er/ in father

ar is /er/ in dollar
ur is /er/ in blur
ir is /er/ in girl
or is /er/ in work
ear is /er/ in learn
yr is /er/ in syrup

ear 4

ear is /ear/ in fear

ear is /air/ in tear
ear is /ar/ in heart
ear is /er/ in learn

eir 1

eir is /air/ in heir

are is /air/ in care
air is /air/ in chair
are is /air/ in pare
err is /air/ in error
The image contains a set of flashcards summarizing the pronunciation of various letter combinations involving the letter 'o'. Here's a breakdown of the key points:

- **O**
  - /short o/ in dog
  - /long o/ in veto
  - /long oo/ in do
  - /aw/ in on
  - Schwa in gallop
  - /w+schwa/ in one
  - /short o/ and /aw/ are similar.

- **O-e**
  - /long o/ in note
  - /long o/ in most & veto
  - /long o/ in toe
  - /long o/ in soul
  - /long o/ in bow
  - /long 0/ though

- **Oa**
  - /long o/ in boat
  - /or/ in soar
  - /long o/ in most & veto
  - /long o/ in note
  - /long o/ in toe
  - /long o/ in soul
  - /long o/ in bow

- **Oe**
  - /long o/ in toe
  - /long o/ in most & veto
  - /long o/ in note
  - /long o/ in boat
  - /long o/ in soul
  - /long o/ in bow
  - /long 0/ though

- **Oo**
  - /short oo/ in cook
  - /long oo/ in boot

- **Oul**
  - /short oo/ in would
  - /long o/ in soul
  - /long oo/ in soup
  - /short u/ in touch
  - /ow/ in out

- **Ough**
  - /long o/ though
  - /long oo/ through
  - /aw/ in fought
  - /ow/ in drought
  - /short u/ + /f/ in tough

- **Ow**
  - /long o/ in grow
  - /ow/ in cow

- **Ou**
  - /long o/ in soul
  - /long oo/ in soup
  - /short u/ in touch
  - /ow/ in out
  - /short oo/ would
The phoneme could be /long u/ + /r/, but there seems to be a unique /y/ and controlled-r blend.
y

-ye

yr

y is /y/ in yellow
y is /long e/ in funny
y is /short i/ in myth
y is /long i/ in my

-ye is /long i/ in bye or rye

yr is /er/ in syrup
er is /er/ in father
ar is /er/ in dollar
ir is /er/ in girl
ur is /er/ in blur
or is /er/ in work
ear is /er/ in learn

your

your is /yur/ in your and you’re
The phoneme could be /long u/ + /r/, but there seems to be a unique /y/ and controlled-r blend
Further Resources
At the end of the cycle, the following graphemes have been explored and mastered:
Blank Tiles

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