Morpheme Cards

Teaching Resource
Introduction
Over time, learners are able to identify small, meaningful parts of words that give us information on things like verb tense, singularity vs plural, meaning and parts of speech. These small units are known as **morphemes**, and they include linguistic units like the plural suffixes “-s” or “-es”, the tense suffixes “-ed” and “-ing”, prefixes like “re-” or “pre-”, or Latin roots such as “spec” meaning “see”. These linguistic units allow English speakers to express subtle elements of meaning within the word. Whilst English may have complex orthography (spelling), one can argue that many other languages have more complex **morphologies**, or uses of prefixes, suffixes, etc.

When learning about morpheme, learners also learn the rules that govern how to add morphemes to base words, such as the answers to such questions as “when do I drop the final “e” when adding “-ing”? or “when does the y turn to i?” or “when do I double the final consonant before adding a suffix?” This resource provides information about those little units that allow learners to express subtle meanings through morphemes. Please enjoy and explore!

**“Not caring, not feeling”**

a pathe tic

not

the quality of

feeling

**“A love for humankind; generosity”**

phil anthro py

love

mankind/humankind

the quality of
### Common Prefixes

- **anthro-**
- **re-**
- **in-**
- **acri-**
- **arch-**

**Examples:**
- Head, chief, kind
- Book

**Notes:**
- /p/ + /r/ + /long e/ or /d/ + /short i/ + /s/
- /short a/ + /k/ + /short a/ + /g/ + /r/
- /short a/ + /kw

### Common Greek/Latin Roots

- **acro-**
- **bi-**
- **ben-**
- **chrom-**
- **dia-**

**Examples:**
- Beneficial, benefit, benediction,
- Preview, precede, preface,
- Incorrect, inconsiderate,
- Acrimonious, acrid,
- Aquatic, aquarium, aqueous,
- Benefactor, benevolent

**Notes:**
- /m/ + /short i/ + /s/
- /n/ + /short o/ + /n/
- /c/ + /er/ + /k/
- /t/ + /r/ + /short i/ or /long e/
- /g/ + /long o/ + /s/ + /m/
- /p/ + /t/
- /long e/ + /g/ + /long o/
- /h/ + /short e/ + /f/ + /short i/ + /d/

### Common Suffixes

- **-s**
- **-ty**
- **-ed**
- **-ing**
- **-ive**
- **-ly**

**Examples:**
- Happiness, wickedness,
- Small

**Notes:**
- Either indicates the plural form a verb or the past participle participle or the gerund form of a verb
- The nominalisation of a verb
- The act of
- To turn into (verb)
- The qualify of
- Noun form of (adjective)
- Having the quality of

### Common Prefixes

- **un-**
- **dis-**
- **pre-**
- **sub-**
- **in-**

**Examples:**
- Careless, fearless, nameless,
- Discussed

**Notes:**
- The presence of being
- The act of
- To turn into (verb)
- The qualify of
- Noun form of (adjective)
Adding Inflectional Endings

Adding **-s** or **-es**

**dog**
- does not end in “s”
- dogs add “-s”

**glass**
- ends with “s” or “ch”
- glasses add “-es”

Adding **-ing**

**hop**
- CVCC
- hopping

**hope**
- CVCC
- hoping

Adding **-ed**

**bat**
- CVC
- batted

**look**
- CVVC
- looked

**Appendix F**

**ADDING A SUFFIX TO ANY WORD**

1. **Silent Final E**
   - Are we adding a vowel suffix?
   - Is dropping the E allowed by other spelling rules?
   - If yes, drop the E and add the suffix.
   - If no, just add the suffix.

2. **One Vowel + One Consonant**
   - Are we adding a vowel suffix?
   - Is the syllable before the suffix accented?
   - If yes, double the last consonant and add the suffix.
   - If no, just add the suffix.

3. **Single Vowel Y**
   - Does it end with a single vowel Y?
   - Does the suffix begin with any letter except i?
   - If yes, change the Y to I and add the suffix.
   - If no, retain the Y and add the ending.
## Table 2

### Changes to Base Words When Adding Inflectional Endings or Other Suffixes That Start with a Vowel

<table>
<thead>
<tr>
<th>BASE WORDS</th>
<th>+ ING</th>
<th>+ ED (OR ER)</th>
<th>+ S</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CVW, CVCC</td>
<td>No change</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Ex: look, walk</td>
<td>Ex: looking, walking</td>
<td>Ex: looked, walker</td>
<td>Ex: looks, walks</td>
</tr>
<tr>
<td>2. CVC</td>
<td>Double final letter</td>
<td>Double final letter</td>
<td>No change</td>
</tr>
<tr>
<td>Ex: bat</td>
<td>Ex: batting</td>
<td>Ex: batted, batter</td>
<td>Ex: bats</td>
</tr>
<tr>
<td>3. CVCe</td>
<td>Drop final e</td>
<td>Drop final -e</td>
<td>No change</td>
</tr>
<tr>
<td>Ex: skate</td>
<td>Ex: skating</td>
<td>Ex: skated, skater</td>
<td>Ex: skates</td>
</tr>
<tr>
<td>4. Words that end in a consonant + y</td>
<td>No change</td>
<td>Change y to i</td>
<td>Change y to i and add es</td>
</tr>
<tr>
<td>Ex: cry</td>
<td>Ex: crying</td>
<td>Ex: cried, crier</td>
<td>Ex: cries</td>
</tr>
<tr>
<td>5. Words that end in a vowel + y</td>
<td>No change</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Ex: play</td>
<td>Ex: playing</td>
<td>Ex: played, player</td>
<td>Ex: plays</td>
</tr>
<tr>
<td>6. Two-syllable words accented on second syllable</td>
<td>Follow rules for 1–5</td>
<td>Follow rules for 1–5</td>
<td>Follow rules for 1–5</td>
</tr>
<tr>
<td>Ex: admitting, inviting, applying, destroying</td>
<td>Ex: admitted, invited, applied, destroyed, destroyer</td>
<td>Ex: admits, invites, applies, destroys</td>
<td></td>
</tr>
<tr>
<td>7. Words that end in a c</td>
<td>Add a k</td>
<td>Add a k</td>
<td>No change</td>
</tr>
<tr>
<td>Ex: mimic</td>
<td>Ex: mimicking</td>
<td>Ex: mimicked</td>
<td>Ex: mimics</td>
</tr>
</tbody>
</table>

*Words ending in e and w do not double (e.g., boxed, chewed). Words that end in ck avoid having to double a final k (blocked, blockina). Words that end in ve avoid having to double a final v (loved, lovina).*
Prefixes
<table>
<thead>
<tr>
<th>Prefix</th>
<th>Syllable</th>
<th>Meaning</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>un-</strong></td>
<td>/short u/ + /n/</td>
<td>not, do not, not recognise</td>
<td>unplug, undo, unconscious, unveil</td>
</tr>
<tr>
<td><strong>dis-</strong></td>
<td>/d/ + /short i/ + /s/</td>
<td>not, do not, not recognise</td>
<td>disagree, disappear, disappoint, disengage, discard</td>
</tr>
<tr>
<td><strong>ex-</strong></td>
<td>/short e/ + /ks/</td>
<td>keep out, outside, former</td>
<td>exit, exclude, external, exoskeleton, ex-president</td>
</tr>
<tr>
<td><strong>in-</strong></td>
<td>/short i/ + /n/</td>
<td>not</td>
<td>incorrect, inconsiderate, independent, incredible</td>
</tr>
<tr>
<td><strong>uni-</strong></td>
<td>/long u/ + /n/ + /long e/ or /long u/ + /n/ + /short i/</td>
<td>one, single, once</td>
<td>unicycle, unite, unilateral, universe, unibrow</td>
</tr>
<tr>
<td><strong>bi-</strong></td>
<td>/b/ + /long i/</td>
<td>two, twice</td>
<td>bicycle, bilateral, biannual, binaural, bipolar</td>
</tr>
<tr>
<td><strong>tri-</strong></td>
<td>/t/ + /r/ + /long i/ or /t/ + /r/ + /short i/ or</td>
<td>three, thrice</td>
<td>tricycle, triplicate, trifecta, triennial, tripod</td>
</tr>
<tr>
<td>Prefix</td>
<td>Root</td>
<td>Meaning</td>
<td>Examples</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>sub-</strong></td>
<td>/s/ + /short u/ + /b/</td>
<td>under, less, below</td>
<td>subtract, submarine, subzero, subpar, submit, substitute</td>
</tr>
<tr>
<td><strong>post-</strong></td>
<td>/p/ + /long o/ + /s/ + /t/</td>
<td>after</td>
<td>postpone, postgame, posterior, posthumous, postnatal,</td>
</tr>
<tr>
<td><strong>mis-</strong></td>
<td>/m/ + /short i/ + /s/</td>
<td>not, failed to, wrong</td>
<td>misunderstand, misanthropic, misnomer, misbehave</td>
</tr>
<tr>
<td><strong>non-</strong></td>
<td>/n/ + /short o/ + /n/</td>
<td>not, lacking</td>
<td>nonevent, noncommital, nonsense, nonexistent</td>
</tr>
<tr>
<td><strong>mal-</strong></td>
<td>/m/ + /schwa/ + /l/</td>
<td>bad, evil, poorly</td>
<td>malevolent, maladapted, maligned, malnourished</td>
</tr>
<tr>
<td><strong>anti-</strong></td>
<td>[/short a/ + /n/] + [/t/ + /long e/]</td>
<td>against, opposed to, opposite</td>
<td>antipathy, antithesis, anticlimax, antidote, antibiotic</td>
</tr>
<tr>
<td><strong>inter-</strong></td>
<td>[/short i/ + /n/] + [/t/ + /er/]</td>
<td>between, across</td>
<td>international, interpersonal, intersect, interpolate, internet</td>
</tr>
<tr>
<td><strong>intra-</strong></td>
<td>[/short i/ + /n/] + [/t/ + /r/ + /schwa]</td>
<td>within</td>
<td>intrapersonal, intranet, intracultural</td>
</tr>
<tr>
<td><strong>super-</strong></td>
<td>[/s/ + /long oo/] + [/p/ + /er]</td>
<td>above, beyond</td>
<td>superfluous, superscript, superb, superior</td>
</tr>
<tr>
<td>prefix</td>
<td>base</td>
<td>meaning</td>
<td>examples</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>fore-</td>
<td>/t/ + /or/</td>
<td>before, come before</td>
<td>foreshadow, foreword, foreman, forebear, forecast, forebode</td>
</tr>
<tr>
<td>pro-</td>
<td>/p/ + /r/ + /long o/</td>
<td>before or supportive</td>
<td>prologue, proceed, propose, probable, proclaim, pronounce</td>
</tr>
<tr>
<td>quad-</td>
<td>/kw/ + /aw/ + /d/</td>
<td>four</td>
<td>quadrangle, quadbike, quadrupled, quadrant</td>
</tr>
<tr>
<td>pent-</td>
<td>/p/ + /short e/ + /n/ + /t/</td>
<td>five</td>
<td>pentagon, pentameter, pentecost, pentadactyl</td>
</tr>
<tr>
<td>multi-</td>
<td>/m/ + /short u/ + /l/ + /t/ + /long e/</td>
<td>many</td>
<td>multigrain, multicultural, multiply, multicoloured</td>
</tr>
<tr>
<td>a-</td>
<td>/short a/ or /long a/</td>
<td>without, not</td>
<td>apathy, amoral, abiotic, asymmetrical, atheist</td>
</tr>
<tr>
<td>dys-</td>
<td>/d/ + /short i/ + /s/</td>
<td>abnormal, bad</td>
<td>dysfunction, dyslexia, dysplasia, dystopia, dysgraphia</td>
</tr>
<tr>
<td>comb-</td>
<td>/k/ + /short o/ + /m/</td>
<td>together, bring together</td>
<td>complete, compare, comfort, compile, commingle</td>
</tr>
<tr>
<td>ambi-</td>
<td>/short a/ + /m/ + /b/ + /long e/ or schwa</td>
<td>both</td>
<td>ambiguous, ambidextrous, ambivalent, (amphibian)</td>
</tr>
</tbody>
</table>
Suffixes
<table>
<thead>
<tr>
<th>Suffix</th>
<th>音素</th>
<th>释义</th>
<th>示例</th>
</tr>
</thead>
<tbody>
<tr>
<td>-s</td>
<td>/s/</td>
<td>指示名词的复数形式或动词的单数形式</td>
<td>dogs, ducks, walks, jumps, debates</td>
</tr>
<tr>
<td>-es</td>
<td>/schwa/ + /s/</td>
<td>指示名词的复数形式或动词的单数形式</td>
<td>dishes, washes, crosses, discusses</td>
</tr>
<tr>
<td>-ed</td>
<td>/d/ or /t/ or /schwa/ + /d/</td>
<td>指示动词的过去时或过去分词</td>
<td>walked, jumped, traded (had) discussed</td>
</tr>
<tr>
<td>-ing</td>
<td>/short i/ + /ng/</td>
<td>指示现在分词或动名词</td>
<td>walking, trading, seeing, hopping, running</td>
</tr>
<tr>
<td>-ly</td>
<td>/l/ + /long i/</td>
<td>指示形容词的副词形式 (或“如何”)</td>
<td>quickly, silently, happily, nervously</td>
</tr>
<tr>
<td>-y</td>
<td>/l/ + /long i/</td>
<td>指示形容词的副词形式 (或“如何”)</td>
<td>funny, slimy, happy, angry, wispy</td>
</tr>
<tr>
<td>-ness</td>
<td>/n/ + /short e/ + /s/</td>
<td>指示名词的形容词形式 (因为是形容词)</td>
<td>happiness, wickedness, suspiciousness, peacefulness</td>
</tr>
<tr>
<td>-some</td>
<td>/s/ + /schwa/ + /m/</td>
<td>指示名词的形容词形式 (因为是形容词)</td>
<td>handsome, fearsome, tiresome, lonesome</td>
</tr>
<tr>
<td>-ship</td>
<td>/sh/ + /short i/ + /p/</td>
<td>指示名词的形容词形式 (因为是形容词)</td>
<td>friendship, mateship, hardship, censorship, workmanship</td>
</tr>
</tbody>
</table>
### -ment

- **/m/ + /short e/ + /n/ + /t/**
- Noun form of a verb concept

- **establishment, embodiment, embarrassment, disagreement**

### -tion

- **/sh/ + /schwa/ + /n/**
- The nominalisation of a verb
  - or when we turn a verb into a noun (common in academic writing)

- **creation, dictation, detection, summation**

### -ty

- **/t/ + /long e/**
- The quality of being ...
  - the presence of being ...

- **identity, cruelty, mortality, hostility**

### -ish

- **/short i/ + /sh/**
- Being like or having the quality of ...
  - or ...
  - common in many verbs

- **sheepish, selfish, publish, vanish, establish**

### -able

- **/schwa/ + /b/ + /l/**
- Having the quality of ...
  - (noun)

- **capable, affable, enjoyable, liable, enviable**

### -logy

- **/l/ + /short o/ + /j/ + /long e/**
  - or **/l/ + /schwa/ + /j/ + /long e/**

- The study of ...
  - (noun)

- **psychology, biology, geology, phonology**

### -ous

- **/schwa/ + /s/ or /short u/ + /s/**
- Having the quality of ...
  - (adjective)

- **aqueous, vacuous, conscious, malicious**

### -ic

- **/short i/ + /k/**
- Having the quality of ...

- **acidic, basic, terrific, specific, acerbic**

### -ive

- **/short i/ + /v/**
- Having the quality of ...

- **decisive, inquisitive, collective, expressive, cooperative, perceptive**
<table>
<thead>
<tr>
<th>Suffix</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>-ance</td>
<td>/schwa/ + /n/ + /s/</td>
<td>characterised by (noun)</td>
</tr>
<tr>
<td>-dom</td>
<td>/d/ + /schwa/ + /m/</td>
<td>characterised by (noun)</td>
</tr>
<tr>
<td>-ence</td>
<td>/short e/ + /n/ + /s/</td>
<td>characterised by (noun)</td>
</tr>
<tr>
<td>-fy</td>
<td>/f/ + /long i/</td>
<td>the act of ... to turn into (verb)</td>
</tr>
<tr>
<td>-hood</td>
<td>/h/ + /long oo/ + /d/</td>
<td>characterised by (noun)</td>
</tr>
<tr>
<td>-uous</td>
<td>/long u/ + /schwa/ + /s/ or /long u/ + /short u/ + /s/</td>
<td>having the quality of ... (adjective)</td>
</tr>
<tr>
<td>-ist</td>
<td>/short i/ + /s/ + /t/</td>
<td>person with a particular trait</td>
</tr>
<tr>
<td>-ism</td>
<td>/short i/ + /z/ + /m/</td>
<td>characterised by (noun)</td>
</tr>
<tr>
<td>-ful</td>
<td>/f/ + /schwa/ + /l/</td>
<td>being full of ...</td>
</tr>
</tbody>
</table>
the nominalisation of a verb
... or when we turn a verb
into a noun (common in
academic writing)
collision, permission,
cohesion, omission,
supervision, conclusion

- less

/l/ + /short e/ + /s/
without ... (adjective)
careless, fearless, nameless,
spotless, homeless, useless

- sion

/zh/ + /schwa/ + /n/

- less

/l/ + /short e/ + /s/
without ... (adjective)
careless, fearless, nameless,
spotless, homeless, useless

- sion

/zh/ + /schwa/ + /n/
the nominalisation of a verb
... or when we turn a verb
into a noun (common in
academic writing)
collision, permission,
cohesion, omission,
supervision, conclusion

adding a suffix to any word

Silent Final E
Does it end with a Silent Final E?
Does it end with One Vowel + One Consonant (seen and heard)?
If yes, continue with the questions for the word type below.
If no, just add the suffix.

One Vowel + One Consonant
Are we adding a vowel suffix?
Is the syllable before the suffix accented?
If yes, double the last consonant and add the suffix.
If no, just add the suffix.

Single Vowel Y
Does it end with a single vowel Y?
Does the suffix begin with any letter except i?
If yes, change the Y to I and add the suffix.
If no, retain the Y and add the suffix.
Roots
**acri-**  
[/short a/ + /k/]  
+ [/r/ + /short i/]  

bitter, stinging  
acrimonious, acrid, acridity, acrimony

---

**agr-**  
[/short a/ + /g/] + [/r/]  

relating to farming  
agronomy, agriculture, agrarian, agribusiness

---

**anthro-**  
[/short a/ + /n/]  
+ [/th/ + /r/ + /long o/]  

mankind, humankind  
anthropology, misanthrope, philanthropy, anthropomorphism

---

**aqu-**  
/aw/ + /kw/  
or /short a/ + /kw  

water  
aquatic, aquarium, aqueous, aquamarine

---

**arch-**  
/ar/ + /ch/  

head, chief, kind  
archenemy, monarchy, oligarchy, archdiocese

---

**auto-**  
[/aw/] + [/t/ + /long o/ or /short o/]  

on its own  
autonomous, automobile, automatic, automaton

---

**ben-**  
[/b/ + /short e/ + /n/]  

good  
beneficial, benefit, benediction, benefactor, benevolent

---

**bibli-**  
[/b/ + /short i/ + /b/] + [/l/ + /long e/ or /short i/]  

book  
bibliophile, bibliography, bible, benefactor, bibliographer

---

**bio-**  
[/b/ + /long i/] + [/short o/]  

life  
biology, biography, biotic, abiotic, antibiotic, biosphere
<table>
<thead>
<tr>
<th>Carn-</th>
<th>Cent-</th>
<th>Cert-</th>
</tr>
</thead>
<tbody>
<tr>
<td>/k/ + /ar/ + /n/</td>
<td>/s/ + /short e/ + /n/ + /t/</td>
<td>/s/ + /er/ + /t/</td>
</tr>
<tr>
<td>meat, flesh</td>
<td>one hundred</td>
<td>confidently know</td>
</tr>
<tr>
<td>carnal, carnivore, carnivorous, incarnation</td>
<td>centimetre, century, centipede, bicentennial</td>
<td>certainty, certitude, certificate, ascertain, certifiable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chrom-</th>
<th>Chron-</th>
<th>Circ-</th>
</tr>
</thead>
<tbody>
<tr>
<td>/k/ + /r/ + /long o/ + /m/</td>
<td>/k/ + /r/ + /short o/ + /n/</td>
<td>/c/ + /er/ + /k/</td>
</tr>
<tr>
<td>colour</td>
<td>time</td>
<td>round, around</td>
</tr>
<tr>
<td>chromatic, chromatology, chromotherapy</td>
<td>chronicle, achronistic, chronology, chronometer</td>
<td>circle, circumference, circuitous, circumlocution</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cog-</th>
<th>Contra-</th>
<th>Corp-</th>
</tr>
</thead>
<tbody>
<tr>
<td>/c/ + /short o/ + /g/</td>
<td>[ /k/ + /short o/ + /n/ ] + [ /t/ + /r/ + /schwa/ ]</td>
<td>[ /k/ + /or/ ] + [/p/]</td>
</tr>
<tr>
<td>mind, aware, think</td>
<td>against</td>
<td>body</td>
</tr>
<tr>
<td>cognition, cogent, cognitive, neuro cognitive, cogitate</td>
<td>contradict, contravene, contrast, contra-political</td>
<td>corpus, corporal, corpulent, incorporate, corporate</td>
</tr>
<tr>
<td>Prefix</td>
<td>Root</td>
<td>Definition</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>------------</td>
</tr>
<tr>
<td>cosm-</td>
<td>/k/ + /short o/ + /s/ + /m/</td>
<td>space, stars</td>
</tr>
<tr>
<td>cred-</td>
<td>/k/ + /r/ + /short e/ + /d/</td>
<td>belief</td>
</tr>
<tr>
<td>crypt-</td>
<td>/k/ + /r/ + /short i/ + /p/ + /t/</td>
<td>hidden</td>
</tr>
<tr>
<td>ego-</td>
<td>/long e/ + /g/ + /long o/</td>
<td>self</td>
</tr>
<tr>
<td>equi-</td>
<td>/long e/ + /kw/ + short i/</td>
<td>equal</td>
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<tr>
<td>fid-</td>
<td>/f/ + /short i/ + /d/</td>
<td>faith, trust</td>
</tr>
<tr>
<td>geo-</td>
<td>/g/ + /long e/ + /long o/</td>
<td>earth</td>
</tr>
<tr>
<td>graph-</td>
<td>/g/ + /r/ + /short a/ + /f/</td>
<td>writing, representing</td>
</tr>
<tr>
<td>hetero-</td>
<td>/h/ + /short e/ + /t/ + /er/ + /long o/</td>
<td>mixed, diverse</td>
</tr>
</tbody>
</table>
**homo-**

- 

- homogeneity, homonym, homosexual, homo sapien

**hydr-**

- water

- hydraulic, hydrogen, hydrophobia, hydrant

**hyper-**

- above, beyond, over

- hyperactive, hypersensitive, hyperbolic, hypertension

**hypo-**

- below, lower, under

- hypodermic, hypothermia, hyposensitive, hypochondriac

**kilo-**

- one thousand

- kilogram, kilometre, kiloton

**lingu-**

- language

- linguistic, lingual, multilingual, linguist

**locu-**

- talk

- locution, interlocuter, circumlocution

**macro-**

- large

- macrocosm, macroscopic, macrocytosis, macrobiotic

**man-**

- hand

- manual, manuscript, manufacture, manipulate
The page contains a list of prefixes and their definitions:

- **medi-**
  - [m/ + /long e/] + [d/ + /long e/]
  - half
  - medium, median, mediocre

- **micro-**
  - [m/ + /long i/] + [k/ + /r/ + /long o/]
  - small
  - microscopic, microscope, microcosm, microbiotic

- **morph-**
  - /m/ + /or/ + /f/
  - change, transform
  - morph, morphology, anthropomorphic, metamorphosis

- **omni-**
  - [short o/ + /m/] + [n/ + /short i/*]
  - all
  - omnipotent, omniscient, omnipresent,

- **pan-**
  - /p/ + /short a/ + /n/
  - over all, all, across all
  - panacea, pan-Pacific, pantheism, panorama

- **path-**
  - /p/ + /short a/ + /th/
  - feeling
  - sympathy, apathy, empathy, antipathy

- **phil-**
  - /f/ + /short i/ + /l/
  - love
  - philanthropy, philanderer, philosopher, bibliophile*

- **phon-**
  - /f/ + /long o/ + /n/
  - sound
  - telephone, phonology, phonogram, symphony*

- **phot-**
  - /f/ + /long o/ + /t/
  - light
  - photon, photography, photosynthesis, photoelectric
<table>
<thead>
<tr>
<th>vac-</th>
<th>viv-</th>
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</thead>
<tbody>
<tr>
<td>/v/ + /short a/ + /k/</td>
<td>/v/ + /long i/ + /v/</td>
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<tr>
<td>empty, extract</td>
<td>life, lively</td>
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<tr>
<td>vacuum, vacuous, vacant*, evacuate, evacuee</td>
<td>vivid, vivacious, vitality, vitamin</td>
</tr>
</tbody>
</table>
Record Keeping
At the end of the cycle, the following morphemes have been explored and mastered:

<table>
<thead>
<tr>
<th>Date</th>
<th>Morphemes Explored</th>
<th>Words Explored</th>
<th>How/Where Explored?</th>
<th>Comment on Learning</th>
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</thead>
<tbody>
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In the following word structures:

- CV
- VC
- CVC
- CVCe
- CVVC
- Compound
- Two-syllable
- Three-syllable