

no. A-153



word munchers

instructional computing courseware
for the **apple® II** computer

This manual is compatible
with
the Word Munchers diskette
Version 1.x

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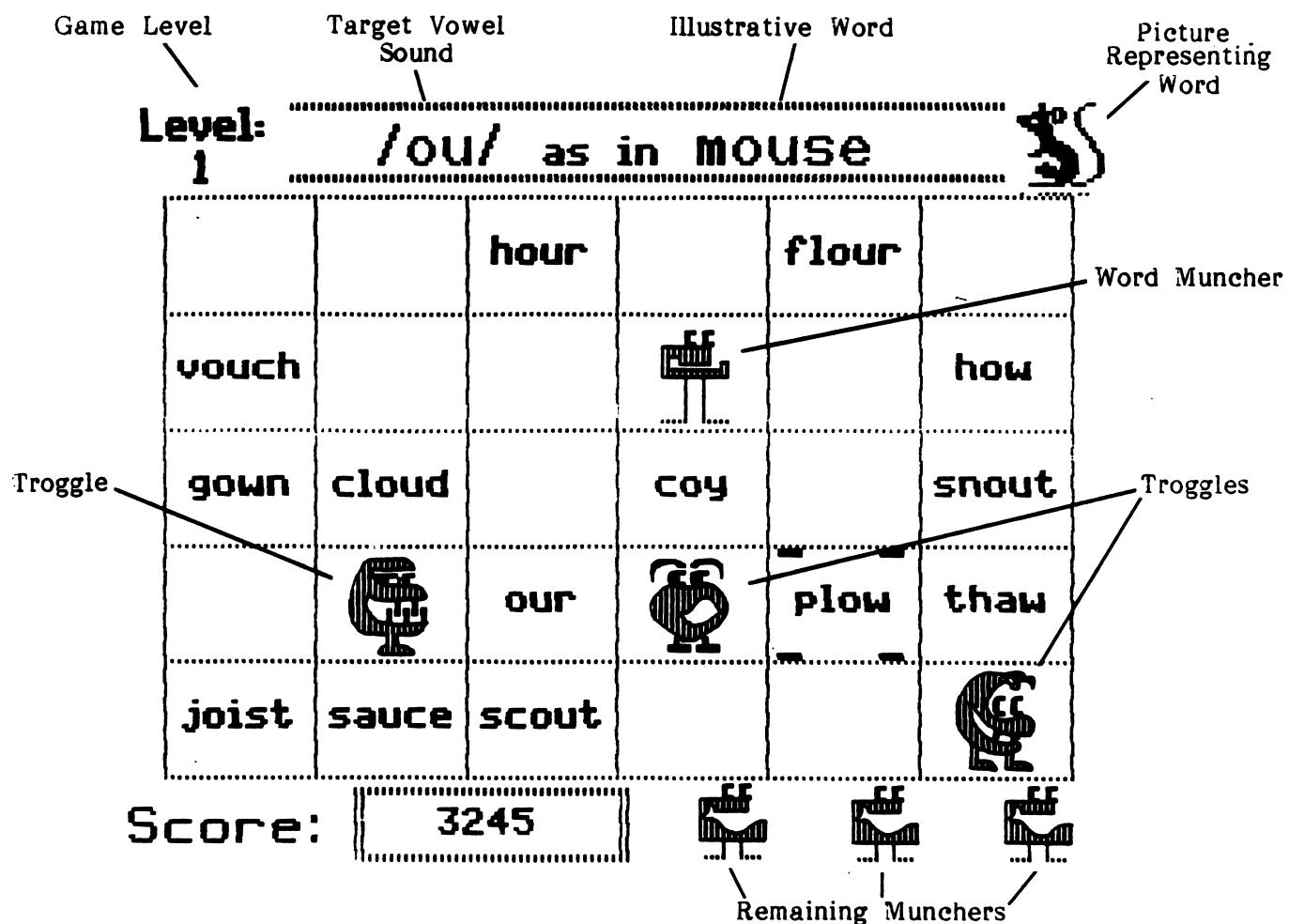
INTRODUCTION

Welcome to Word Munchers!

Word Munchers helps students learn vowel sounds. Using a game format, players must direct their Word Muncher to "eat" words containing the target vowel sound. If they munch an incorrect word, they lose a Muncher. Players must also avoid "Toggles," creatures which love to catch and devour Word Munchers.

Children using this package should have been introduced to the concept of vowel sounds before using the program. Management Options (see page 12) permit the teacher to select the vowel sounds and word difficulty to be used during the game, to display lists of eligible words, and to erase the "Hall of Fame" list. To use the Management Options, press Control-A (hold down the Control Key and press the A Key) when the main menu is displayed.

Word Munchers requires an Apple II computer with 64K of memory. The use of a joystick is optional. Other input devices that also use the Apple's game port, such as game paddles and graphic tablets, are not recommended for use with this product.



BACKGROUND INFORMATION

An understanding of phonics is recognized by many educators as crucial to learning how to read. A major concept in phonics is vowel sounds. However, the order in which vowel sounds should be taught and their relationship to consonants is subject to a wide range of teaching practices. In creating Word Munchers, we have endeavored to provide a program with the flexibility to meet a variety of teaching approaches.

Early in the development of Word Munchers we recognized that regional dialects would affect the pronunciation of certain vowel sounds. We believe it is essential that teachers be aware of the phonetic rules we have employed.

Pronunciation Authority. The reference used in determining the classification of words in Word Munchers was The American Heritage Dictionary, Second College Edition, New York: Houghton Mifflin Company, 1983.

Vowel Sounds Used. Vowel sounds have been classified into three groups in Word Munchers (see page 3). These groups determine the order in which the vowel sounds are presented during the game (see "Sequence of Play," page 9) and which "distractors" will be used in the game. Teachers may determine which vowel sounds will be used in the game through the Management Options (see page 12).

Distractor Groups. The object of Word Munchers is to distinguish between words that contain the target vowel sound and those that do not (the distractors). If the game is to prove challenging, then the distractors must appear plausible. For example, it takes little skill to discriminate between target words that contain the long A sound and those that contain the long O sound. Both the visual differences and the phonetic differences would make such distinctions too easy. Therefore, each vowel sound has been grouped with one or more distractor vowel sounds of the same or similar letter(s) and/or sound(s). See the table on the following page.

BACKGROUND INFORMATION (continued)

VOWEL GROUPS AND DISTRACTORS

Vowel	Example Word	Distractor Vowels
Group 1		
Long A	cake	Short A
Short A	hat	Long A
Long E	tree	Short E
Short E	bell	Long E
Long I	kite	Short I
Short I	fish	Long I
Long O	boat	Short O
Short O	fox	Long O
Long U	mule	Short U
Short U	duck	Long U
Long OO	moon	Short OO
Short OO	book	Long OO
Group 2		
OI (OY)	oil	OU, AU
OU (OW)	mouse	OI, AU
AU (AW)	haunt	OI, OU
Group 3		
AIR	chair	AR, EER, ER/IR/UR, OR
AR	car	AIR, EER, ER/IR/UR, OR
EER	deer	AIR, AR, ER/IR/UR, OR
ER/IR/UR	bird	AIR, AR, EER, OR
OR	corn	AIR, AR, EER, ER/IR/UR

Word Difficulty. Three levels of word difficulty are available in Word Munchers. These levels are subject to teacher control through the Management Options (see page 12). All of the words, regardless of level, consist of one syllable and are five letters or less in length. Once set, the level of word difficulty will remain constant throughout the game. Words classified at levels 1 and 2 follow the patterns outlined below. Words classified at level 3 are rule breakers and do not follow these patterns. **Note:** # denotes one consonant, * denotes one or more consonants. If the consonant is initial, it may be absent.

Long A

easy words: #a#e, #ai#, #ay
 harder words: *a*e, *ai*, *ay, *ai*e
 rule breakers: break, eight, great, steak, they, vein, weigh

Short A

easy words: #a#
 harder words: *a*
 rule breakers: badge, calf, dance, half, have, laugh, plaid

BACKGROUND INFORMATION (continued)

Long E

easy words: #e#e, #ea#, #ee#, #ee, #e
harder words: *e*e, *ea*, *ee*, *ee*e, *ea*e
rule breakers: brief, chief, field, key, niece, piece, seize, ski

Short E

easy words: #e#
harder words: *e*
rule breakers: bread, dead, deaf, dread, edge, else, fence, head, hedge, ledge, said, sense, sweat, tense

Long I

easy words: #i#e, #ie, #y
harder words: *i*i, *ie, *y, *igh, *ight, *y*y, *ye, *ind
rule breakers: buy, child, climb, eye, guy, mild, pint, sign, wild

Short I

easy words: #i#
harder words: *i*
rule breakers: been, build, built, give, gym, hinge, myth, since

Long O

easy words: #o#e, #oe, #oa#, #o
harder words: *o*e, *oe, *oa*, *o, *ow, *old
rule breakers: blown, bolt, both, bowl, colt, comb, dough, flown, folk, ghost, host, jolt, known, most, oh, owe, own, poll, post, roll, sew, soul, troll, volt, yolk

Short O

easy words: #o#
harder words: *o*
rule breakers: calm, dodge, lodge, palm, solve, squad, squat, swab, swan, swap, swat, wad, wand, want, wash, wasp, watch, watt

Long U

easy words: #u#e, #ue
harder words: *u*u, *ue, *ew, *ew*
rule breakers: ewe, feud, view, you

Short U

easy words: #u#
harder words: *u*
rule breakers: blood, come, done, flood, from, front, fudge, glove, judge, love, month, none, of, once, one, pulse, rough, shove, some, ton, touch, tough, young

Long OO

easy words: #oo#, #oo
harder words: *oo*, *oo, *oo*e, *u*u, *ue, *ew, *ew*
rule breakers: do, flu, fruit, group, juice, lose, move, prove, shoe, soup, to, tomb, truth, two, who, whom, whose

BACKGROUND INFORMATION (continued)

Short OO

easy words: #oo#
harder words: *oo*
rule breakers: bull, bush, could, full, pull, push, put, would

OU (OW)

easy words: #ou#, #ow, #ow#
harder words: *ou*, *ow, *ow*, *ou*e
rule breakers: (none)

OI (OY)

easy words: #oi#, #oy
harder words: *oi*, *oy, *oi*e
rule breakers: (none)

AU

easy words: #au#, #aw#, #aw, #all
harder words: *au*, *aw, *aw*, *all, *al*, *au*e, *awe, *al*e
rule breakers: broad, ought

AR

easy words: #ar#, #ar
harder words: *ar*, *ar, *ar*e
rule breakers: are, guard, heart

AIR

easy words: #air, #are
harder words: *air, *are
rule breakers: bear, heir, pear, swear, their, there, wear, where

EER

easy words: #eer, #ear
harder words: *eer, *ear, *ear*
rule breakers: here, mere, pier, weird

ER/IR/UR

easy words: #er#, #er, #ir#, #ir, #ur#, #ur
harder words: *er*, *er, *ir*, *ir, *ur*, *ur, *er*e, *ir*e, *ur*e
rule breakers: earl, earn, earth, heard, learn, pearl, were, word, work, world,
worm, worse, worst, worth

OR

easy words: #or#, #or, #ore, #oar
harder words: *or, *or*, *ore, *oar, *or*e, *oar*
rule breakers: court, door, dwarf, floor, four, gourd, mourn, pour, quart, war,
ward, warm, warp

BACKGROUND INFORMATION (continued)

Note: When you select a level of difficulty through the Management Options (see page 12), you will determine which words will be displayed during the game. Selecting level 1 will restrict the game to level 1 words. Selecting level 2 will restrict the game to level 1 words plus level 2 words. Selecting level 3 will allow all of the words in levels 1, 2, and 3 to be eligible for use during the game.

Words That Are Not Used. As mentioned previously, there are many regional variations in pronunciation. For this reason, we have excluded certain words having pronunciations that vary from region to region. These include words that have more than one pronunciation given in the dictionary and words ending in:

"ong," "og," "oss," "off," or "oft," since these tend to be pronounced by some people with a short O sound and by others with the AU sound (among those who distinguish between the two sounds);

"ank" or "ang" (such as "tank" and "rang") since these tend to be pronounced with a long A sound by some people, rather than a short A sound.

DESCRIPTION

Word Munchers is an educational game for students in grades one through five that reinforces the identification of vowel sounds. The object of the game is to direct the Word Muncher to eat words that match the vowel sound displayed at the top of the game screen. If the Muncher eats a word with the incorrect vowel sound, or if a Muncher is caught by a Troggle, then the Muncher is lost.

Curriculum Area: Language Arts

Subject: Phonics

Topics: Vowels

Type: Educational Game

Grade Range: 1-5

Classroom Use: Individual

LEARNING OBJECTIVES

After using this courseware the student should be able to:

- correctly identify vowel sounds in monosyllabic words consisting of five letters or less;
- apply phonics rules to determine the vowel sounds of simple words;
- recognize vowel sounds in simple words that do not follow pronunciation rules.

PROGRAM PREVIEW

Characters. Six different characters are used in Word Munchers: one Word Muncher and five varieties of Troggles. The characters and a description of their behavior follows:

Word Munchers
(Munchicus scripticus)



You start the game with four Word Munchers (three in reserve and one in the game screen). You may earn one additional Muncher if your score reaches 1,000 points and another at 10,000 points. Word Munchers are under your control. This means that you choose the direction that the Word Muncher moves and when it eats a word. If the word eaten has the correct vowel sound, points are earned.

Reggies
(Trogglus normalus)



Reggies are the most common species of Troggle. This creature travels in straight lines. When it enters a cell containing a word, it removes the word and leaves another (target or distractor) in its place.

Helpers
(Trogglus assistus)



Helpers behave in a manner similar to Reggies except that if they enter a cell containing a word, they will remove that word without leaving a word in its place. Unlike Reggies, Helpers move in random directions.

Workers
(Trogglus laborus)



Workers behave in a manner similar to Reggies except that they always leave a word behind even if the cell originally contained one or not. Like Helpers, their movements are random.

Bashfuls
(Trogglus timidus)



Bashfuls behave in a manner similar to Reggies except that they tend to avoid contact with Munchers, and their movements are random.

Smarties
(Trogglus smarticus)



Smarties travel in an unpredictable pattern until they get close to the Muncher and then they will "home in" on the Muncher and attempt to catch it. They have no effect on the words in the cells.

PROGRAM PREVIEW (continued)

Controlling the Word Muncher. You may move the Word Muncher by using a joystick or the computer keyboard. If you choose to use the keyboard, the following keys may be used:

Key	Direction
↑ *	I, A
↓ *	M, Z
→	K
←	J

*Apple //e and Apple //c computers only

Pressing the Space Bar or the joystick's fire button will make the Muncher eat the word in the cell it is in.

Scoring. Points are earned whenever the Muncher eats a correct word. The value of the word is dependent upon the level of the game:

Level	Word Value
1-3	5
4	10
5	15
6	20
7	25
8	30
9	35
10	40
11	45
12-18	50
19+	75

Levels of Play. When a game screen has been cleared of all words that contain the target vowel sound, then the screen is erased and a new level of play is begun. The current level of play is indicated in the box in the upper left corner of the screen.

Each level of play is progressively more difficult than the level before. Factors that may change between levels include: 1) the maximum number of Toggles on the screen at once; 2) the types of Toggles; 3) the speed of the Toggles; 4) the number of safe zones; 5) and the point value per word eaten. Once level 12 is reached, these factors remain constant until level 19. After level 19 the factors remain constant until the end of the game.

Sequence of Play. Each level of play presents a new vowel sound and a new set of words to munch. If all vowel sounds have been selected in the Management Options as eligible for presentation, then a different vowel sound will appear at the top of the screen for the first 18 levels of play. Beginning with level 19, the same vowel sounds will be used again, but many of the words on the game screens will be new.

PROGRAM PREVIEW (continued)

The vowel sounds are presented in this order:

1. group 1 vowels (1 screen for each vowel selected);
2. group 2 vowels (1 screen for each vowel selected);
3. group 3 vowels (2 screens if 2 vowels are selected, 3 screens otherwise).

Within each group of vowels, the program selects the order of presentation randomly.

Pausing Within the Game. You may call "time out" and freeze the game (even if you have zero points) by pressing the ? Key. To resume play, simply press the ? Key, an arrow key, the Space Bar, or use the joystick. Each time you pause, points equal to the value of a single word at the current game level are deducted from your score, but your score will never be allowed to drop below zero.

Ending the Game. Play ends whenever the last Word Muncher is lost or when you press the Escape Key twice.

Hall of Fame. Word Munchers maintains a list of the ten highest scores and the names of those who achieved them. If your score is greater than the lowest score on the list, then you will be given a chance to add your name to the list. You may erase scores in the Hall of Fame through the Management Options (see page 12).

Sound. Sound effects may be turned on or off during the game by pressing Control-S (hold down the Control Key and press the S Key).

Additional Graphics. After you have successfully completed three levels of play, a brief "graphic interlude" is displayed (Figures 1 and 2). Other such interludes appear after every three additional levels of play. There are six interludes included in this package.

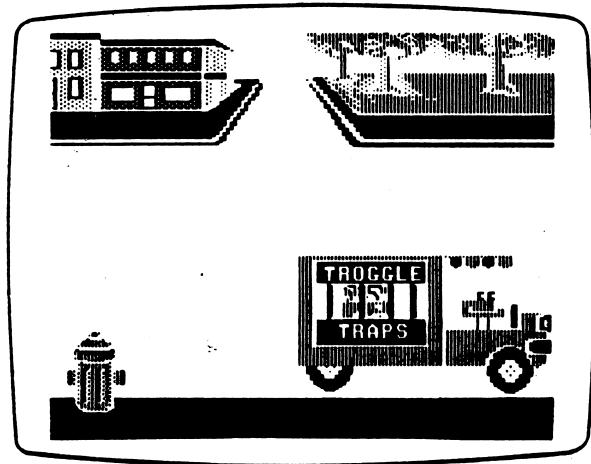


Figure 1

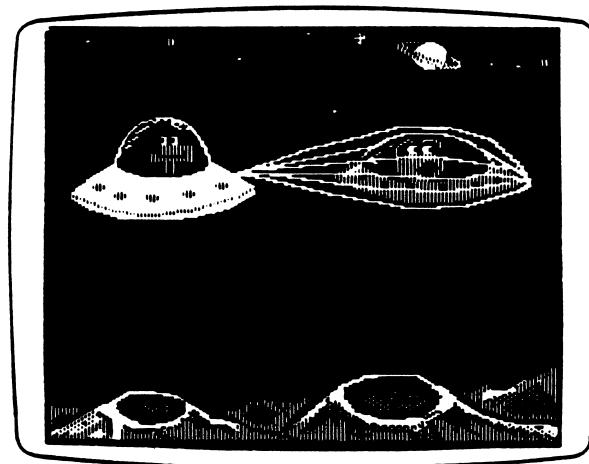


Figure 2

USE IN AN INSTRUCTIONAL SETTING

Preparation

Use the Management Options (see page 12) to set up the word lists and level of difficulty you want used when students play Word Munchers.

Using the Program

While students are first learning the game, it may be helpful for them to work in pairs. This will allow one student to work on mastering the game while another finds the correct target words. Eventually, however, you will want students to have the opportunity for extended individual play.

You or the students might want to consider a Word Munchers tournament with prizes awarded to players gaining the best scores, the most improved player, and so forth. The award certificate (Handout 1) may also be used for the winners. You may also want to declare the entire class a winner and award each student a certificate.

We have provided a note to parents (Handout 2) which you may wish to send home with students to inform their parents about the use of Word Munchers.

MANAGEMENT OPTIONS

Management Options allow you to select the vowel sounds and set the level of difficulty for the words used in Word Munchers. You may also display a list of the eligible words and erase the winner's list. To access the Management Options, press Control-A when the main menu is displayed. To press Control-A, hold down the Control Key and press the A Key.

Selecting the Vowel Sounds. This option allows you to modify the vowel sounds that are selected for use in Word Munchers. Vowel sounds that are currently selected are marked with a >. Use the arrow keys to highlight the vowel sound you wish to add or remove from the list, and then press Return. Removing a vowel sound from the game does not permanently erase it from the diskette. To reactivate a vowel sound, simply use the arrow keys to highlight it and press Return.

You may notice that when you "turn off" certain vowel sounds, another vowel sound will also turn off. For example, if you attempt to turn off all but one of the vowel sounds in group 2 (OU, OI, and AU) or in group 3 ("R-controlled" vowels), all of the vowel sounds in that group will turn off. This is necessary because each vowel sound must have at least one other similar vowel sound to act as a distractor during the game.

Word Difficulty. Word Munchers contains a built-in word list of 1,700 words. Three levels of word difficulty are possible in Word Munchers. See pages 3-6 for a detailed explanation of how words are classified.

To modify the word difficulty, choose Option 2, "Select word difficulty," from the Management Options menu. The current level of difficulty is designated with a >. To select a different level of difficulty, simply use the arrow keys or press the number of the level you wish to use and press Return.

Note that this option not only changes the difficulty of words presented. It also changes the pedagogy. Levels 1 and 2 present words that follow phonetic rules or patterns that should allow students to decode even unfamiliar words. This is not true of level 3. By including rule breakers, the game becomes an exercise in reading sight words and determining their pronunciation. Teachers should carefully consider which approach is appropriate for their students.

Display Eligible Words. This option allows you to see a listing of the words which are eligible for use in Word Munchers. Only those words that are eligible, according to the currently selected vowel sounds and level of difficulty, will be displayed.

Erase Hall of Fame. Word Munchers maintains a list of the ten best scores. After the tenth score is entered, only a score that is higher than the lowest score on the list may be recorded. This option allows you to erase individual records or the entire list of winners.

STUDENT HANDOUTS

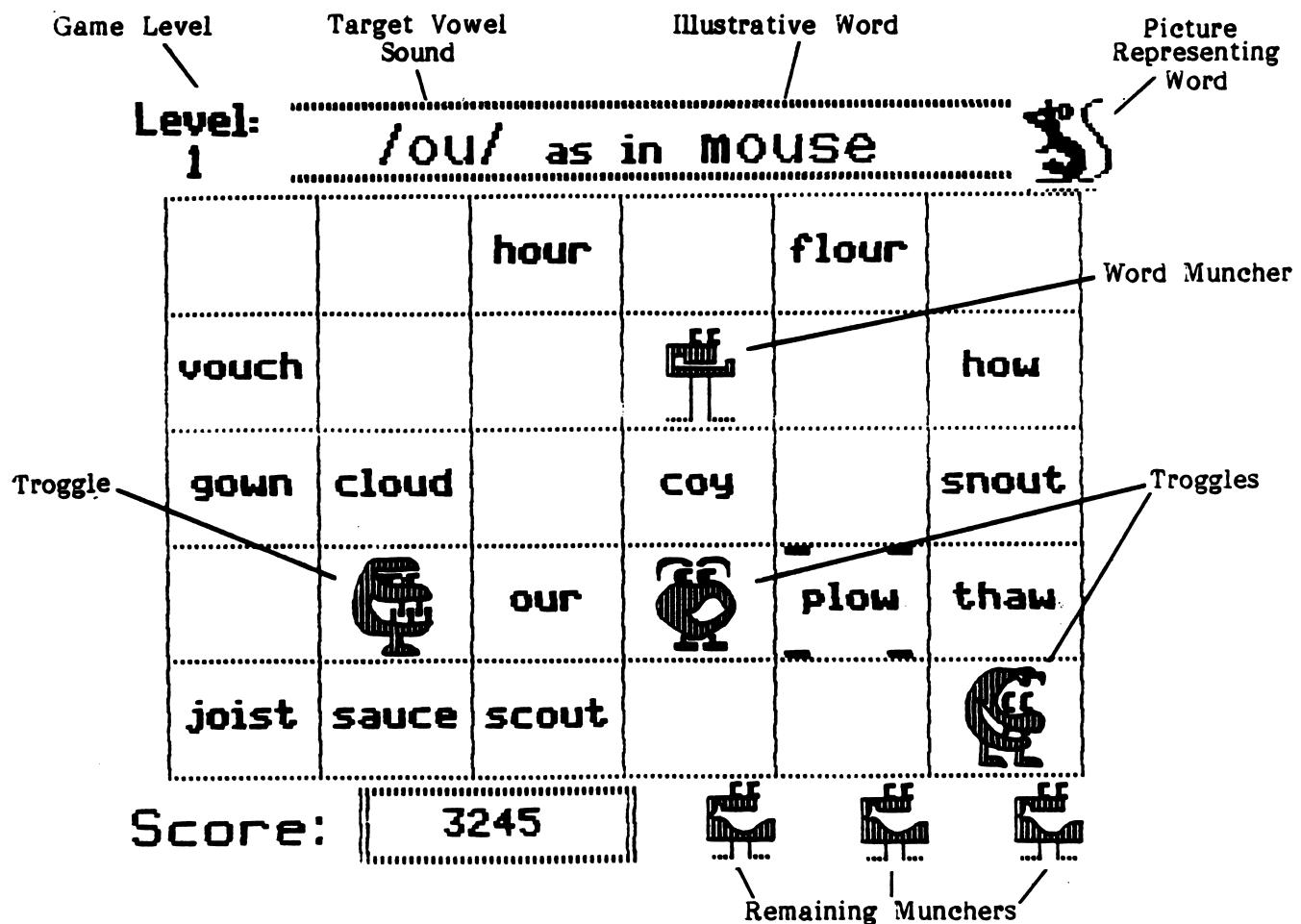
This is to certify that _____
is an award-winning Word Muncher.



Teacher _____

A NOTE TO PARENTS

As part of our work in language arts, your child will be playing Word Munchers, an educational computer game. This is what a typical game screen looks like:



Ask about Word Munchers, and work with your child on those sounds which are proving difficult. Your child may not only become a champion Word Muncher, but more importantly, he or she will learn to master vowel sounds—a critical step in learning to read.

Sincerely,

Teacher

APPENDICES

CREDITS

Word Munchers was produced by a MECC development team that included Philip Bouchard, Steve Taffee, Craig Copley, Roger Shimada, Michael Stein, Paul Wenker, Charolyn Kapplinger, and H. Bill Way.

MECC wishes to extend a special thanks to teachers Steve Zehm, Karen Saari, and the staff and students of Island Lake Elementary School, Shoreview, Minnesota, for their assistance in developing this package.

TO THE READER:

MECC has made every effort to ensure the instructional and technical quality of this courseware package. Your comments—as user or reviewer—are valued and will be considered for inclusion in any future version of the product. Please address comments to:

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- **Help Line**

If you have any problems using MECC software:

- 1) make note of the *name and version number* of the product;
- 2) note the *brand and model* of the equipment involved, as well as the type of *printer card* used if the problem concerns a printer;
- 3) write or call the Help Line to describe the problem (612/481-3660).

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