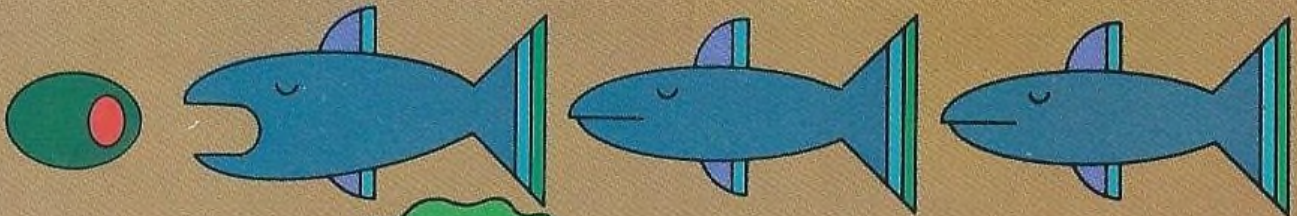


# DECIMALS 2

AGES 10-11

MULTIPLICATION OF DECIMALS

For use with the  
TI 99/4A microcomputer.



## KEYBOARD GUIDE FOR DECIMALS 2

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PRESS	TO
ENTER	<ul style="list-style-type: none"><li>■ pass through title screens quickly.</li><li>■ have the computer accept an answer.</li><li>■ speed the appearance of the next problem.</li></ul>
Space Bar	<ul style="list-style-type: none"><li>■ temporarily freeze a screen. The program continues when the space bar is released.</li><li>■ put decimals in order in Activity 2.</li><li>■ show where the decimal point should be in Activity 3.</li></ul>
Period Key ( . )	<ul style="list-style-type: none"><li>■ see the beginning of each activity in the module in consecutive order. Start at the main list of activities. Hold the ( . ) key down until you reach the activity you want.</li></ul>
FCTN 3 (ERASE)	<ul style="list-style-type: none"><li>■ erase the first digit of a two-digit answer before the complete answer is typed.</li></ul>
FCTN 4 (CLEAR)	<ul style="list-style-type: none"><li>■ erase the first digit of a two-digit answer before the complete answer is typed.</li></ul>
FCTN 5 (BEGIN)	<ul style="list-style-type: none"><li>■ return to the main list of activities at the beginning of the module.</li></ul>
FCTN 6 (PROC'D)	<ul style="list-style-type: none"><li>■ leave the teaching example and begin the practice exercises.</li></ul>
FCTN 7 (AID)	<ul style="list-style-type: none"><li>■ view the teaching example appropriate to the practice exercises being done.</li></ul>
FCTN 8 (REDO)	<ul style="list-style-type: none"><li>■ begin an activity again.</li></ul>
FCTN 9 (BACK)	<ul style="list-style-type: none"><li>■ return to the teaching example/practice exercise choice screen, or, if there is no teaching example, return to the main selection list of activities.</li></ul>
FCTN = (QUIT)	<ul style="list-style-type: none"><li>■ end work on the module.</li></ul>
S or D ← →	<ul style="list-style-type: none"><li>■ move numbers across the screen to align the decimal points in Activities 4, 5, and 6.</li></ul>

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Scott, Foresman

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# DECIMALS 2

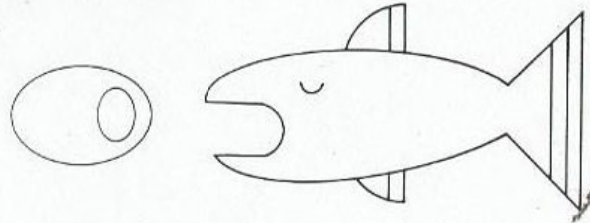
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**Thomas P. Hartsig**

Director of Computer-Based Instruction

Macomb Intermediate School District

Macomb County, Michigan



This learning module is part of the Mathematics Courseware Series designed to be used with the Texas Instruments 99/4A microcomputer.

The module can be used with or without the Texas Instruments Solid State Speech™ Synthesizer.

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## School Materials

A Teacher's Guide for this module is also available. The Guide includes teaching objectives, suggestions for classroom use, and reproducible record-keeping forms and worksheets. For ordering information contact:

Scott, Foresman and Company  
Electronic Publishing Division  
1900 East Lake Avenue  
Glenview, IL 60025

## ABOUT THE MODULE

**Decimals 2** uses items seen at a delicatessen to provide an interesting way to practice mathematics. The module uses color, sound, music, and animation to make working with decimals exciting. The practice exercises challenge your child, and at the same time make learning fun. You can be assured that this module will provide a solid foundation in essential mathematics skills.

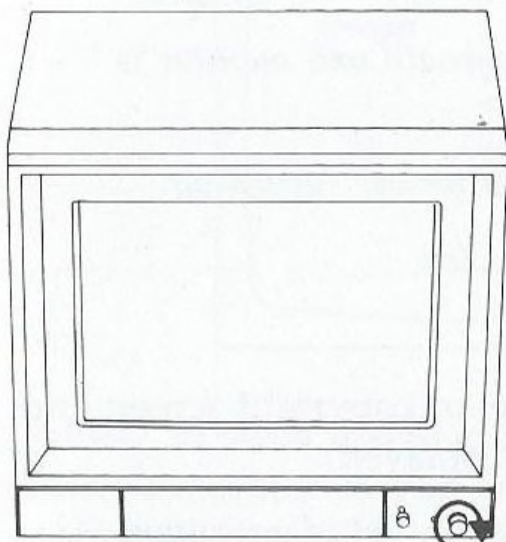
**Decimals 2** teaches identifying place value through hundred-thousandths, recognizing the word form of a decimal, comparing two decimals, putting decimals in order, and multiplying decimals. The module also emphasizes correct placement of the decimal point in the answer when multiplying. The seven activities in **Decimals 2** follow the same sequence of skill-building that most fifth- and sixth-grade classroom teachers use and should be done in numerical order.

Look for these special features in the module:

- *simple instructions which allow children to use the module with little or no supervision*
- *teaching examples, practice exercises, and review activities*
- *built-in management that allows children to advance at their own pace and provides additional teaching examples when necessary*
- *musical and graphic rewards for correct answers*
- *color, sound, and animation*
- *voiced reinforcement of directions and correct answers through optional use of a speech synthesizer*
- *numbers which are randomly generated so children receive new problems each time the exercises appear*
- *two chances to answer each exercise correctly before the computer supplies the correct answer*
- *durable hardware and software components with useful keyboard functions programmed into the module*

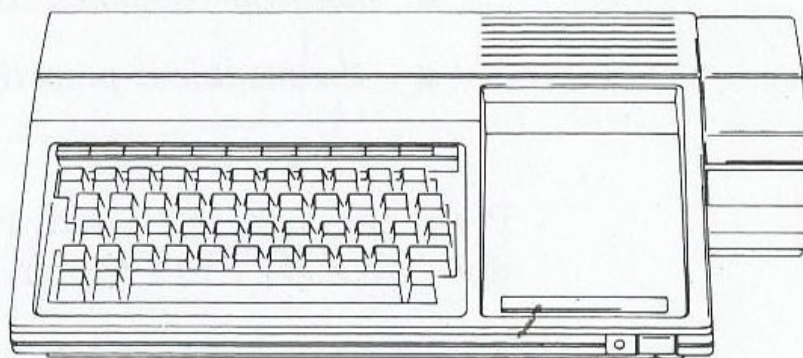
# GETTING STARTED

1. Turn switches on.



MONITOR

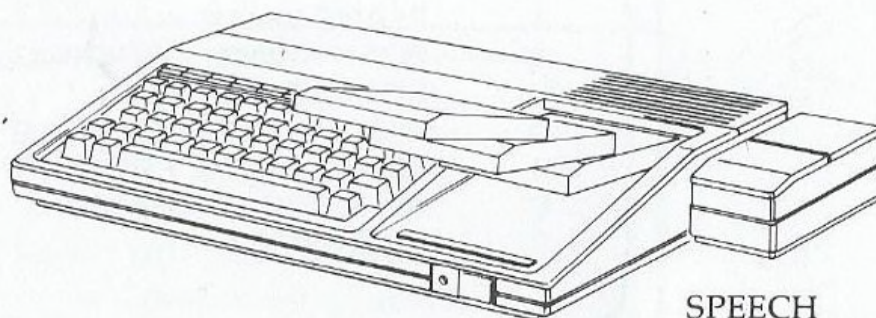
ON



COMPUTER KEYBOARD

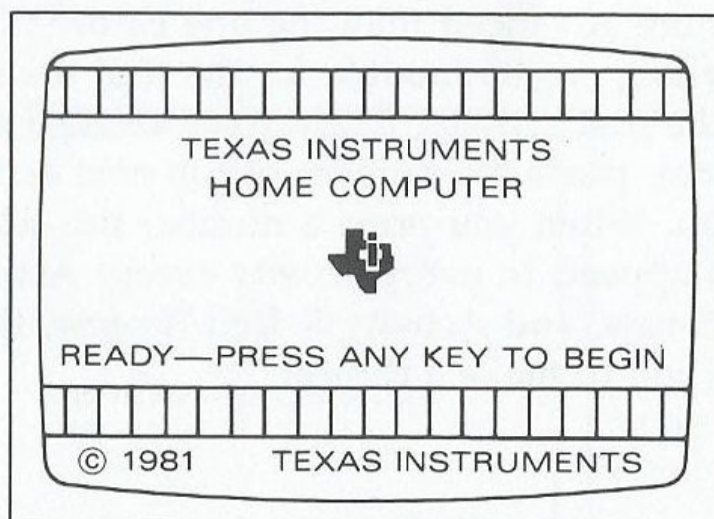
ON

2. Insert module.



SPEECH  
SYNTHESIZER

3. Wait for this screen to appear.



4. If you do not see the Texas Instruments title screen, check to see if:
- *the computer keyboard and monitor are plugged in.*
  - *the cable connecting the keyboard and monitor is properly connected.*
  - *both the computer and monitor are turned on.*
  - *the module is properly inserted.*

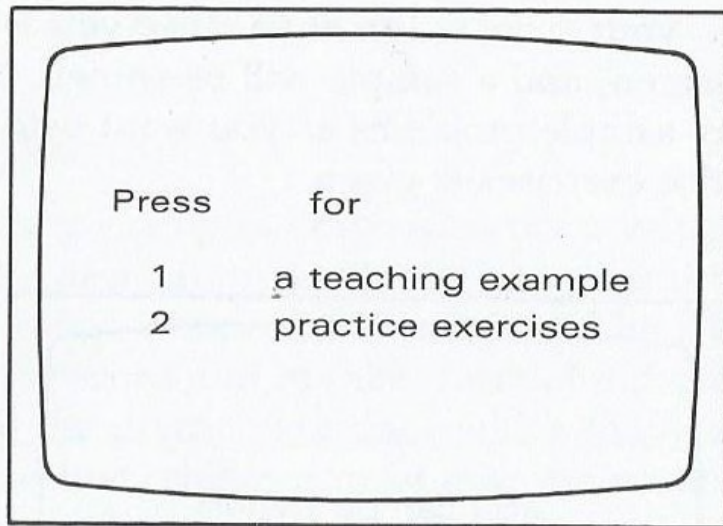
Press any key. The Scott, Foresman copyright screen and the **Decimals 2** title screen are displayed.

Next you will see the main selection list of activities:

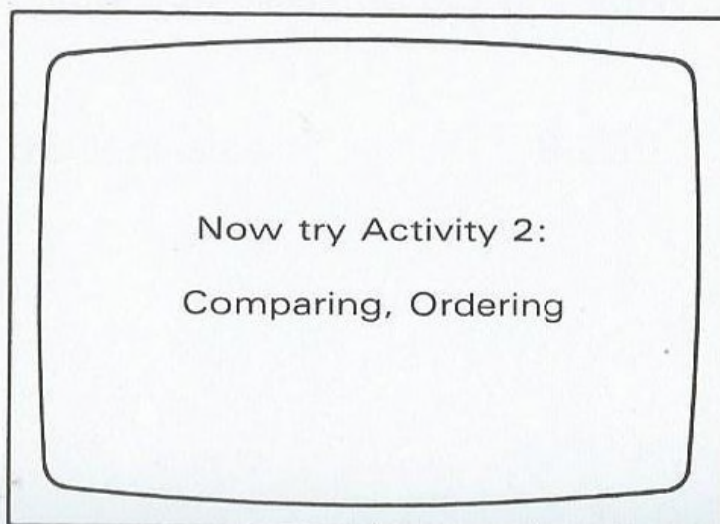
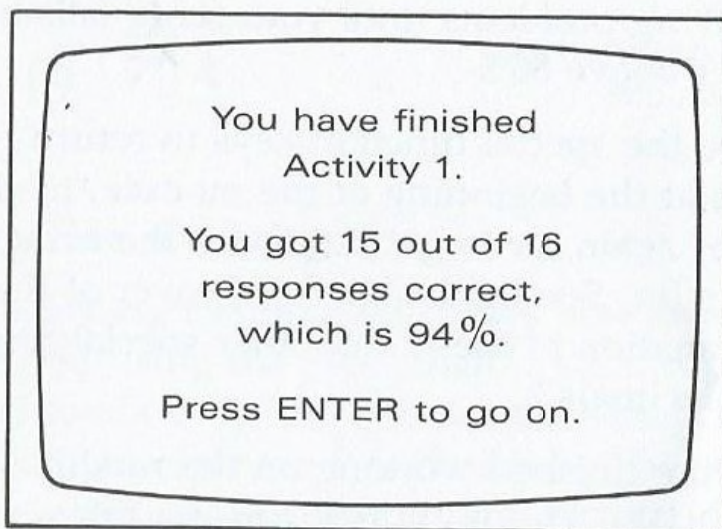
PRESS	FOR
1	PLACE VALUE
2	COMPARING, ORDERING
3	COUNTING PLACES
4	MULTIPLYING DECIMALS
5	ZEROS IN THE PRODUCT
6	APPLYING DECIMALS
7	DELI REVIEW

The activities should be done in order since each activity is more advanced than the one before it. If you are working on the module for the first time, press 1 to go to the first activity. If you have worked with the module before, press the number of the next activity you want to do. When you press a number the activity title screen will appear. In every activity except Activity 6, Applying Decimals, and Activity 7, Deli Review, the computer will ask you to make a choice.

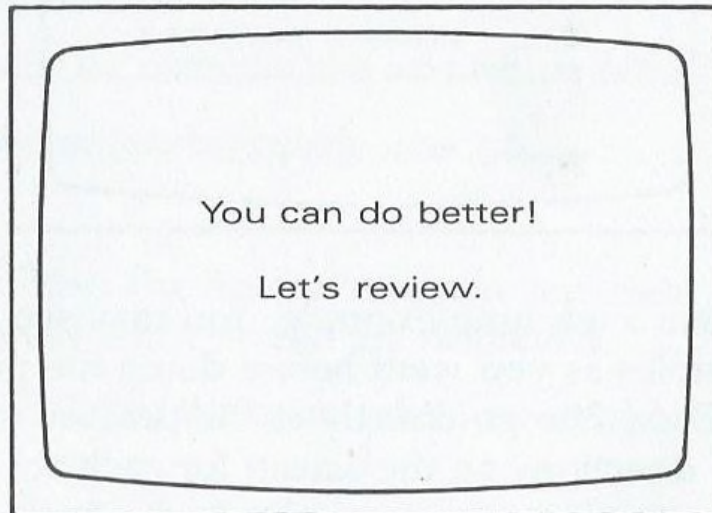




Press 1 to see a teaching example. You may see as many examples as you want before doing the practice exercises. Press 2 to go directly to the practice exercises. Follow the directions on the screen for each activity. As you do the exercises, the computer keeps track of how you are doing. If your score is 80% or higher you can go on to the next activity.



If, however, your score is less than 60%, you will see the following screen, and a sample will be shown. You can see as many sample problems as you want before a new set of practice exercises is given.



If your score is between 60% and 80% the computer will continue giving problems until your score falls below 60% or goes above 80%.

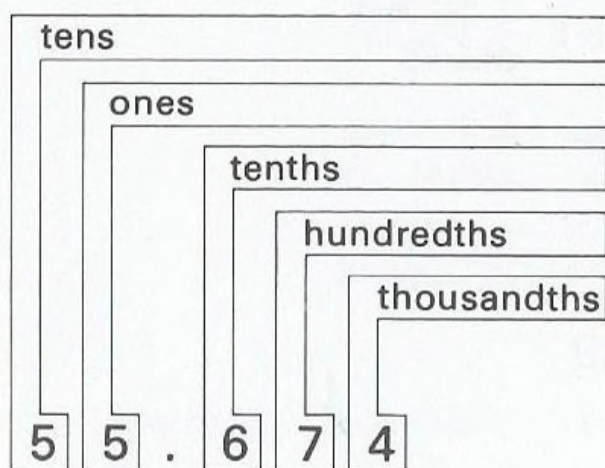
You can use the special function keys to return to the list of activities at the beginning of the module, to start an activity over again, or to get help with the activity you are working on. See the inside front cover of this book for an explanation of these and other special functions built into **Decimals 2**.

When you are finished working on the module, press FCTN = (QUIT). The Texas Instruments title screen will reappear and you may safely remove the module.

# ABOUT THE ACTIVITIES

## 1. Place Value

Two teaching examples emphasize place value. The first teaches the decimal places through thousandths, the second through hundred-thousandths. The relationship between the word and number form of a decimal is also shown. In the practice exercises which follow each teaching section, children must give the number form of a decimal when its word form is shown.

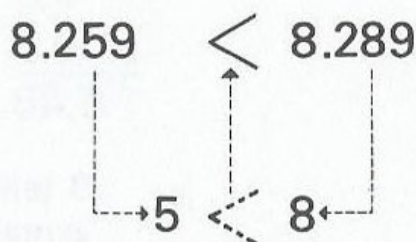


fifty-five  
and  
six hundred seventy-four  
thousandths

## 2. Comparing, Ordering

The first teaching example illustrates how two decimals are compared using the "less than" ( $<$ ) and the "greater than" ( $>$ ) symbols. In the practice exercises children press  $<$  or  $>$  to compare two decimals. The second teaching example illustrates putting decimals in order from least to greatest. In each practice exercise that follows, children are asked to put three decimals in order.

Compare the decimals.



8.259 is less than 8.289.

### 3. Counting Places

This activity prepares children for multiplying decimals. The teaching example illustrates how to count the number of decimal places in a number. In the practice exercises two types of problems are given. The first problem type requires children to enter the number of decimal places in a number shown on the screen. The second problem type requires children to indicate where the decimal point should be inserted in a number when the number of decimal places is given.

4.78      2 decimal  
            places

1.651      3 decimal  
            places

2.1952      4 decimal  
            places

98.89943  
    ↑  
    5 4 3 2 1

### 4. Multiplying Decimals

The teaching example uses pictures and animation to illustrate how to multiply decimals and how to determine the correct number of decimal places in the answer. In the practice exercises, children must complete multiplication problems involving decimals and indicate the number of decimal places that should be in the final answer.

0.8      1 decimal place  
× 0.6    + 1 decimal place  
-----  
0.48      2 decimal places

8 tenths times 6 tenths  
equals 48 hundredths.

## 5. Zeros in the Product

The teaching example emphasizes what to do when the number of decimal places in a multiplication problem exceeds the number of digits in the answer: insert extra zeros. In the practice exercises, children must complete multiplication problems involving decimals and indicate the number of extra zeros needed to show the correct number of decimal places in the answer.

$$\begin{array}{r} 0.06 \leftarrow 2 \text{ decimal places} \\ \times 0.4 \leftarrow 1 \text{ decimal place} \\ \hline 0.024 \leftarrow 3 \text{ decimal places} \end{array}$$

There are 3 decimal places.  
One zero is needed in  
the product to show  
3 decimal places.

## 6. Applying Decimals

Word problems involving decimals show how decimals are used in a real-life situation. After reading the word problem, children must enter the numbers from the problem, do the multiplication, and then indicate the number of decimal places that should be in the answer.

Each bologna sandwich  
costs \$3.22. What is the  
cost of 6 sandwiches?  
Set up the problem

$$\begin{array}{r} \square \square \square \\ \times \square \square \square \\ \hline \end{array}$$

## 7. Deli Review

Problems are given from each of the first six activities. Only one opportunity is given to answer each problem. At the end of the activity, a score is given, along with a list of activities that require more practice.

## MODULES IN THE SERIES

Other mathematics modules in the Scott, Foresman Mathematics Courseware Series for the Texas Instruments Home Computer include:

TITLE	CONTENT	AGES
Addition & Subtraction 1	Introductory addition and subtraction skills	5-7
Addition & Subtraction 2	Basic addition and subtraction skills	6-8
Addition & Subtraction 3	Addition and subtraction with renaming (carrying and borrowing)	7-9
Numeration 1	Number concepts with 1-, 2-, and 3-digit numbers	5-8
Numeration 2	Number concepts with large numbers	7-11
Multiplication 1	Basic multiplication skills	7-9
Multiplication 2	Multiplication with renaming (carrying)	8-10
Division 1	Basic division skills	8-11
Fractions 1	Introductory fractions concepts	9-11
Fractions 2	Addition and subtraction of fractions	9-11
Decimals 1	Introductory decimals concepts; addition and subtraction of decimals	9-11
Decimals 2	Multiplication of decimals	10-11

Contact Scott, Foresman Electronic Publishing for information about these and other Scott, Foresman courseware packages. Special teacher materials are also available.

## CARING FOR THE MODULE

1. Modules require the same care that you would give any piece of electronic equipment. Keep them clean and dry.
2. Do not touch the recessed contacts in the module.
3. Avoid a build-up of static electricity by using an anti-static spray or a humidifier if the computer is in a particularly dry location.
4. If the module is accidentally removed from the slot while the module contents are being used and the computer behaves erratically, turn the computer off, wait a few seconds, reinsert the module, and then turn the computer on again.



---

## SOFTWARE MEDIA LIMITED WARRANTY

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This warranty covers the case components of the software package. The components include all cassette tapes, diskettes, plastics, containers, and all other hardware contained in this software package ("the Hardware"). This limited warranty does not extend to the programs contained in the software media and in the accompanying book materials ("the Programs").

The Hardware is warranted against malfunction due to defective materials or construction. **This warranty is void if the Hardware has been damaged by accident or unreasonable use, neglect, improper service, or other causes not arising out of defects in material or construction.**

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# PROGRESS CHART

Put an X in a box when you start an activity.

When the computer shows that you have finished an activity, write your score and percent in the boxes.

## 1 PLACE VALUE

--	--	--	--

SCORE

	Out of		%
--	--------	--	---

## 2 COMPARING, ORDERING

--	--	--	--

SCORE

	Out of		%
--	--------	--	---

## 3 COUNTING PLACES

--	--	--	--

SCORE

	Out of		%
--	--------	--	---

## 4 MULTIPLYING DECIMALS

--	--	--	--

SCORE

	Out of		%
--	--------	--	---

## 5 ZEROS IN THE PRODUCT

--	--	--	--

SCORE

	Out of		%
--	--------	--	---

## 6 APPLYING DECIMALS

--	--	--	--

SCORE

	Out of		%
--	--------	--	---

## 7 DELI REVIEW

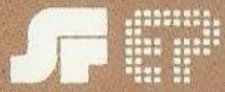
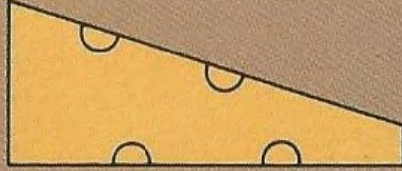
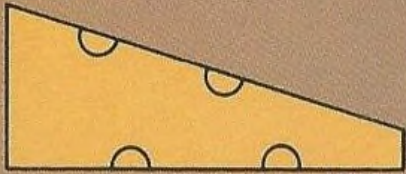
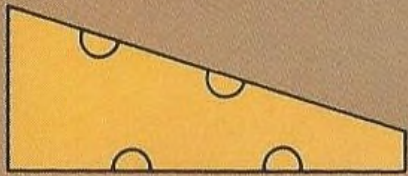
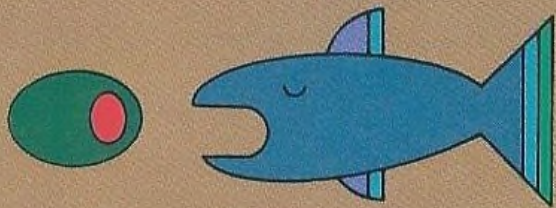
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SCORE

	Out of		%
--	--------	--	---

List the activities you need to review:





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