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A STUDY OF THE SHORT-ANSWER OBJECTIVELY-SCORED TEST AS AN
EVALUATION INSTRUMENT IN TENTH GRADE FOODS

by

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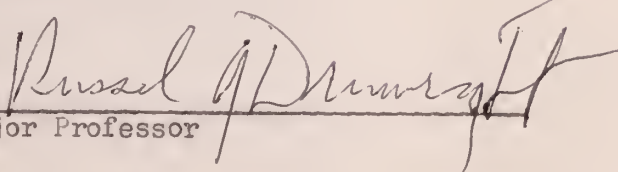
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INTRODUCTION

For years evaluation in home economics has been largely subjective because of the difficulty in finding instruments for objective measurements of the attitudes, understandings, interests, judgments, and skills which were recognized goals in this field. Recently there has been an effort to eliminate subjectivity because it does not furnish accurate information due to misinterpretation, personal bias, or inaccuracies of scoring. The problem still remains of finding good instruments for making objective measurements. Standardized tests in the field of home economics are very few.

Ideas for test construction in academic subjects taught in high schools are provided to teachers in those subjects by many national research projects. The teacher is able to select items related to her objectives. Until such collections are available in home economics, it is the responsibility of the teacher to devise improved tests in this field. The task is further complicated by the lack of standardization of objectives. The scope and sequence of learning in home economics varies from state to state, from city to city, and even from one school to another in the same city. At the present time there is no set of objectives for a particular grade level in this field which would be uniformly accepted.

On the brighter side, it might be said, however, that the teacher is not without help. There are a wealth of references on test-making in general, which are applicable to this field, and there is one book, Evaluation in Home Economics by Clara Brown Army, which is devoted to this

particular field.

According to Williamson and Lyle:

Educators interested in constructing testing devices for use in other fields have been able to construct some tests they consider satisfactory for measuring development of pupils towards such objectives as ability to think logically, ability to apply facts and principles, and ability to generalize. The same pattern used in these tests can be followed by the homemaking teacher using the problems, facts, and principles selected from her field. No two classes, however, will study exactly the same generalizations or problems. And if the test is to be a fair evaluation of the pupil's learning, it should call only for facts and principles they should presumably know. Consequently the average teacher will still have to rely upon the tests she herself constructs.

There are few permanently right answers in home economics, and measurement of progress cannot be in terms of absolutely right or entirely wrong, but in terms of what is best for a particular situation.¹

Ross, in speaking of the reasons why the development of proficiency in constructing informal teacher-made tests is important says, "Both logical considerations and statistical analyses indicate that skillfully prepared informal tests are as reliable and as valid as available standardized tests."²

STATEMENT OF THE PROBLEM

The purpose of this study was to develop a series of short-answer, objectively-scored unit tests for a high school course in foods.

¹ Maude Williamson and Mary Stewart Lyle, Homemaking Education in the High School, p. 244.

² C. C. Ross, Measurement in Today's Schools, pp. 103-104.

It was necessary to indicate the important objectives of the course in order to measure the extent to which students had achieved these objectives. It was felt that measurement cannot be limited to testing at the end of a unit of instruction without any indication of the student's previous level of knowledge or skill, and this indicated the need for suitable pre-tests to provide a basis for evaluation. The brief essay type test was selected for this purpose. The essay test has a particular advantage over short-answer tests in requiring students to organize ideas and arrive at generalizations. It was hoped to use this advantage in a type of test where subjectivity in scoring would not be a serious shortcoming since students would not be graded on pre-tests. A pre-test of the brief essay type also offers an advantage over a topical outline in showing students the possible scope of the content of a unit and puts them in a position to participate in the formulation of objectives. A set of questions of this type was designed for each unit and was used as a pre-test, a study guide for the student, and a basis for class discussion.

Unannounced short quizzes had a place in the total evaluation program principally to stimulate daily class preparation and to permit frequent check-ups but the instruments used were brief and not included here.

In designing the end-tests, an effort was made to follow the steps in constructing achievement tests which are indicated in the literature and to abide by principles and procedures which are recommended by competent authorities; but it was recognized that good tests cannot be written merely by following a set of "rules". The art of good test writing involves

originality and creativity as well as a knowledge of the theory in the area of the subject matter and a recognition of skills and understandings to be judged. The writer did not claim competence in all of these areas but hoped to foster an attitude and approach which would improve testing in home economics. No effort was made to standardize the tests for the purposes of this problem but they were subjected to simple statistical analysis in an effort to control difficulty and discrimination.

An additional check on test difficulty was made by asking for student evaluation of each test on the form shown on page ⁸³, to determine such things as whether the vocabulary of the test was within the student's understanding.

METHOD OF PROCEDURE

Authorities list somewhat differently the exact steps to be taken in test making, but all lists can be divided roughly into the same four stages described by Ross: (1) Planning the test, (2) Preparing the test, (3) Trying out the test, and (4) Evaluating the test.¹

The steps in planning the tests which were used, included, first, a general outline of the subject matter. Arny suggests that it is valuable to supplement the outline with major generalizations which the teacher and students develop as the course progresses.² Lowe and Walsh recommend as a procedure for involving student participation, that teachers rotate among class members the duty of recording the facts and principles

¹Ibid., p. 104.

²Clara Brown Arny, Evaluation in Home Economics, p. 166.

developed in group discussion.¹ For this study the content of the curriculum was selected from that taught at Marysville High School. The textbook used was Family Meals and Hospitality,² which was supplemented by other references.

The second step in the planning was the selection of general types of outcomes to be measured. Bloom's classification of general outcomes in the "cognitive domain" was used for this purpose: knowledge, comprehension, application, analysis, synthesis, and evaluation.³ It was hoped that items could be devised which would measure such aspects of knowledge as recognizing, remembering, recalling, and classifying information: that they might measure such aspects of comprehension as comparing, relating, discriminating, and illustrating, and that they would measure to some degree application of general principles to new situations. It was not expected with this type of instrument to effectively measure outcomes in the area of analysis, synthesis, or evaluation.

After selecting general outcomes it was necessary to define specific objectives. Objectives have to be stated clearly in terms of pupil behavior. It was considered important here to take into account

¹Phyllis Kinnison Lowe and Letitia Walsh, "Changing Tests for Changing Times," Illinois Teacher, Vol. IV, No. 9, May 1960.

²Dora Lewis, Gladys Peckham, and Helen Hovey, Family Meals and Hospitality, (Dallas, Texas: The McMillan Co.).

³Benjamin S. Bloom, editor, Taxonomy of Educational Objectives Handbook I: Cognitive Domain, pp. 201-207.

the persons expected to take the test and the uses to which the test results were to be put. The group consisted of twenty-four tenth grade girls, most of whom had had one unit on foods in eighth grade home economics, one semester of foods in ninth grade, and few of whom had had 4-H club experience or similar experiences. The amount of cooking experience at home, as reported in home practice records, varied greatly. It was hoped that the results of the tests could be used to serve the following purposes: to stimulate students toward more self-evaluation by helping them to recognize the objectives of the group; to diagnose particular strengths and weaknesses of individuals, and of the teaching, through item analysis; and to determine the status of individuals within the group and serve as a basis for assigning grades. It was hoped that they might also serve some indirect purposes such as better motivation of learning. Odell points out:

Examinations promote learning not merely through discussion and consideration that takes place when papers are returned but also by stimulating educational mental activities during the time that pupils are actually taking them. They may demand, or at least encourage, relearning, review, recall, organization, drill, survey of broad fields of content, selection of pertinent facts, and many other activities that are desirable. They also assist in developing the ability and habit of working intensively, of concentration, of putting forth unusual effort on more or less critical occasions, of working under pressure, of relying upon one's own resources, and similar ones. Life outside school demands these various abilities and examinations constitute one of the best instruments which schools have available to train pupils in them.¹

Determining objectives were followed by item writing. Most of the basic types of items were used. They were written, critically

¹C. W. Odell, How to Improve Classroom Testing, p. 4.

examined, modified, revised, and in some cases rejected. Part of the analysis included a check on how much emphasis the items had placed on each of the content areas and pupil behaviors which were being measured. Some authorities recommend for this purpose a two-way chart, a grid, or a table of specifications. Any method of assigning weights to goals is largely subjective, but is necessary to prevent putting undue emphasis upon areas or goals which are most easily tested rather than the most important. For this study a tally was used to determine the number of items in each test which attempted to measure each of the specific objectives. This method served to point out areas which were not being measured. Items were added to fill in neglected areas.

Tests were then given to the sample group and analyzed in two ways, for item difficulty and for item discriminative power. Since the sample group was small, the method used was to make the tallies on the answer key to indicate the number choosing each response. The papers were divided into three groups according to scores, and a different color of tally used for the high-scoring, middle-scoring, and low-scoring groups. Success was then determined in terms of the total number who answered correctly, and discrimination in terms of the high-low difference. There was no effort made to arrange items from the easiest to the most difficult.

Standards for acceptable range of success and discrimination in the item analysis were those of the Educational Testing Service which suggested in the Evaluation and Advisory Service Series No. 5 about success: "items that more than 90 per cent got right should be questioned

as too easy, and items that fewer than 30 per cent got right as too hard for inclusion in a test. Questioned mind you, not rejected—for they may be justified on other grounds."¹ About discrimination it says: "It has already been indicated that the minimum acceptable high-low difference by professional standards is 10 per cent of the class. . . . not more than a fifth of the items in the final test should fall below this standard and the average high-low difference should be above 10 per cent of the class—preferably 15 per cent or above."²

REVIEW OF LITERATURE

Classification of Informal Objective Tests. An "objective" test could more accurately be called an "objectively-scored" test, but both terms are to be found in the literature. Travers discussed all objective-type test questions under three headings: (1) the completion item, (2) the true-false item, and (3) the best-answer item.³ Gerberich, on the other hand, distinguished thirteen major varieties and many more sub-varieties of four types of items: (1) alternate-response and scaled-choice, (2) multiple-choice, (3) matching, and (4) completion-type or augmentation.⁴ Ross classified all items into the recall type and the

¹Paul B. Diederich, Short-cut Statistics for Teacher-made Tests, p. 8.

²Ibid., p. 9.

³Robert Travers, How to Make Achievement Tests, p. 30.

⁴J. Raymond Gerberich, Harry A. Green, and A. N. Jorgensen, Measurement and Evaluation in the Modern School, p. 219.

recognition type, and then subdivided the recall items into: (1) simple-recall and (2) completion. The recognition items he classifies into seven types: (1) alternative-response, (2) multiple-choice, (3) matching, (4) rearrangement, (5) identification, (6) analogy, and (7) incorrect statement.¹ Army used a similar classification but grouped all recognition items into three types: (1) true-false, (2) multiple-choice, and (3) matching.²

Appraisal of Item Types. Of more significance than the way in which items were classified was the consideration of the merits and disadvantages of each type. The following outline describes each item type, suggests some of the advantages and disadvantages of each according to the literature, and enumerates some of the suggestions for the construction of each type of item.

I. Alternate-Response and Scaled-Choice Items.

All versions of alternate-response items were for many years referred to categorically as true-false. Many paired terms with opposite meaning may be employed. The scaled-choice items offer more than two choices, as in the Never-Sometimes-Often variety.

A. Advantages:

1. They afford coverage of many individual points in a short period of time, and are improved by being made long. Ross suggested fifty items as an absolute minimum.³

¹C. C. Ross, Measurement in Today's Schools, p. 127.

²Clara Brown Army, Evaluation in Home Economics, p. 117.

³C. C. Ross, Measurement in Today's Schools, p. 140.

2. They are useful for situations in which there are not enough plausible distractors to make use of the multiple-choice item.
3. As a teaching rather than a testing device, they are useful in stimulating discussion and motivating study.
4. They offer complete objectivity of scoring.
5. Scaled-choice items are useful for measuring tastes and preferences, and for use in areas where state of knowledge does not justify categorical answers.

B. Disadvantages:

1. They permit guessing.
2. They fail to present a realistic type of problem.
3. They encourage textbook memorization.
4. They provide low reliability per item and therefore require a large number of items per test.
5. Some researchers criticized them for a negative suggestion effect.¹
6. Contrary to popular belief they are difficult to write without ambiguity, and in such a way as to measure important outcomes. Army went so far as to say, of the true-false item, "In the unmodified form it is of doubtful value in testing achievements in home economics, and

¹C. C. Ross, Measurement in Today's Schools, p. 140.

its use as a measuring instrument should probably be discontinued."¹

C. Variations:

1. Cluster true-false items are made up of an incomplete statement followed by several phrases or classes, each of which will complete the statement and each of which is to be judged true or false. This type of item involves more judgment than the regular true-false item, but strictly speaking is no longer of the alternate-response type.
2. Modified true-false items require that the student cross out the part of the statement that is in error, or in some variations, replace the underlined portion of the statement, if it is false, with the word or words which make the statement true. This type of item eliminates some of the guess-work of the regular true-false item, puts emphasis on the part of the statement to be judged, and involves recall in supplying the correct word or phrase. In this sense it might better be classified as a modified completion item than a modified true-false item.

D. Rules for Constructing:

1. Provide for answers in a highly objective form. For

¹Clara Brown Army, Evaluation in Home Economics, p. 122.

this reason Littrell recommended the use of a plus sign for true and a zero for false, or the circling of T and F which have already been printed.¹

2. Avoid specific determiners. It has been found that strongly worded statements are more likely to be false than true, while moderately worded statements are much more likely to be true than false. Words to be avoided include: all, never, always, usually, generally, sometimes, and most.
3. Avoid using statements containing double negatives, because this introduces an irrelevant and confusing factor. When possible avoid negative statements, or if they are used underline the negative word.
4. Apportion correct answers in approximately equal numbers to the negative and affirmative alternatives.
5. Randomize the occurrence of affirmative and negative statements from item to item.
6. Use choices in scaled-choice items that logically represent a progression from one extreme to the other.
7. Avoid trivial and meaningless statements.
8. Avoid extracting statements from textbooks, because to do so encourages the memorization of content.
9. Avoid statements that are partly true and partly false.

¹J. Harvey Littrell, "Construction of Test Items," (Mimeographed,)

If the statement has two parts, ask the student to judge each part separately.

10. Avoid ambiguous statements, which may be true or false according to the way they are interpreted. Ambiguity can best be detected by having the test material read and interpreted by someone else.
11. If items express opinions, it is important to attribute the opinion to some source.
12. Statements should never be so long as to tend to measure reading comprehension instead of relevant outcomes.
13. Trick questions and catch questions should never have a place in an achievement test.
14. True items and false items should have the same average length. Beware of the tendency to make true statements longer by expanding them with qualifying clauses.
15. Try to make statements which are applications of things learned.
16. Place the part to be judged at the end of the statement.
17. There is some advantage in scoring if the items are arranged in groups of five, with double spacing between each group.

II. Multiple Choice Items.

"A multiple-choice test is made up of items each of which presents three or more responses, only one of which is correct or definitely better than the others. Each item may be in the form of a direct question, an

incomplete statement, or a word or phrase. This form of test is to be distinguished from the multiple-response type, which requires that two or more responses be made to a single item."¹ It is usually regarded as the most valuable and most generally applicable of all test forms. It is used to measure reasoning, understanding, attitudes, ideals, judgment, and discrimination. The multiple-choice test question consists of two parts: the statement of the problem, called the "lead" or "stem" of the item; and the suggested answers called the "alternatives". Incorrect alternatives are called "decoys" or "distractors".

A. Advantages:

1. They present definite problems and more realistic situations than true-false items.
2. They afford a flexible kind of problem situation that can be used to appraise thinking skills. Weighing the relative merits of various solutions to a problem is a real-life situation.
3. They usually provide the greatest test reliability per item.
4. It is generally considered much easier to develop valid questions of this type than almost any other.

B. Disadvantages:

1. There is no guarantee that the paper-and-pencil response which a student makes will correspond to his real-life

¹C. C. Ross, Measurement in Today's Schools, p. 145.

choice. The student may know the advantages of a good breakfast and still not get up early enough to eat one.

2. A paper-and-pencil problem does not involve the same emotional tensions that might affect the reasoning process in a real-life situation.
3. Multiple-choice items do not seem to lend themselves to the measurement of creative abilities. This is not a serious limitation in appraising the outcome in most fields.
4. The multiple-choice type of question has limited value for measuring the ability of students to organize their ideas. There are better ways in which this outcome can be measured.

C. Variations: Forms of multiple-choice questions are almost too numerous to list. Gerberich et al. listed five distinctive formats:¹

1. Stem-and-options which include right-answer and best-answer types.
2. Setting-and-options involve a setting or foundation of some sort upon which to base responses.
3. Grouped-term consists of groups of words or terms in which one does not logically belong.
4. Structured-response items impose on the students the

¹J. Raymond Gerberich, Harry A. Green, and A. N. Jorgensen, Measurement and Evaluation in the Modern School, p. 246.

necessity of choosing answers to all items in a particular test exercise.

5. Contained-options which can consist of words, phrases, or errors in sentences or in paragraph-form exercises.

D. Rules for Constructing:

1. The item as a whole should not present a trivial problem but one which gives students an opportunity to provide evidence of attainment of an important goal.
2. Items which attempt to measure insights must include an element of novelty. If it is a familiar problem, the student has only to remember the correct solution and this does not involve thinking.
3. The language used in stating the problem should be appropriate to the subject matter and to the age of the group for whom the test is written. Test questions tend to be phrased in academic language if this criterion is not considered.
4. The items in a test should be independent of each other so that the answer to one item is not given away by the information provided in another.
5. The lead of the item should contain a central problem. When a student finishes reading the lead he should know what is involved in the problem he is trying to solve. The lead of an item when read by itself should be usable as a free-response item.

6. The problem should be specific, clear, and as brief as possible. It should not measure the ability to understand complex sentence structure, nor serve the purpose of telling students something.
7. The problem should contain only material that is relevant to the solution. Avoid adding extraneous material to items in an effort to make the problem life-like.
8. Whenever possible the problem should be stated in a positive rather than a negative form. If the negative form is used the negative words such as "not" or "never" should be underlined.
9. If the problem calls for an expression of an opinion, it should designate the authority whose opinion is sought, and not expect the student to give his own.
10. In developing alternatives the first consideration should be to have the right solution unquestionably right. This might best be accomplished by consulting other authorities to see if they agree upon the correct solution.
11. The decoys should contain errors commonly made by the students being tested and not just general misconceptions, and they should appear plausible to many students.
12. The alternatives should be as brief as possible by

including as much as possible of the necessary information in the lead.

13. Avoid using multiple-choice items unless there are four and preferably five plausible alternatives. Maintain a constant number of options on the items of one test part.
14. Avoid the use of "specific determiners", the name given to irrelevant clues. Examples of specific determiners are: making the correct response consistently longer or shorter than the decoys; using a similarity of wording in the problem and the correct answer; the use of alternatives that are obviously not the correct solution, and failure to use parallel language structure for all options.
15. The alternatives should be placed at the end of the problem and not in the middle of a sentence, each alternative should be put on a separate line, and lettered with a capital letter. Lower case letters may be easily confused if they are carelessly written or students deliberately try to make them look alike.
16. Avoid using "none of the above" and "all of the above" as responses.
17. Randomize the position of the correct solution among the alternatives.

18. To measure higher levels of understanding, increase the homogeneity of the options.

III. Matching Items.

A matching test typically consists of two columns, one includes answers from which selections are to be made, known as the "response list"; the other includes words, phrases, statements, or diagrams with which the responses are to be matched, known as the "stimulus list". The items in the stimulus list are to be paired with the words in the response list on the basis suggested. If the two lists are equal in length it is said to be balanced and there are no distractors. If one list is longer than the other and includes terms which are not correct responses they are called distractors and the test is said to be unbalanced.

A. Advantages:

1. They are more economical of space than multiple-choice items.
2. They are useful in testing students' ability to recognize relationships. There are many types of learning which involve the association of two things in the mind of the learner such as events and dates, events and persons, terms and definitions, rules and examples.
3. Army reports that when carefully constructed they are likely to be discriminating and to produce tests of high reliability.¹

¹Clara Brown Army, Evaluation in Home Economics, p. 133.

B. Disadvantages:

1. They are not well adapted to the measurement of understandings as distinguished from memory of facts.
2. They may include clues which are irrelevant to the correct response.
3. They are more time-consuming for the student than multiple-choice items because the entire response list must be judged with each stimulus.
4. Balanced matching tests may result in elimination and then guessing. If the response list is not homogeneous there may be clues to aid guessing.

C. Variations:

1. Ranking questions are a modification of matching questions. They are used to measure such things as a knowledge of the sequence of certain tasks. They have limited use because of the difficulty in constructing a definite key and because of the special scoring problems involved. A suggested solution to the scoring problem is to give one point if the first item is listed first and give one point for each item which follows the item it should follow.

D. Rules for Constructing:

1. Maintain consistency of grammatical form within each category. Such matters as tense or person may provide a clue to the answer if this is not observed.

2. Use only homogeneous or related materials in any one item. When possible give both stimulus and response lists a descriptive label, e.g., "Food Products", which helps insure homogeneity. Such labels as "List A" and "List B" are neither descriptive nor helpful.
3. Arrange listings in some systematic order, e.g., alphabetical or chronological, which is unrelated to the relationships being tested, and letter them with capital letters.
4. In general the stimulus list should be on the left, and the shorter responses in a column on the right.
5. All the items for a matching test should be on a single page. Turning a page back and forth to find a correct response is both confusing and time consuming.
6. Authorities do not agree as to the optimum number of responses to make a good item. The smallest number mentioned in the literature was three, and the largest was fifteen. It is generally conceded that if the number is too small it promotes guessing and if it is too large it wastes time. It would probably be acceptable to use four as a minimum number and twelve as a maximum for most items.
7. Provide for response positions in a marginal column to facilitate scoring. Indicate clearly to students how the marking is to be done.

8. Choose distractors that will appear plausible to many students.
9. The difficulty of a matching test is increased by using some of the responses more than once in the same test.

IV. Simple-Recall or Short-Answer Completion Items.

The simple-recall item is made up of a direct question or a stimulus word or phrase, and a space for a response which the student must recall from past experience rather than identify from a list of suggested answers. It differs from the essay test in the length of response which is short, preferably one word or phrase.

A. Advantages:

1. They stimulate desirable study practices.
2. They almost completely eliminate guessing.
3. They demand accurate information and when well constructed they produce discriminating and reliable tests.
4. They are widely adaptable to different subject matter to measure factual knowledge and to measure computation skill and certain less tangible understandings and applications.
5. They are easily constructed.

B. Disadvantages:

1. It is very difficult to construct an inflexible key.
It is almost impossible to predict the variety of

answers that could be given to one item and measure the degree of acceptability of each. Scoring becomes somewhat subjective.

2. In omitting key words to a statement it is sometimes difficult to supply adequate cues without making the answer obvious.

C. Variations:

1. Free-response form is one in which a question is asked that can be answered with one word or phrase.
2. Connected discourse form uses a passage in which words or phrases have been omitted and are to be supplied.
3. Identification or association questions are characterized by a stimulus and a blank. The student must recall an association as directed.

D. Rules for Constructing:

1. For easy scoring, arrange the page so that responses may be written at the right hand side of the page in a column. Make the spaces of uniform size.
2. Keep the ratio of words given to words omitted very high.
3. Avoid textbook statements.
4. If the answer involves numerical units, do not leave blanks for the names of the units.
5. Use "a(n)" meaning either "a" or "an" if an article precedes a response position.

6. Avoid indefinite statements. The student should know what type of response is expected.
7. If possible the blanks should be near the end of the statement to eliminate re-reading. The student should have read enough by the time he reaches the blank to know the answer.

PRESENTATION OF THE INSTRUMENTS DEVISED

The appendix contains an outline of eight units commonly taught in tenth grade foods with some of the possible objectives for each unit. The outline was arranged in the order in which the units were taught.

The study guides for each unit follow this outline on pages 36 to 51, and are arranged in the same order.

The tests themselves are to be found on pages 52 to 82 and are followed by the "Test Evaluation" sheet which was used for student evaluation of the tests.

OBSERVATIONS ABOUT RESULTS

The first "Study Guide" questions used were intended also for use as a pre-test, as suggested in the procedure. They were labeled "Pre-test and Study Guide," and were given with the following directions: "On a separate sheet of paper, answer as many of the following questions as you can without any study. This is a pre-test to determine how much you already know about the subject. Keep the questions, and on a second sheet of paper answer them as you find the answers in your reading or through

your class work." The questions were found to be more effective as a study guide than as a pre-test. When used as a pre-test the questions did not indicate any areas where further study was unnecessary. In most cases the questions covered material so foreign to the group being tested that it served only to present to them some idea of the scope of the unit. It was felt that even this purpose could be better served when the questions were used as a study guide. Being asked to write answers to questions about which they knew nothing was not a very stimulating interest approach for most students. A better approach seemed to be to pass around the questions and ask the class as they looked them over, "Are these the kinds of questions that you want this unit to answer for you? Did you have other questions that you had hoped we would be able to answer?" This helped students to recognize the connection between the questions and the scope of the unit, and offered them an opportunity to participate. Supplementary reading materials were made available, film strips were shown, and other learning experiences provided to help students in their search for the answers. Each set of questions was discussed in class preceding laboratory experience in order to clear up misunderstandings. At the end of each unit, students were asked if there were other questions that they thought should have been included. Some very good suggestions were received this way and the study guide was revised with each use.

The tests as they appear are also revised. They were revised on the basis of the item-analysis, the student evaluations, and class discussions. In some cases this involved changing a word to one that was

better understood, and in other cases entire questions were eliminated because of ambiguity. Some of the tests have been made longer and it is felt that all of them could be improved further by the addition of more items. The results of the item analysis the first time the tests were given is indicated in the chart on the following page. Because the group tested was small, it was felt that these totals have very little significance. If the Ross standard is accepted that average test scores should be as near to fifty per cent as possible,¹ it would appear that most of the tests were too easy. Student evaluation indicated that they considered the tests hard. Some explanation for this might lie in the fact that this type of test was new to them in this area. The amount of time and emphasis given to the unit in class would also greatly affect the average score. The same test for the unit on freezing foods, for example, was given to another class that had spent less time on the unit and the average score was much lower. Diederich suggests that not more than one-fifth of the items on a final test should fall below an average high-low difference of ten per cent of the class.² By this standard none of the tests showed sufficient discrimination. Since an item-analysis calls attention to the most discriminating items, and the least discriminating items were revised, it was hoped that the tests would become more discriminating with use. The item-analysis was regarded as well worth the time that it consumed. It had significance for teaching as well as testing.

¹C. C. Ross, Measurement in Today's Schools, p. 124.

²Paul B. Diederich, Short-cut Statistics for Teacher-made Tests, p. 8.

TABLE I

RESULTS OF ITEM ANALYSIS ON THE FIRST ADMINISTRATION
OF EIGHT UNIT TESTS OF THE OBJECTIVE TYPE

UNIT	1	2	3	4	5	6	7	8
No. of items	39	55	20	39	10	32	33	30
No. tested	21	21	21	21	21	21	21	21
Items that fewer than 30 per cent answered correctly	3	1	0	10	0	1	1	2
Items that more than 90 per cent answered correctly	5	21	7	4	0	11	8	7
Items with less than 10 per cent high-low difference	11	27	9	15	4	12	10	9
Average high-low difference	2.6	1.2	2.1	2.2	2.1	2.5	2.4	2
No. of items with negative discrimi- nation	3	5	1	3	1	0	1	0
Average score	68	76	75	55	72	70	69	70

Unit Numbers

- | | |
|---------------------|----------------------|
| 1. Canning | 5. Poultry and Fish |
| 2. Freezing | 6. Pastries and Pies |
| 3. Sugar Preserving | 7. Yeast Breads |
| 4. Meat | 8. Cakes and Cookies |

Some low-success items were meant to measure understanding of principles that had not been included in the study guide. The implication may be to change the teaching rather than the test items.

The use of a test evaluation occasionally was found to be especially desirable. Students did not resent the time spent on this evaluation, and seemed to welcome the opportunity to criticize a test. Many of their criticisms were constructive and helpful in improving the tests, other criticisms indicated areas where the teacher's concept of testing might need justifying to the class. An example of this was the criticism from the student who felt that all test questions should be over just facts as they were covered in the text book. The question on vocabulary was particularly useful. Teachers are not always aware when they are using a word that is unfamiliar to the group being tested.

It was felt that the greatest shortcoming of the tests in general was the scarcity of items which really tested application of general principles to new situations. The instruments, in fact, were not polished in many respects but it was concluded that a variety of instruments can be used to evaluate to some degree the attainment of representative goals in all areas of home economics and that there is a challenge in planning a practical and effective testing program.

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APPENDICES

APPENDIX A

OUTLINE OF SOME SUGGESTED UNITS IN TENTH GRADE FOODS
AND THE OBJECTIVES FOR EACH UNIT

I. PRESERVING FOODS FOR FUTURE USE

A. Canning

1. To discover some of the values of home food preservation.
2. To become aware of the types of food spoilage and the dangers from eating spoiled foods.
3. To know something of the different canning and processing methods in use today, the advantages and disadvantages of each.
4. To learn to can by the water-bath method.
5. To learn to can with a pressure cooker, and to know the kinds of foods for which it should be used.
6. To recognize and use good safety practices.
7. To learn something of the history of food preservation.

B. Freezing

1. To recognize the advantages of freezing as a means of food preservation.
2. To become familiar with some freezer packaging materials.
3. To understand the importance of blanching vegetables for freezing.
4. To learn to freeze some fruits and vegetables.
5. To appreciate the importance of good freezer management.

C. Sugar Preserving

1. To understand the principles of jelly-making.
2. To recognize the characteristics of the ideal jelly.

3. To become familiar with the terminology in sugar preservation.
4. To learn to use safety precautions in making jelly.
5. To learn to make jelly and other fruit "spreads".
6. To know what pectin does and how artificial pectins are used.

II. MEATS AND MAIN DISHES

A. Meat

1. To learn what meat does for us and why it is important in our meals.
2. To recognize some different kinds of meat.
3. To recognize some of the popular cuts of meat, particularly of beef, and to know the grades of beef.
4. To understand how this knowledge can help in buying meat.
5. To appreciate how meat inspection protects health.
6. To learn the dry-heat and moist-heat methods of meat cookery and which cuts of meat are best prepared by each.
7. To appreciate the importance of temperature in giving the best flavor, economy, and nourishment to meat.
8. To appreciate the importance of the organ meats for adding variety, economy, and nutritive value to meals.
9. To learn how to serve meat attractively.
10. To learn something of the care and storage of meat.

B. Poultry and Fish

1. To become familiar with some guides to buying poultry.
2. To recognize the inspection marks and grade marks on poultry.
3. To become familiar with the grades of poultry.
4. To learn some methods of poultry cooking.

5. To appreciate the value of fish in the diet.
6. To understand the principles of fish cookery.
7. To become familiar with some guides to buying fish.
8. To recognize some grades of canned fish.

III. ADVENTURES IN BAKING

A. Pastries and Pies

1. To recognize the perfect pastry.
2. To try out and make a comparison of some of the modern pastry methods and the conventional method.
3. To understand some of the causes of pastry failures.
4. To learn the use of special equipment for pastry making.
5. To learn how to thicken a fruit pie.
6. To learn the principles of cooking cream pie, and chieffon pie.
7. To recognize perfect meringue.
8. To understand some of the causes of meringue failure.
9. To develop an improved skill in making pastry.
10. To learn some of the ways that pastry is used in the meal pattern.

B. Yeast Breads

1. To appreciate something of the history of bread-making.
2. To recognize the nutritional value of the bread-cereal group.
3. To understand the value of enrichment laws.
4. To learn something about the ingredients that go into bread.
5. To learn the importance of temperature in bread making.
6. To understand the basic mixing methods for making bread and rolls.

7. To develop some skill in handling bread dough.
8. To learn how to judge yeast bread products.
9. To appreciate the satisfactions that bread-making affords the homemaker.

C. Cakes and Cookies

1. To appreciate something of the history of cakes and cookies.
2. To understand the value of cakes and cookies in the diet.
3. To learn something about the classification of cakes and cookies.
4. To evaluate mixes and bakery products in comparison to the satisfactions derived from a homemade product.
5. To compare new "double quick" methods of mixing cakes with conventional methods.
6. To understand the purpose of the ingredients in cakes and cookies.
7. To understand some causes of cake failures in order to avoid them.
8. To develop an improved skill in making and frosting cakes.
9. To appreciate the importance of careful storage of cakes and cookies.
10. To improve time management skills.

APPENDIX B

STUDY GUIDES

CANNING

1. What methods of food preservation were used before canning?
2. Who Was Nicholas Appert? What discovery did he make?
3. How did he happen to work on it?
4. Who discovered the cause of spoilage of foods?
5. List four food spoilage agents and one type of spoilage produced by each.
6. What is botulism and how can it be avoided?
7. Name two acid and two low-acid foods. How are they canned differently?
8. Name the methods of canning and the methods of processing foods. What is the difference?
9. Why is it important that foods be thoroughly washed before they are canned?
10. How are tomatoes peeled for canning?
11. Why is good management in assembling equipment and food for canning especially important?
12. When processing in a water-bath, how high should be water be on the jars?
13. What temperature is water in the water-bath when jars of food are placed into it?
14. How long should food be processed in the hot-water-bath?
15. How are foods processed in a pressure cooker?
16. What is the inside temperature of the pressure cooker during processing? Why is a shorter period of processing used when canning in a pressure cooker than in a waterbath?

17. How is a pressure cooker exhausted and why is it done?
18. List five safety rules for the use of a pressure cooker.
19. Under what circumstances are small pressure sauce pans suitable for canning?
20. How long should canned meats and vegetables be heated before testing or eating?
21. How tightly should vegetables be packed into jars when filling?
22. Why is salt added to vegetables at the time of canning? Does it prevent spoilage?
23. How should fruits be packed in the jar to avoid floating?
24. What is the purpose of the syrup in canning fruit?
25. Under what circumstances does home canning pay?

FREEZING AS A MEANS OF FOOD PRESERVATION

1. What is the temperature of the home freezer? Compare it with the ice compartment of a refrigerator and the temperature of the fresh food section of the refrigerator.
2. What two general types of home freezers are there?
3. Name some of the advantages in meal planning of having a home freezer.
4. What are some advantages of freezing as a means of food preservation?
5. Are there any disadvantages to freezing as a means of food preservation?
6. Why is quality important in freezing?
7. What qualities do you look for in a freezing packaging material?
8. What considerations most influence your choice of the size of freezer container to buy?
9. What is freezer burn? How can it be prevented?
10. What is the purpose of the "head space" in packing frozen foods?
11. How is the nutritive value of food changed by freezing?
12. What are some ways of preserving the nutritional value of foods being frozen?
13. What is the difference in the effect upon microorganisms of canning and of freezing?
14. How can browning be prevented when freezing fruit?
15. Explain the difference between a sugar pack and a syrup pack for freezing fruit. What is the disadvantage in packing fruit without sugar?
16. Why are vegetables blanched for freezing?
17. How are vegetables blanched for freezing?
18. Why are foods chilled after blanching?

19. Which vegetables need to be cooked completely before freezing? Why?
20. What does it mean to pack vegetables in a brine solution? Why is it done?
21. What prepared foods may be frozen?
22. Do home freezers pay?
23. How much food can safely be frozen in one day?
24. What is meant by freezer-management? What are some examples of good freezer management?
25. How large a freezer do you think it is economical to own? How would you decide?

SUGAR PRESERVATION

1. What are the three essentials of jelly-making?
2. What is pectin? What is "commercial" pectin?
3. What is the difference between the so-called "short boil" method of jelly making and the older method?
4. Which method gives the most jelly? Why?
5. Which method gives the best flavor?
6. Which method is the quickest?
7. What are the characteristics of the ideal jelly?

Define each of the following so as to distinguish it from the others?

8. Jelly:
9. Jam:
10. Preserves:
11. Conserves:
12. Marmalades:
13. Fruit butters:
14. When is paraffining done and how is it done?
15. What is the purpose of skimming jelly?
16. Why is the cooked jelly poured into hot glasses?
17. What are some "hard-to-jell" fruits? Name three.
18. How much sugar is used for making jelly and how is it added? Finished jelly is approximately what percent sugar?

What causes each of the following jelly-making failures?

19. Weeping:

20. Crystallization:
21. Toughness:
22. Cloudiness:
23. Runny jelly:
24. How is juice extracted from the fruit for jelly making?
25. How is a thermometer used to test the cooking time of jelly?

MEAT

1. Why is meat important in our meals? Name the nutrients for which meat is most important.
2. From what animals do we get most of our meat? What other meats are used in other parts of the world?
3. What determines the price of the meat we buy?
4. What guides are there to know how much meat to buy for a meal?
5. Name three dry-heat methods of meat cookery and describe each.
6. Name two moist-heat methods of meat cookery and describe.
7. Name three tender cuts of meat.
8. Name three less-tender cuts of meat.
9. Name three variety meats.
10. Name three cured meats.
11. How is bone shape related to meat tenderness?
12. Distinguish between grades and brands as applied to meat.
13. Name the U. S. grades of beef.
14. What is indicated by the round purple stamp on a piece of meat carrying the words "U. S. Inspected and Passed"? If the stamp is not present does it indicate that the piece of meat did not pass the inspection?
15. Name four advantages to cooking meat at a low temperature.
16. What are some other ways of tenderizing meat? Which are the most successful?
17. Why are pork chops preferably braised rather than broiled.
18. Name the wholesale cuts of beef on the meat chart which will be provided.
19. Name one retail cut found in each wholesale cut.

20. How should meat be stored?
21. What is the value of a meat thermometer?
22. Define basting, larding, scoring, marbling and aging as applied to meat.
23. How is the color of the fat on beef a guide to the quality of the meat?
24. What seasonal differences could a homemaker expect in meat prices?
25. What are some considerations in determining how much money to spend on meat for a family?

POULTRY AND FISH

1. What does the term poultry cover?
2. How is poultry graded?
3. What are signs of quality in poultry?
4. What is the difference between the inspection mark and the grade mark in chickens?

What are the approximate size limits for each of the following; and what other distinctions are there between it and other classes:

5. Broilers:
6. Fryers:
7. Roasting chickens:
8. Stewing hens:
9. What is usually considered the most economical poultry buy?
10. What is the weight loss for a fryer from live weight to completely drawn and dressed?
11. Which cooking methods are suitable for poultry?
12. Is chicken a tender or less-tender meat?
13. What are some uses for left-over cooked poultry?
14. What special precautions should be taken in the care and storage of cooked poultry?
15. What are capons? squab? guinea hen?
16. Define the following terms used in marketing poultry: New York dressed, table dressed, drawn, in parts, eviscerated.
17. What guide is there as to how much stuffing to make for a fowl to be roasted? What are skewers? What is trussing?
18. What does sea food add to the diet? What minerals do fish supply? What vitamins?

19. Which methods of meat cookery are used with fish?
20. How is canned tuna graded? How is canned salmon graded?
21. What is the difference between a fish steak and a fish fillet?
22. How can you judge quality in fresh fish?
23. Distinguish between fin-fish and shell fish. How are shell fish classified?
24. What is the most important problem in fish cookery?
25. What guide can be followed to determine how much fish to buy to serve a family?

PASTRIES AND PIES

1. Describe the perfect pastry.
2. Compare pastry dough with biscuit dough.
3. What is the chief advantage in the modern pastry methods over the conventional or traditional method?
4. What should be the temperature of the oven when baking crust?
5. What is the chief cause of tough pastry?
6. What is the chief cause of shrinking or buckling of pastry shells?
7. How do you know how large to roll a pie crust?
8. How thick should it be rolled?
9. What is a lattice top? How is it made?
10. What are "pastry cut-outs"? How are they used?
11. What are tarts? How are they made?
12. If a pastry blender is not available what could be used?
13. What is a pastry cloth and what is its advantage?
14. What is pie tape and what is its use?
15. What is a pastry jagger?
16. What thickening agents may be used in fruit pies?
17. How much filling should be used in an 8" pie? a 9" pie? a 10" pie?
18. If filling is ample and juicy, it is likely to run out. What are some methods of preventing this?
19. What are some ways of preventing the soaking of the bottom crust of custard pies?
20. How should a meringue look?
21. How should a meringue be cooled?

22. There is a difference of opinion as to how the sugar should be added to egg white for meringue. What are these methods?
23. There is a difference of opinion as to baking temperature of meringue. What are they?
24. Tell something of the history of pie.
25. What are some of the ways in which pastry is used in the meal pattern?

YEAST BREADS

1. Describe something of the history of bread making.
2. What does bread contribute to the diet?
3. What is meant by "enrichment"?
4. How can you enrich the bread that you make at home?
5. How does your bakery enrich bread?
6. What are the proteins in what flour which produce gluten?
7. What is yeast?
8. How is yeast sold? What difference is there in the use of the different forms?
9. What does yeast do in bread?
10. Why is temperature important in bread making?
11. What is the optimum temperature for dissolving compressed yeast? What is the optimum temperature for dissolving dry yeast?
12. What is the optimum temperature for the fermentation process?
13. Compare the straight dough, the sponge and the batter methods for making yeast breads. Describe each briefly. Which is quickest? Which gives the best product? Which is the most popular in home baking?
14. What is the purpose of kneading bread?
15. On a cool day, how can dough be provided a warm temperature for rising?
16. What types of pans are suitable for baking bread?
17. What do you look for in judging a loaf of bread?
18. What products other than bread are made from yeast bread dough?
19. What are refrigerator doughs?
20. Why are refrigerator doughs called "retarded" doughs?

21. What tests are used to determine when bread has risen long enough?
22. What is the purpose of each of the essential ingredients in bread?
23. What is the difference in bread made with milk and that made with water?
24. What changes in method would be necessary to use non-fat dry milk in place of whole milk?
25. What values are to be found from baking bread at home as opposed to buying bakery bread? What other factors might influence this decision?

CAKES AND COOKIES

1. Tell something of the history of cake.
2. What is meant by the statement that sugar gives the diet "empty" calories? Sugar has what important nutritive values?
3. To depend upon cake and other desserts for quick energy can work against your health and looks in what ways?
4. What ingredients do most cakes have in common?
5. Explain the purpose of each ingredient in a standard butter cake.
6. How may cakes be classified? Name an example in each class.
7. What tests can be used for a cake's doneness?
8. How long should a butter cake be cooled before removing from the pan?
9. How long should sponge and chiffon cakes be cooled before removing from the pan?
10. Compare the price of a box of cake mix with the cost of the ingredients in a recipe for a comparable cake. Give the brand and place of purchase for the mix; write the recipe and include the figures for the cost of the cake made "from scratch".
11. What are some other points to think about in deciding whether or not it is worthwhile to make a cake starting with the ingredients?
12. What are the general methods of mixing butter cakes? Describe each.
13. What are some causes of cake failures? What undesirable results does each produce?
14. How does the size of a cake pan affect the quality of the finished product?
15. How are frostings classified?
16. Name an example in each class.
17. What is the difference between a frosting and a filling?
18. In what order is a cake frosted?

19. What are some advantages of cookies as a dessert?
20. How are cookies classified?
21. Give one advantage to each type of cookie over the others, which would indicate why the same type is not always preferred.
22. Give an example of one cookie in each class.
23. How may soft cookies be kept soft?
24. How may crisp cookies be kept crisp?
25. Compare the price of one kind of cookie, (for example: Brownies) when purchased in a mix, from the frozen food counter, from a bakery, and when made from the ingredients.

APPENDIX C

TEST ON CANNING

Multiple Choice: In the space in front of the question place the letter of the choice which best completes the statement.

- B 1. Of the following, which is the best example of a low-acid food?
A. pimento peppers
B. mincemeat
C. tomatoes
D. sauerkraut
- C 2. The most important reason for assembling all of the canning equipment before beginning with the food is--
A. to learn good management which can be applied to other meal-planning problems.
B. to make the dish-washing easier by getting out only what is essential.
C. to avoid delays which might affect the quality of the product.
D. to be sure there are enough jars to finish the job.
- (3 to 6) Mrs. Smith was cleaning out her cellar and found several kinds of spoilage. Can you identify each from the following descriptions?
- C 3. A jar of snap beans had a cloudy look and a slightly sour odor. There were no bubbles in the jar. The spoilage was likely to have been--
A. botulinus
B. fermentation
C. flat-sour spoilage
D. putrefaction
- D 4. A jar of corn had turned dark and "slimy". It had a very bad odor and there were bubbles in the jar. The spoilage was likely to have been--
A. botulinus
B. fermentation
C. flat-sour spoilage
D. putrefaction
- B 5. A can of peaches had a very sour odor and the gas inside had forced the lid off. The spoilage was likely to have been--
A. botulinus
B. fermentation
C. flat-sour spoilage
D. putrefaction

- A 6. In each of the above cases (questions 3-5), the thing which Mrs. Smith should have done was--
A. discard the product and boil the jars.
B. taste the product to see if it was usable.
C. boil the product at least 25 minutes.
D. reprocess the product in a pressure cooker.
- C 7. The principle of canning by hermetically sealing foods as discovered as a direct result of--
A. the Revolutionary War
B. the Civil War
C. the Napoleonic Wars
D. the Peloponnesian Wars
- D 8. Cooking food in the jar in a pressure cooker or water-bath is called--
A. exhausting
B. blanching
C. pre-cooking
D. processing
- C 9. The depth of the water in a boiling water bath should be--
A. approximately 1 inch
B. at least half way up the jars
C. at least 1 inch above the jars
D. approximately 1 inch from the top of the canner
- A 10. The most important disadvantage to the Open Kettle method of canning is--
A. the danger of contaminating the food before the jars are sealed
B. the time that it takes
C. the appearance of the food in the jar
D. the special equipment that is required
- C 11. The most important disadvantage to the Cold Pack method of canning is--
A. the danger of contaminating the food before the jars are sealed
B. the time that it takes
C. the appearance of the food in the jar
D. the special equipment that is required
- D 12. The least reliable method of processing fruits and tomatoes is--
A. the pressure cooker method
B. the pressure sauce-pan method
C. the boiling-water-bath method
D. the oven method

- B 13. Which statement could not be made about the time required for processing with a pressure cooker?
- A. the time varies with the kind of food being canned.
 - B. the time is the same for all foods
 - C. the time is less than with the boiling-water-bath method
 - D. the time varies with the amount of pressure
- A 14. Allowing the steam to escape from the steam valve of the pressure cooker for a given period of time in order to drive the air from the cooker is called--
- A. exhausting
 - B. sealing
 - C. processing
 - D. pre-cooking
- A 15. Which of the following statements could not be made about home canning as a method of preserving food?
- A. it has completely lost favor with the advent of the home
 - B. it is a way of supplementing frozen food.
 - C. it is useful for foods which cannot be frozen
 - D. it is a satisfying and economical method of preserving food

Modified True and False. If the statement is correct place an X in the blank; if it is false, place the word or phrase in the blank at the right which could be used in place of the underlined word or phrase to make the statement true.

- | | |
|---|------------------------|
| 16. The fuzzy growth that appears on bread stored too long in a warm, damp place is caused by <u>yeast</u> . | <u>mold</u> |
| 17. The preferable and safest method of processing all non-acid foods is the <u>boiling water bath method</u> . | <u>Pressure cooker</u> |
| 18. The "Father of Canning" was Nicholas Appert. | <u>X</u> |
| 19. Canned meats should be processed in a <u>pressure cooker</u> . | <u>S</u> |
| 20. The food spoilage agents which cause putrefaction are <u>enzymes</u> . | <u>bacteria</u> |
| 21. The use of heat to destroy spoilage agents is called <u>sterilization</u> . | <u>X</u> |
| 22. The Cold Pack Method, the Hot Pack Method and the Open Kettle Method are all <u>processing methods</u> . | <u>canning</u> |
| 23. When canning tomatoes, the jars should be filled with juice to within <u>1 inch</u> of the top of the jar. | <u>1/2"</u> |

24. The space left at the top of a jar when filling or packing it with food is called head space.

X

Completion: Place the word or phrase needed to complete the statement in the blank at the right.

- | | |
|--|--|
| 25. When processing foods in a pressure cooker, start counting the processing time as soon as— | correct pressure
<u>is reached</u> |
| 26. Pressure sauce pans are suitable for processing small jars if— | processed longer
than <u>in pressure cooker</u> |
| 27. The addition of ascorbic acid to fruits at the time of canning will prevent— | browning or
<u>discoloring</u> |
| 28. The type of syrup used in canning fruit is determined by— | personal preference
<u>or use</u> |
| 29. Floating of canned fruit indicates shrinkage during processing. It can be overcome by— | packing
<u>firmly</u> |

Matching. Place an X before each of the following practices which would be acceptable procedure for using a pressure cooker. If the practice is not acceptable, indicate the reason by placing before it the letter of the closest reason which is given in the right hand column.

Reasons:

- | | |
|--|--|
| <u>B</u> 30. Wash the steam gauge in hot sudsy dish water after each using and rinse thoroughly with hot water. | A. Pressure cooker might "blow up". |
| <u>X</u> 31. Tilt the cover toward you when removing it from the cooker. | B. It might cause rusting of inside mechanism. |
| <u>X</u> 32. Draw a pipe cleaner through the vent occasionally. | C. It might cause steam burns. |
| <u>X</u> 33. When canning, allow the steam to flow from the cooker ten minutes before the petcock is closed. | D. Rubber ring might lose its shape. |
| | E. Cooker might boil dry. |
| <u>H</u> 34. When processing of canned foods is complete, remove the cooker from the heat and open the petcock slowly. | F. It may cause bad odors inside the cooker. |
| | G. It might crack the cooker. |
| <u>F</u> 35. Store the cooker with the cover closed tightly. | H. It might spoil the appearance of the canned foods being cooked. |
| <u>G</u> 36. When processing time is up, cool the cooker quickly by placing it under cold running water. | |

- | | |
|--|------------------------------------|
| <u>X</u> 37. Grease the sealing ring occasionally with butter. | I. It might not seal properly. |
| <u>X</u> 38. Leave the cooker closed until the steam gauge registers "zero". | J. Vent pipe might become clogged. |
| <u>X</u> 39. Filling the cooker only half full when making soup. | |

TEST ON FREEZING

Multiple Choice:

- A 1. The most important reason for blanching vegetables before freezing is--
A. to slow up and check the plant enzyme activity.
B. to soften the products and make them easier to package in a smaller space.
C. to kill harmful bacteria.
D. to make them cleaner.
- C 2. Some homemakers pack vegetables in a brine solution. The chief advantage in doing so is--
A. to have the vegetable ready-seasoned for serving.
B. to make them fit into the container better.
C. to exclude the air from around the vegetables.
D. to make them softer.
- B 3. When freezing fruit, ascorbic acid is sometimes added to the syrup. The reason for doing so is--
A. to increase vitamin content.
B. to prevent browning.
C. to make them more tart.
D. to use less sugar.
- A 4. Packing fruits without sugar is recommended--
A. for use by diabetics.
B. when they are to be stored for a long time.
C. when they are to be used for sweet desserts.
D. to give them a better color.
- A 5. The most important quality to look for when choosing a freezer container is that it be--
A. moisture-vapor-proof.
B. reusable.
C. rigid enough to prevent crushing.
D. a shape which is economical of storage space.
- C 6. The size of the freezer container to use depends principally upon--
A. the size of your freezer.
B. the kind of food being frozen.
C. the number in your family.
D. whether or not you are freezing the food in syrup.
- D 7. The most important reason for packing foods tightly into containers is--
A. to save freezer space.
B. to speed the freezing process.
C. to provide larger servings.
D. to cut down on the amount of air in the container.

- C 8. The purpose of the head space when packing the freezer container is--
 A. to make it easier to open the carton.
 B. to speed the freezing process.
 C. to allow room for expansion.
 D. to prevent fruits from floating up.
- D 9. Which of the following considerations should not be considered an advantage in meal planning of having a home freezer?
 A. Having a wide assortment of food right on hand.
 B. Reducing the number of trips you need to make to market.
 C. Preparing large receipes and freezing portions.
 D. Operating a freezer in terms of cost per pound of food stored.

Cluster-Type True False. In preparing vegetables for freezing it has been found that some need to be cooked completely and others are just blanched or scalded. Place an X in front of each of the following vegetables for which complete cooking is the recommended preparation and O in front of those that should be blanched.

- X 10. pumpkin
O 11. green beans
O 12. spinach
X 13. beets
X 14. tomatoes
X 15. squash
O 16. green peas
O 17. corn

A home freezer is economical only if well managed. Place an X in front of each practice which would be considered good management, and an O in front of those practices which would be poor freezer management:

- X 18. Keep an inventory of what is in the freezer and keep it up-to-date.
O 19. Keep frozen foods used up so that there is not much food in the freezer at any one time.
O 20. Plan the use of food so that nothing is stored longer than two or three weeks.
X 21. Defrost when the freezer is most nearly empty.
X 22. Stack packages systematically in the freezer, grouping according to kind and date of freezing.
O 23. Use your freezer space only for foods you grow yourself.
X 24. Cool cooked food before packaging and freezing.
X 25. Freeze only good quality foods.

It is important to preserve the nutritional value of foods. Place an X in front of each of the practices which help prevent nutritional loss and an O in front of those which are not a method of preventing nutritional loss:

- X 26. Using the food immediately after thawing or while slightly frozen.
X 27. Keeping fruits and vegetables sealed during defrosting.
O 28. Using a bisulfite dip for fruits.

- X 29. Freezing fruits and vegetables within two hours after picking.
X 30. Freezing fruits and vegetables as soon as possible after packing.

Freezing is a popular method of food preservation. Place an X in front of each of the following suggestions which might properly be considered an advantage of freezing over other ways of preserving foods. Place an O in front of those which are not considered an advantage:

- O 31. Freezing is the cheapest method of food preservation.
X 32. Freezing best preserves the nutritive value of food.
X 33. Freezing best preserves the fresh flavor of foods.
O 34. Freezing stops food spoilage better than older methods.
X 35. Freezing is the least time-consuming method.
O 36. Freezing is usable for all food products.

Which of the following statements could correctly be made about ways to pack fruit for freezing? Place an X before each statement that is true and a O before each statement that is false:

- X 37. Your selection of the way to pack fruit will depend on the intended use.
X 38. Fruits packed in dry sugar have less liquid in the product.
X 39. Unsweetened packs generally yield a lower quality product.
O 40. If syrup is used it should be put on the fruit when hot.
O 41. When using a sugar pack, the fruit is put in the container and the dry sugar poured over it.
O 42. A 65-percent syrup is recommended for most fruits.

Place an X before each of the following statements which could be made about the blanching or scalding of foods. Place an O before statements that are not true of blanching.

43. Blanching is recommended for almost all vegetables that are not cooked before freezing.
 44. Fruits are usually blanced if they are to be frozen without sugar.
 45. Length of time of blanching is the same for all vegetables.
 46. Blanching is best accomplished by pouring boiling water over the food.
 47. Vegetables should be blanced for the length of time recommended in a table.
 48. Blanched foods should be chilled immediately by plunging into ice water.

Completion: Answer the question or complete the statement in a word or phrase in the blank at the right.

- | | |
|---|----------------------|
| 49. At what temperature should frozen food be stored? | <u> O </u> °F |
| 50. What is the temperature of the ice-cube compartment of the home refrigerator? | <u> 32 </u> °F |
| 51. The Smiths have a 9 cubic foot freezer. How many pounds of food could they safely freeze in one day? | <u>18-27 lbs</u> |
| 52. If improperly packaged so that they become dried in the freezer, meats will turn gray-white. This is spoken of as <u>burn</u> | |

TEST ON SUGAR PRESERVATION

Matching: Match the words in the column at the right with the following definitions.

Definitions:

Terms:

- | | | |
|----------|--|-----------------|
| <u>F</u> | 1. A sweet, semi-solid substance made from a mixture of fruit juice, pectin, and sugar which is firm enough to hold its shape when unmolded. | A. conserve |
| <u>E</u> | 2. A thick, semi-liquid sweet substance that contains pieces of crushed or chopped fruit evenly distributed throughout. | B. fruit butter |
| <u>G</u> | 3. A sweet, semi-solid substance made from fruit pulp, shredded or chopped fruit rind, pectin, and sugar. | C. fruit honey |
| | | D. fruit sauce |
| <u>H</u> | 4. Small, whole fruit or uniform-sized pieces of larger fruit cooked in a syrup until clear and somewhat translucent and stored in the thick syrup or jellied juice. | E. jam |
| <u>A</u> | 5. A semi-liquid sweet substance made with a combination of fruits and sometimes nuts. | F. jelly |
| | | G. marmalade |
| | | H. preserves |

Multiple Choice: In the space in front of the question place the letter of the choice which best completes the statement.

- B 6. Mary's jelly had a very gummy texture. Which of the following is most likely to be true?
- She used too much commercial pectin.
 - She over-cooked the sugar and fruit-juice mixture.
 - She used too much pressure when extracting the fruit juice.
 - She used a fruit too high in acid.
 - She failed to sterilize her jelly glasses.
- C 7. Jane's jelly had a pleasing texture but a cloudy appearance. Which is most likely to be true?
- She used too much commercial pectin.
 - She over-cooked the sugar and fruit-juice mixture.
 - She used too much pressure when extracting the fruit juice.
 - She used a fruit too high in acid.
 - She failed to sterilize her jelly glasses.
- A 8. Which of the following is the best example of a hard-to-jell food?
- Strawberries
 - Crab-apples
 - Wild plums
 - Currants

- D 9. Paraffin should never be melted over direct heat because—
A. it may discolor and spoil the appearance of the jelly.
B. it might give a burned flavor to the jelly.
C. it would take too long and couldn't be kept ready.
D. it is too dangerous because it splatters and might catch on fire.
- C 10. Which of the following is not an advantage of the short-boil method of jelly making?
A. it can be used even with hard-to-jell fruits.
B. fruit flavor and color are not changed by prolonged heating.
C. it can be done without using any commercial pectin.
D. it saves fuel, time, and energy.

True and False: Mark the following statements with an X if true and O if false.

- X 11. All fruits contain pectin.
X 12. Jams and jellies which are to be stored in a freezer need not be paraffined.
X 13. Canned fruits can be used in making jams.
X 14. Pectin is more concentrated in the solid part of fruit such as the skin and pulp.
O 15. If jelly is not skimmed, the foam will give the final product a poor flavor.
O 16. Melted paraffin should be poured on the jelly as soon as it is cooled and set.
X 17. Stirring jam while it cools helps to distribute the fruit evenly.
O 18. A thick layer of paraffin is a better protection from bacteria and mold than a thin layer.
O 19. Mold on top of jelly makes it harmful to eat.
O 20. Certo and Sure-Jell are brand names of gelatin products.

TEST ON MEAT

Multiple Choice: In the space in front of the question place the letter of the choice which best completes the statement or answers the question.

- A 1. The best steaks on a beef come from--
A. the forequarter
B. the hindquarter
C. the brisket
D. the shank
- B 2. All cuts of beef should be--
A. cooked with moisture
B. cooked at a low temperature
C. cooked as quickly as possible
D. cooked without any moisture
- B 3. A flank steak would best be--
A. broiled
B. braised
C. roasted
D. pan-broiled
- B 4. Pro-ten is--
A. the name for Swift's top grade of beef
B. the name for a tenderizing process patented by Swift Co.
C. a meat tenderizer which is sprinkled on meat before broiling it
D. the kind of protein in meat
- A 5. Frozen ground beef is best when used up within--
A. three months
B. six months
C. one year
D. three years
- C 6. The price of meat is determined most by--
A. the grade
B. the brand
C. the demand
D. the locality
- B 7. The round purple inspection stamp on a piece of meat indicates--
A. that it is U. S. Prime beef.
B. that it was Federally inspected and is wholesome.
C. that it is well marbled.
D. the brand name of the company selling it.

- C 8. When buying pork spare ribs, the amount needed per serving would be about--
A. one-fourth pound
B. one-half pound
C. three-fourths pound
D. one pound
- B 9. The action of a meat tenderizer is dependent upon--
A. bacteria
B. an enzyme
C. a form of mold
D. yeast in the air
- C 10. Jane has purchased a piece of round steak. Assuming the meat has no prior treatment, which method of preparation would produce the most tender meat?
A. broiling
B. frying
C. braising
D. roasting
- C 11. Which cut of U. S. Choice beef will be least tender if broiled?
A. Porterhouse steak
B. T-bone steak
C. round steak
D. rib steak
- B 12. The less-tender cuts of meat are generally--
A. more expensive than tender cuts.
B. less expensive than tender cuts at all times of year.
C. similar in price.
D. less expensive than tender cuts at some seasons.
- A 13. Which meat should be selected for preparing Swiss steak?
A. round steak
B. beef tenderloin
C. pork steak
D. ground beef
- C 14. Mary has a very short time before dinner in which to prepare the meat. Which would be the best buy?
A. pot roast
B. pork chops
C. cube steaks
D. Swiss steak

- C 15. If you buy the meat by the pound, from which cut of meat would you be able to calculate the number of servings most precisely?
- A. baked ham
 - B. arm roast
 - C. ground beef
 - D. leg of lamb
- D 16. Which of the following nutrients is found in the least significant quantity in meat?
- A. niacin
 - B. iron
 - C. phosphorus
 - D. ascorbic acid
- A 17. The term applied to the fat laid down in the connective tissue of beef is--
- A. marbling
 - B. larding
 - C. scoring
 - D. lean
- B 18. Dogs are not acceptable for meat in most American homes because--
- A. of the flavor of dog meat.
 - B. of custom.
 - C. it would be harmful to humans.
 - D. it would be less tender than beef.
- B 19. If the fat around a piece of beef is yellowish it indicates--
- A. that the animal was fattened on corn before butchering.
 - B. that it is from a mature animal.
 - C. that the piece of meat has stood out in the air a long time.
 - D. that it is from a very young animal.
- A 20. The vitamin which is to be found in rich supply in variety meats which is not in muscle meats is--
- A. vitamin A
 - B. niacin
 - C. thiamin
 - D. vitamin C
- C 21. The most efficient way to determine when a roast is done is--
- A. to time it closely according to a table in a cookbook.
 - B. to watch it and see how brown it is getting.
 - C. to use a meat thermometer.
 - D. to pierce it with a knife occasionally.
- D 22. What is sold in a meat market as "sweetbreads" is really meat from--
- A. calves under twelve weeks old
 - B. sheep over one year old.
 - C. beef brains
 - D. thymus gland of calves.

- C 23. The Taylors have no freezer. They bought the following meats on Saturday and put them in their refrigerator. Which would need to be used up first to prevent spoilage?
- A. lamb chops
 - B. picnic ham
 - C. hamburger
 - D. rolled rib roast

Matching: In what part of a beef could you find each of the following retail cuts? In front of each of the retail cuts, place the letter indicating the wholesale cut from which it comes. The same letter may be used more than once.

	Retail cuts:	Wholesale cuts:
<u>E</u> 24.	porterhouse stea	A. round
<u>H</u> 25.	corned beef	B. rump
<u>I</u> 26.	blade pot roast	C. sirloin
<u>I</u> 27.	arm pot roast	D. flank
<u>A</u> 28.	Pike's Peak roast	E. short loin
<u>G</u> 29.	rolled rib roast	F. plate
<u>J</u> 30.	beef knuckle	G. rib
		H. brisket
		I. chuck
		J. shank

Matching: Match each of the following definitions with the method of meat cookery which it defines:

	Definitions:	Methods:
<u>A</u> 31.	Browning meat in a small amount of fat and then cooking slowly in a covered utensil in a small amount of liquid.	A. braising
<u>F</u> 32.	Cooking uncovered on a hot surface such as a frying pan and pouring off fat as it accumulates.	B. boiling
<u>H</u> 33.	Simmering in water until tender.	C. broiling
<u>G</u> 34.	Cooking with dry heat in an oven.	D. baking
<u>C</u> 35.	Cooking by direct heat.	E. frying
		F. pan-broiling
		G. roasting
		H. stewing

Matching: Match each of the following definitions with the grade of beef which it best defines:

- | Definitions: | Grades of beef: |
|--|-----------------|
| <u>H</u> 36. The juiciest, most tender, highest priced grade of beef. It is quickest and easiest to cook. It has the most fat. | A. choice |
| | B. commercial |
| | C. cutter |
| | D. fair |
| | E. fancy |
| <u>A</u> 37. The second best grade of beef. It comes from young, mature cattle, is tender and has good flavor. | F. good |
| | G. poor |
| | H. prime |
| | I. utility |
| <u>F</u> 38. From smaller animals than top grades, it is preferred by many because it has less fat and more lean meat. | |
| <u>B</u> 39. From older but good animals, it is courser in texture. It is the grade commonly used for stews and soups. | |

TEST ON POULTRY AND FISH

Multiple Choice. In the space in front of the question place the letter of the choice which best completes the statement or answers the question.

- C 1. Freshly killed poultry is sold as "drawn" if--
A. sold with the feathers on
B. the feathers have been removed
C. the feathers and the entrails have been removed
D. it has been cleaned and cut in serving pieces.
- D 2. Jane bought a 16 pound turkey and she wants to estimate how much stuffing to prepare. She would probably need close to--
A. 1 cup of stuffing
B. 1 quart of stuffing
C. 2 quarts of stuffing
D. 4 quarts of stuffing
- B 3. Ruth saw fryers advertised at two farm markets near her home, one at 18¢ per pound live weight, and the other at 43¢ per pound dressed. It would be reasonable for her to assume--
A. that she could save at least 10¢ per bird by buying the dressed chickens.
B. that she could save at least 15¢ per bird by buying the live chickens.
C. that she could save about 5¢ per bird buying the live chickens.
D. that she could save about 50¢ per bird by buying the dressed chickens.
- B 4. Chicken which has been dredged in flour, browned in hot fat, covered with one-half cup of tomato juice, covered and steamed over low heat for two hours, would be called--
A. Southern fried chicken
B. Chicken fricassee
C. Chicken Tetrazzini
D. Broiled chicken
- B 5. Joyce is trying to lose weight but wants to be sure that she gets adequate protein, which would be her best choice at the cafeteria?
A. braised pork chop
B. broiled halibut steak
C. breaded veal cutlet
D. fried chicken

- D 6. The FHA is planning to serve fried chicken to the school board. They will be serving 12 men and the 6 girls in the kitchen. About how much chicken should they plan to buy?
- A. 5 pounds (dressed weight)
 - B. 15 pounds
 - C. 25 pounds
 - D. 30 pounds
- C 7. The FHA fried chicken dinner is to be served at 6 o'clock. When should the girls start browning the chicken?
- A. at noon.
 - B. at 4 o'clock.
 - C. at 5 o'clock
 - D. at 5:30 o'clock
- B 8. The most important problem in fish cookery is—
- A. to tenderize the muscle.
 - B. to develop flavor without drying out the fish.
 - C. to kill harmful organisms.
 - D. to prevent a "fishy" odor in the kitchen.
- A 9. Adding some paprika to the flour in which fish or poultry is to be dredged will—
- A. help it to brown.
 - B. give it a disagreeable flavor.
 - C. tenderize it.
 - D. make it more crusty.
- C 10. Judy is buying frozen halibut steaks for the family's dinner. There are six of them. How much should she buy?
- A. one pound
 - B. two pounds
 - C. three pounds
 - D. four pounds
- B 11. The term "New York Dressed" refers to poultry
- A. which has been picked but not drawn, and is sold with head and feet on.
 - B. which has been picked and drawn, but sold with head and feet on.
 - C. which has been picked, has entrails in, head and feet off.
 - D. which still has feathers on, entrails in, and head and feet on.
- D 12. Which of the following could not be considered an advantage of table dressed poultry?
- A. It is more convenient because it is ready for the pan.
 - B. It is economical because you don't pay for discarded parts.
 - C. It can be bought inspected to provide assurance of wholesomeness.
 - D. They are all cut according to a uniform standard.

- C 13. If you purchased a 3 1/2 pound live chicken, how much would you expect to have left to cook after you had picked and cleaned it?
- A. 1 pound
 - B. 1 1/4 pounds
 - C. 2 pounds
 - D. 2 1/4 pounds

Name the following:

Roaster or

roasting hen 14. A 3 to 5 pound young chicken suitable for cooking whole with dry heat.

Broiler 15. A 1 1/2 to 2 pound young chicken 11 to 12 weeks old usually sold split down the back.

Capon 16. A 4 to 7 pound unsexed male chicken which has grown large with a large proportion of white meat.

Fryer 17. A 1 3/4 to 3 pound young chicken, sold whole or cut into pieces.

Stewing chicken 18. A 2 1/2 to 5 pound mature hen, sold whole or cut into pieces, which is suitable for cooking with moist heat.

TEST ON YEAST BREADS

Multiple Choice. In the space in front of the question place the letter of the choice which test completes the statement or answers the question.

- A 1. What is yeast?
A. a tiny plant
B. a chemical that gives off carbon dioxide
C. any food that gives off a gas
D. a chemical leavening agent
- B 2. Dorothy was making rolls at her grandmother's house and found out that her grandmother bought yeast in a large can. She wanted to use the receipe she had used in class which called for "2 packages of yeast". She would use--
A. 1 lablespoon
B. 2 tablespoon
C. 3 tablespoon
D. 4 tablespoon
- B 3. To test for lightness of dough, press it with the tip of the finger to make a dent about 1/2 inch deep. The dough is risen if--
A. it springs back quickly
B. the dent remains
C. it feels dry to the touch
D. it presses in with difficulty
- C 4. For rising, bread should be covered and set in a place about--
A. 32° F.
B. 50° F.
C. 80° F.
D. 110° F.
- D 5. Putting dough in the refrigerator--
A. freezes the yeast.
B. activates the yeast
C. kills the yeast
D. inactivates the yeast
- A 6. Bread should be included in any program of weight control. Which is the least important reason for eating bread when on a reducing diet?
A. it tastes good
B. it helps prevent hunger
C. an average slice of bread has 65 calories.
D. bread supplies B-vitamins, iron, and protein to the diet.

- D 7. A substance used to produce gas in a dough and cause it to rise and become light is called--
A.. shortening.
B. steam.
C. expander.
D. leavening.
- D 8. Mary made Parker House rolls for her family last week and she decided to make sweet rolls for breakfast this week. She allowed the same amount of time she had last week and her rolls were not as well risen nor as light. From the facts that you know, which is most likely to be the reason?
A. The weather is cooler this week.
B. She used more yeast last week.
C. She probably made a larger batch of sweet rolls than plain rolls.
D. Sugar slows down yeast growth.
- A 9. Milk can be used as the liquid in making breads. Which of the following could not properly be considered an advantage to milk as an ingredient?
A. Fresh milk has to be scalded before using it in bread.
B. Bread made with milk toasts more evenly than bread made with water.
C. Extra nutrients are supplied to bread with milk.
D. Bread made with milk will keep longer than if made with water.
- A 10. The purpose of kneading dough is--
A. to develop the gluten in the flour.
B. to let the gas out.
C. to make the bread more tender.
D. to work more flour into it.
- B 11. Once yeast is dissolved and ready to act it must come into contact with liquids that are warmer than lukewarm because--
A. it would speed the action of the yeast too much.
B. it would kill the yeast.
C. it would slow the action of the yeast.
D. it would activate the yeast.
- B 12. Jane has made bread and rolls by several recipes. They all called for about 6 cups of flour and 2 teaspoons of salt and the other ingredients varied. She wants to know which recipe would be most suitable for refrigerator rolls--
A. 1 pkg. yeast, 2 C. water, 3 T. shortening, 2 T. sugar.
B. 2 pkg. yeast, 2 C. milk, 1/2 C. shortening, 1/2 C. sugar, 1 egg.
C. 2 pkg. yeast, 2 C. milk, 3 T. shortening, 2 T. sugar.
D. 1 pkg. yeast, 2 C. milk, 1/3 C. shortening, 2 T. sugar.

- D 13. The ideal temperature for dissolving dry yeast is--
A. 45° F.
B. 80° F.
C. 85° F.
D. 110° F.
- A 14. Which of the following nutrients is not required by law to be added as "enrichment" to white flour?
A. protein
B. riboflavin
C. niacin
D. iron
- C 15. The growth of yeast depends upon food, warmth and--
A. sunlight
B. salt
C. moisture
D. sugar
- D 16. When thiamine is not present in the diet the deficiency disease which follows is--
A. scurvy
B. pellagra
C. richets
D. beriberi
- C 17. Mrs. Brown had always used active dry yeast but today she sent her little boy to the store for yeast and he brought home compressed yeast. She doesn't want to send him back so she has called on you for help because she knows you have been studying bread making. She wants to know what changes she should make in her usual procedure. You would be correct if you advised her--
A. not to use her usual recipe but to find one adjusted to compressed yeast.
B. to use her usual recipe but add more liquid, because the yeast is not dehydrated.
C. to use her usual recipe but to dissolve the yeast at a lower temperature.
D. to use her usual recipe but to allow the dough to rise longer.

MATCHING. The ingredients in yeast breads each affect the product in one or more ways. Beside each of the ingredients in the left hand column place the letter of the function in the right hand column which it best serves:

Ingredients:

Functions:

- | | |
|---------------------|--|
| <u>B</u> 18. Flour | A. Releases the carbon dioxide which produces lightness. |
| <u>F</u> 19. Liquid | B. Gives structure to the product. |
| <u>A</u> 20. Yeast | C. Changes the flavor. |
| <u>D</u> 21. Sugar | D. Provides food for the yeast. |
| <u>G</u> 22. Salt | E. Gives the product tenderness. |
| <u>E</u> 23. Fat | F. Dissolves the solids. |
| | G. Controls the action of the yeast. |
| | H. Improves the color of the product. |
| | I. Adds nutrients to the product. |

Matching. Indicate with A, B, or C, which of the basic mixing methods for making yeast breads is being described by each statement in the left hand column.

Descriptions:

Basic Mixing Methods:

- | | |
|---|--------------------------|
| <u>B</u> 23. The method used most frequently in commercial bakeries. | A. Straight Dough Method |
| <u>C</u> 24. The method which requires no kneading. | B. Sponge Dough Method. |
| <u>C</u> 25. The quickest method. | C. Batter Method |
| <u>B</u> 26. The longest method. | |
| <u>B</u> 27. The method which produces the finest texture. | |
| <u>B</u> 28. The method in which the yeast is combined with part of the liquid, flour, and sugar and allowed to rise before the remainder of the ingredients are added. | |
| <u>A</u> 29. The method of which refrigerator dough is a variation. | |
| <u>A</u> 30. The method in which all of the ingredients are combined, the dough is kneaded and set aside to rise. | |
| <u>C</u> 31. The method which gives the poorest shape in the final product. | |
| <u>A</u> 32. The most popular method with most homemakers. | |

True and False. Mark each of the following statements which are true with and X and those which are false with an O.

- X 1. A good bread flour is made from a mixture of many kinds of wheat.
- O 2. Bread is sliced and wrapped as soon as it comes from the oven.
- X 3. "Thermostats" are heat controls which keep temperature constant.
- O 4. "Traveling ovens" are given this name because they are on wheels so they can be moved around.
- X 5. The name cereal comes from Ceres, the Roman goddess of plant life.
- X 6. Commercial bakeries require a flour with a stronger gluten than all-purpose flour.
- O 7. A loaf of bread made from white flour will be much more compact than the same size loaf made with 100 per cent whole wheat flour.
- X 8. Breads made with milk keep longer, have a nicer texture, and toast more evenly than those made with water.
- X 9. Steam is the leavener in popovers.
- X 10. The changes which occur in dough as yeast does its work are called fermentation.
- O 11. Compressed yeast is less perishable than active dry yeast.
- X 12. The length of time it takes for dough to double in bulk depends on the temperature, the amount of yeast, the richness of the dough, and the kind of flour used.
- O 13. A recipe which calls for 5-6 cups of flour will make one 1-pound loaf of bread.
- X 14. Loaves of bread have a better shape if allowed to rest before shaping.
- X 15. During baking the yeast is killed.
- X 16. Active dry yeast should be dissolved at 110-115° F.
- X 17. Compressed yeast should be dissolved at 85-95° F.
- X 18. "Fractional cups" are individual cups for different fractions (1/2, 1/3, and 1/4) and they can be nested cups.
- X 19. A wheat "combine" gets its name from the fact that it is a combination of a reaper and a threshing machine.
- X 20. The real purpose of milling wheat is to break open the firm outer coat of the kernel so the inner portion can be removed.
- O 21. Patent flour is less refined than straight flour.
- O 22. Pastry flours are usually milled from hard wheats.
- X 23. Breads are important in a sound reducing diet.
- X 24. A grain exchange is a place where the people who have wheat and other grain to sell get together with people who want to buy grain.
- X 25. A hybrid wheat is any new variety of wheat produced by combining two types of wheat.

TEST ON CAKES AND COOKIES

Multiple Choice: Select the letter of the choice which will best complete the statement or answer the question.

- B 1. An example of a cake without shortening is--
A. Golden Cake
B. True Sponge Cake
C. Orange Chiffon Cake
D. German Chocolate Cake
- D 2. If a cake is baked at too low a temperature--
A. the outside browns before the interior is done.
B. the cake is "doughy" inside.
C. the cake is undersized.
D. the cake develops a coarse texture.
- A 3. An example of an uncooked frosting is--
A. Butter Frosting
B. Fudge Frosting
C. 7-Minute Frosting
D. Coconut Pecan Frosting
- B 4. Rolled cookies must be handled carefully to--
A. avoid over-baking.
B. avoid getting too much flour in them.
C. avoid getting them too thick.
D. avoid under-baking them.
- A 5. Spritz cookies are an example of--
A. pressed cookies
B. bar cookies
C. drop cookies
D. rolled cookies
- B 6. Brownies are an example of--
A. pressed cookies
B. bar cookies
C. drop cookies
D. rolled cookies
- A 7. Rolled cookies are easier to handle--
A. if the dough is chilled.
B. if the board is heavily floured.
C. if they are rolled as soon as possible after mixing.
D. if they are made in small batches.

- C 8. The number of tablespoons in a cube of margarine is--
A. 4
B. 6
C. 8
D. 16
- A 9. A pound cake is an example of--
A. a butter cake.
B. a sponge cake.
C. a chiffon cake.
D. a fruit cake.
- B 10. The number of teaspoons in a tablespoon is--
A. 2
B. 3
C. 4
D. 8
- D 11. Which of the following is not an acceptable test for cake doneness--
A. inserting a toothpick in the center to see if it comes out clean.
B. touching the cake lightly with the finger to see if it springs back.
C. observing whether the cake has pulled away from the sides of the pan.
D. observing whether the cake is a golden brown color.
- C 12. Which of the following belongs to a different class from the other three--
A. Spice Cake
B. Fudge Cake
C. Orange Chiffon Cake
D. Marble Cake
- A 13. When baking cakes or cookies in a glass baking pan, it is important to--
A. lower the oven temperature 25°.
B. raise the oven temperature 25°.
C. lower the oven temperature 10°.
D. grease the pan more heavily.
- C 14. Which of the following is the most important advantage to cake mixes over cakes made "from scratch"?
A. They save money.
B. They make a better quality cake.
C. They save time.
D. They make a cake that keeps longer.

- A 15. The leavening in Golden Layer Cake made in class was:
- A. butter
 - B. egg
 - C. baking soda
 - D. baking powder
- A 16. When making a cake by the standard, or conventional, method the first thing to put in the mixing bowl would be--
- A. butter
 - B. eggs
 - C. flour and other dry ingredients
 - D. all the liquid ingredients
- B 17. When making a cake by the "double quick" or one-bowl method the first thing put in the mixing bowl would be--
- A. butter
 - B. flour and other dry ingredients
 - C. eggs
 - D. all the liquid ingredients.
- D 18. When using the muffin method the first thing put in the mixing bowl would be--
- A. butter
 - B. eggs
 - C. flour and other dry ingredients
 - D. all the liquid ingredients
- D 19. Which ingredient contributes the most toward the tenderness of a butter cake?
- A. eggs
 - B. baking powder
 - C. sugar
 - D. butter
- A 20. The most important purpose of the flour in a butter cake is for--
- A. framework
 - B. leavening
 - C. tenderness
 - D. lightness
- B 21. Kathy used the same Golden Layer Cake recipe as the rest of the class. Her cake fell and the others did not. She was sure she had measured all the ingredients accurately. Which of the following causes is most likely to account for her failure?
- A. She baked her cake at too high an oven temperature.
 - B. She took hers out of the oven too soon.
 - C. She did not cream the shortening and sugar sufficiently.
 - D. She overmixed the batter.

- B 22. Linda has a recipe for brownies that serves 6 and she wants to decrease it to serve 4. If the original recipe calls for $1\frac{1}{2}$ cups of sugar, how much sugar will she need to use?
- A. 3 cups
 - B. 1 cup
 - C. $\frac{3}{4}$ cup
 - D. $\frac{1}{2}$ cup
- C 23. Beverly has a pan half the size of the one called for in a recipe for Dream Bars so she plans to divide the recipe. If the original recipe calls for $2\frac{1}{4}$ cups of flour, how much would she use?
- A. $1\frac{1}{4}$ cups
 - B. 1 cup plus 3 T.
 - C. 1 cup plus 2 T.
 - D. 1 cup plus 3 t.
- D 24. Martha found out just a half-hour before dinner that guests were coming. She decided to bake some cookies to serve with the ice-cream she had planned to have. Her best choice of cookies might be of which type?
- A. rolled
 - B. pressed
 - C. bar
 - D. drop
- C 25. Sheila wants to bake an angel food cake on Saturday for her little sister's birthday party that afternoon. She wants to start frosting and decorating it at eleven o'clock in order to finish it before lunch. In order to allow time for baking it and cooling it, what time should she plan to have it in the oven?
- A. 7 o'clock
 - B. 8 o'clock
 - C. 9 o'clock
 - D. 10 o'clock
- B 26. How long should a layer cake be cooled before removing it from the pan?
- A. 2 minutes
 - B. 10 minutes
 - C. 30 minutes
 - D. 1 hour
- C 27. Cheryl is making a cake by a recipe that says, "Bake at a moderate temperature for 35 minutes." For what temperature should she set the oven?
- A. 250°
 - B. 300°
 - C. 350°
 - D. 400°

- B 28. Carolyn made drop cookies at school on a shiny aluminum cooky sheet. She used the same recipe at home but the cooky sheets were very much more darkened. What difference would she expect in the cookies?
- A. They would be lighter brown if she used the same baking time.
 - B. They would be darker brown if she used the same baking time.
 - C. The cookies would be larger.
 - D. The cookies would be softer.
- D 29. The last part of a layer cake to be frosted would normally be--
- A. the top of the cake
 - B. the sides of the cake
 - C. the top of the first layer
 - D. the top of the second layer
- A 30. Which of the following statements could not be made about the nutritional value of cake--
- A. Cake is an excellent source of protein, vitamins and minerals.
 - B. Cake is high in fuel value.
 - C. Cake makes a meal more satisfying.
 - D. Sponge cake has fewer calories than butter cakes.

TEST ON PIES AND PASTRIES

Completion. Name each of the following pastry methods:

1. One in which a liquid shortening is used with water-- Whirl
2. One in which a vegetable shortening is mixed with boiling water-- Water whip
3. One in which the shortening is cut into the flour-- Conventional
4. One in which part of the flour is mixed with a liquid-- Paste
5. One in which milk is used with a liquid shortening-- Stir and roll
6. One in which egg is used-- French pastry
7. One in which chilling before rolling out is recommended-- Paste
8. One in which the crust is pressed into the pie pan without rolling out Crumb
9. The method described in our textbook-- Paste
10. The shortening which would produce the least expensive crust-- Lard

Figure half of the following recipe and state the amounts in terms of equipment which would be available. (We do not have a 1/8 cup measure!)

11. 2 1/4 cups flour 1 C + 2 T.
12. 1 tablespoon baking powder 1 1/2 t.
13. 1/2 teaspoon salt 1/4 t.
14. 1/4 cup shortening 2 T.
15. 3/4 cup milk 1/4 C + 2 T.

Figure the cost of the following recipe if flour is 10¢ per pound, milk 20¢ a quart, and shortening 3 pounds for 78¢. There are 4 cups of sifted flour in a pound.

16. 2 cups flour .05

17. 1/2 cup shortening

.03 1/4

18. 3/4 cup milk

.03 3/4

Multiple Choice. Place in front of each statement the letter of the choice which best completes the statement.

A 19. The chief cause of tough pastry is—

- A. over-handling.
- B. too much flour.
- C. too much liquid.
- D. over baking.

B 20. A pie top made by cutting strips of pastry and arranging them criss-cross fashion over the top of the filling is called—

- A. pastry cut-outs.
- B. lattice top.
- C. single crust.
- D. double crust.

B 21. Pastry should be rolled out about—

- A. 1/16 inch thick.
- B. 1/8 inch thick.
- C. 1/2 inch thick.
- D. 1/2 inch thick.

C 22. The amount of fat in pastry dough is about—

- A. half as much as in biscuits.
- B. the same amount as in biscuits.
- C. twice as much as in biscuits.
- D. three times as much as in biscuits.

C 23. The temperature of the oven for baking pie crust should be about—

- A. 300° F.
- B. 350° F.
- C. 425° F.
- D. 500° F.

A 24. A small tool used for cutting pastry strips is called—

- A. a jagger.
- B. a slicer.
- C. a pastry blender.
- D. an edge cutter.

D 25. The surface of a perfect pastry should be—

- A. sugary
- B. shiny
- C. dull and smooth
- D. blistery

- C 26. When an unfilled pie shell puffs or blisters in the pan it may be because--
A. it was stretched too much in putting it in the pan.
B. it was pricked too much.
C. it was not pricked enough.
D. the temperature was too high.
- D 27. An unfilled shell which shrinks when it is baked may have been--
A. baked at too low a temperature.
B. not pricked enough.
C. baked at too high a temperature.
D. stretched too much when putting it in the pan.
- A 28. To prevent having a meringue which is underbeaten and in which the sugar is not dissolved--
A. rub a bit of the meringue between the fingers to test.
B. add the sugar to the egg white before starting to beat.
C. beat egg whites until dry before adding sugar.
D. add less sugar than the recipe suggests.
- B 29. Some people brush unbaked crust with a little beaten egg and let it dry before adding filling. This method is used for--
A. fruit pies to prevent juice from boiling out.
B. custard pies to make the bottom crust crisp.
C. meringue pies to use up the rest of the egg.
D. chiffon pies to make the crust crisp.
- B 30. The thickening agent in chiffon pies is--
A. cornstarch
B. gelatin
C. tapioca
D. egg whites
- C 31. The purpose of putting sticks of macaroni or glass tubes in a pie while baking is--
A. to prevent the bottom crust from becoming soggy.
B. to prevent over-browning the edges of the pie.
C. to prevent juice from boiling out.
D. to let the steam out of the pie.
- A 32. A "Slip-slide pie" refers to--
A. A custard pie which was baked in a separate pan from the one in which the crust was baked.
B. A fruit pie which was made by slipping a prepared filling from the can into the unbaked crust.
C. A chiffon pie which was slipped into the crust after setting.
D. A cream pie which is slipped out of the pan to serve.

APPENDIX D

TEST EVALUATION

I am interested in knowing more about the test which you took on this unit and got back today. Now that we have gone over the questions I would like your opinion about the test. It will not affect your grade on the test, nor the course. Please do not sign this paper.

1. Which do you think describes the test? Mark with an X those which do.

☐ too easy
☐ too hard
☐ too long
☐ too short
☐ just right

Others: _____

2. Did you feel that some questions covered something which you had not had a chance to learn? ☐ yes ☐ no

If "yes", please list them by number _____

3. Were there any words used in the test questions that you did not know? ☐ yes ☐ no

If "yes", please list them _____

4. Were there questions which you misunderstood when you took the test? ☐ yes ☐ no

If so, which ones? _____

5. Did you understand the directions for all of the questions? ☐ yes ☐ no

If not, which ones confused you? _____

6. Were you prepared on some topics connected with this unit which were not covered by the test? ☐ yes ☐ no

If so, name them _____

A STUDY OF THE SHORT-ANSWER OBJECTIVELY-SCORED TEST AS AN
EVALUATION INSTRUMENT IN TENTH GRADE FOODS

by

BETTY FRANCES HUEY

B. S., Iowa State University, 1942

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1964

For years evaluation in home economics has been largely subjective because of the difficulty in finding instruments for objective measurements of recognized goals in this field. The purpose of this study was to develop a series of short-answer, objectively-scored unit tests for a high school course in foods. An effort was made to follow the steps in constructing achievement tests which are indicated in the literature and to abide by principles and procedures which are recommended by competent authorities. It was recognized, however, that good test writing also involves originality and creativity, a knowledge of theory in the area of the subject matter, and a recognition of skills and understandings to be judged. The writer did not claim competence in all of these areas but hoped to foster an attitude and approach which would improve testing in home economics. No effort was made to standardize the tests for the purposes of this problem but they were subjected to simple statistical analysis in an effort to control difficulty and discrimination.

The steps in planning the tests which were used, included, first, outlining the subject matter; second, selection of general types of outcomes to be measured; third, defining specific objectives; fourth, designing a brief essay type test to indicate scope of content of the units and to serve as a study guide for students; fifth, item writing; sixth, administering tests to a sample group; and seventh, analyzing results and modifying and revising items. It was hoped that the results of the tests could be used to serve such purposes as: to stimulate students toward more self-evaluation by helping them to recognize the objectives of the group; to diagnose particular strengths and weaknesses of individuals

and of the teaching; to determine the status of individuals within the group and serve as a basis for assigning grades; and to provide a worthwhile learning experience.

In order to check on how much emphasis the items in each test had placed on each of the content areas and pupil behaviors which were being measured, a tally was used to determine the number of items in each test which attempted to measure each of the specific objectives.

The tests were given to a small sample group and analyzed in two ways, for item difficulty and for item discriminative power. Success was determined in terms of the total number who answered each item correctly, and discrimination in terms of high-low difference. Standards for acceptable range of success and discrimination were those of Paul Diederich and the Educational Testing Service in the Evaluation and Advisory Service Series No. 5, which suggested 90 per cent and 30 per cent for range of success and a minimum acceptable high-low difference as 10 per cent. The tests did not measure up well to those standards, but because the sample group was small, it was felt that the results of the item analysis had significance for revising items and improving teaching. A student evaluation of the tests was used which was felt to be especially useful in pointing out areas of misunderstanding.

It was felt that the greatest shortcoming of the tests in general was the scarcity of items which really tested application of general principles to new situations. The instruments, in fact, were not polished in many respects but it was concluded that a variety of instruments can be used to evaluate to some degree the attainment of representative goals

in all areas of home economics and that there is a challenge in planning a practical and effective testing program.

