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KITCHEN

PLANNING



STANDARDS

ISSUED BY THE
SMALL HOMES COUNCIL - BUILDING RESEARCH COUNCIL

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**KITCHEN STANDARDS
SMALL HOMES COUNCIL**

C5.32

KITCHEN PLANNING STANDARDS

The purpose of this circular is to provide standards for designing and judging plans of kitchens using conventional equipment. It describes an easy way to determine how much work counter space is needed, and where it should be, for the arrangement of kitchen appliances. It also indicates the desirable amount and best location for storage to meet various requirements. This can normally be provided with base and wall cabinets below and above the work counter. The planning system is usable for one-wall, "L", "U", or corridor kitchens.

In this circular, "kitchen" refers to an area containing the storage cabinets, appliances, counters, and activity space necessary to prepare and serve meals. The kitchen may be a room in itself, or part of a larger room with space for dining or other family activities.

The basic requirements for the successful design of the work area in the kitchen are: adequate storage, appliance space, counters, and activity space, all arranged for maximum efficiency.

The following are four areas of activity or use commonly designated as "centers": refrigerator, sink, mix, and range-serve. Each area includes storage cabinets, work counters, and the appliances required for the particular activity. The counter for two or more centers can be combined. The sink center is often modified by the installation of a dishwasher, and the range-serve by providing a separate oven center.

As a sound basis for kitchen design, it is necessary to define adequate storage, counter, and activity space. The optimum space in each house will depend on the family possessions and living habits, and will be limited by the amount of space available within the house. Due to the wide variety of requirements, multiple standards have been established.

In the pages which follow, three categories of kitchens are defined: Minimum, medium, and liberal.¹ The minimum standards are established for houses with a floor area of less than 1,000 square feet. The medium standards are for houses with 1,000 to 1,400 square feet, and the liberal standards are for houses over 1,400 square feet in area. ("Floor area" includes the total area for all floors finished as living accommodations. It does not include space in the garage, attic, or cellar.)

PLANNING A KITCHEN

Unless the basic principles of kitchen planning are followed, the efficiency of the homemaker is seriously handicapped. Once a house is built and the equipment installed, the correction of errors becomes costly and is often structurally impossible. Therefore, careful studies should be made before any construction begins.

There are three steps in planning a kitchen:

1. **Choose suitable space standards:** Determine the amount of storage, appliance, counter, and activity space required by the family.
2. **Plan kitchen location and arrangement:** Establish the relationship of the kitchen to the rest of the house, the location of windows, and the traffic pattern in the kitchen.
3. **Plan for efficient operation:** Select the location and relationship of appliances and cabinets. Block these out on the plan and determine if they are adequate to provide efficient work centers.

Each of these steps is important and all three must be coordinated to develop a successful kitchen plan.

Once the kitchen has been planned, it should be checked by the scoring system shown on pages 8 through 12. If the check shows too many deficiencies, additional plan arrangements should be tried.

CHOOSING SUITABLE SPACE STANDARDS

The amount of storage, appliance, counter, and activity space is the first consideration in planning a kitchen. Cabinet needs depend upon the number of food items, utensils, and dishes to be stored. For efficient use, items should be stored where they are first used. The adequacy of space to be provided in the kitchen is an economic decision which is influenced by the family's desires and previous experience. When a choice must be made between increased storage space and increased clearance, most people would prefer the additional storage.

Base Cabinets

The typical base cabinet is 36 inches high, with a counter over a drawer and two fixed shelves. This storage is not ideal. The deep, stationary shelves in base cabinets cause disorder, waste of time, and fatigue. Drawers, properly sized for the items to be stored and with good adjustable dividers, are the most functional storage units for practically all items stored in base cabinets. Pull-out shelves rank second.

The length of the accessible base cabinet front is known as the "base-cabinet frontage." This frontage is an initial measure of the adequacy of kitchen storage.

Although the bulk storage space under the sink is useful, it does not have multiple shelves, and, therefore, is not included in the base-cabinet frontage. Drawers in ranges do not provide adequate storage and should not be included.

Items stored in corner base cabinets with stationary shelves are difficult to reach. This storage is not to be included when computing base-cabinet frontage. Use of cabinets with turn-around (lazy-susan) shelves makes it easier to reach items stored in a corner base cabinet. Shallow turn-around cabinets add no storage. If the turn-around cabinet has deep shelves (see illustration) it provides extra storage equal to 6 inches of base cabinet.

The recommended standards for total base-cabinet frontage are as follows:

Liberal	10 feet
Medium	8 feet
Minimum	6 feet

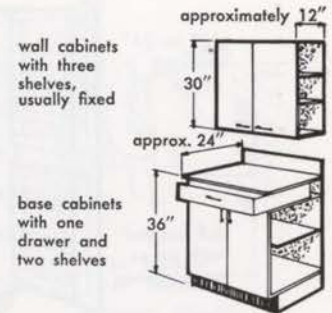
Wall Cabinets

The typical wall cabinet is 30 inches high and has three fixed shelves. However, adjustable shelves are better because they allow the shelves to be spaced according to the height of the stored items, thereby reducing wasted space.

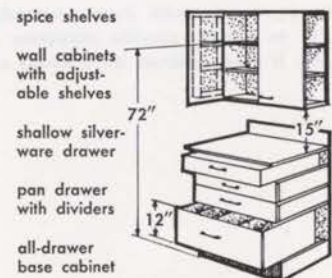
Wall cabinets should be placed 15 inches above the counter. This allows ample room for the mixer or other equipment used on the counters. For convenience in daily use, the third shelf of wall cabinets should be within 6 feet of the floor.

The amount of dinnerware is the key to the wall-cabinet storage requirements. With dinnerware storage for four people, wall-cabinet frontage should equal the recommended base-cabinet frontage. When planning to store dinnerware for 12 people, the wall-cabinet frontage should be increased 48 inches. Wall cabinets for everyday dishes should be near either the sink or the dining area, and preferably accessible to both.

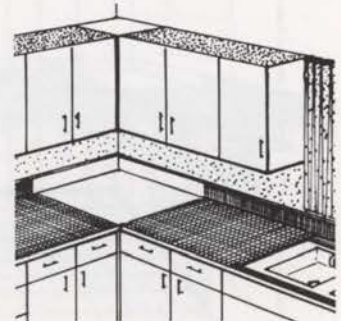
Wall cabinets over the refrigerator, oven, sink, and range or built-in surface unit are not easily accessible and should not be included when measuring the frontage. Wall cabinets should be located above the counter for each center.



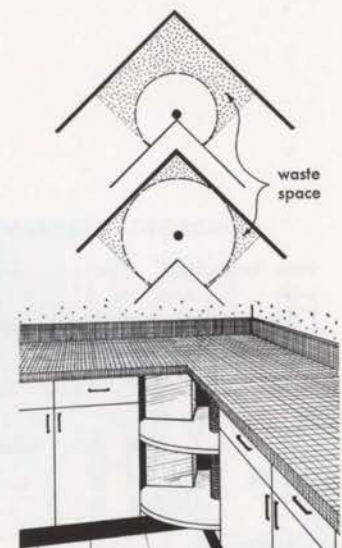
TYPICAL CABINETS



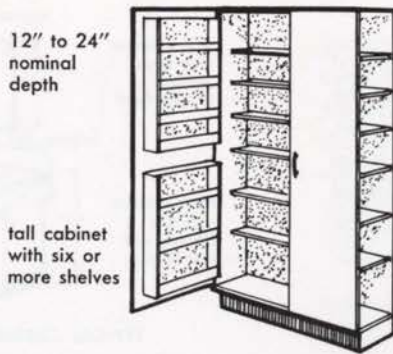
FUNCTIONAL CABINETS



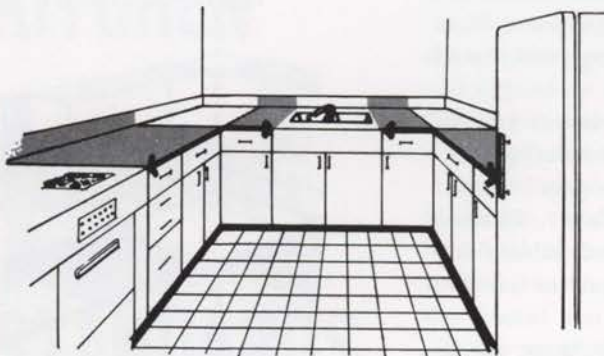
In measuring the base-cabinet, wall-cabinet, and counter frontage, the inaccessible space in corners is not included.



Lazy-susan cabinet with shelves exposed. Storage can be increased considerably by using shelves which occupy all the cabinet space.

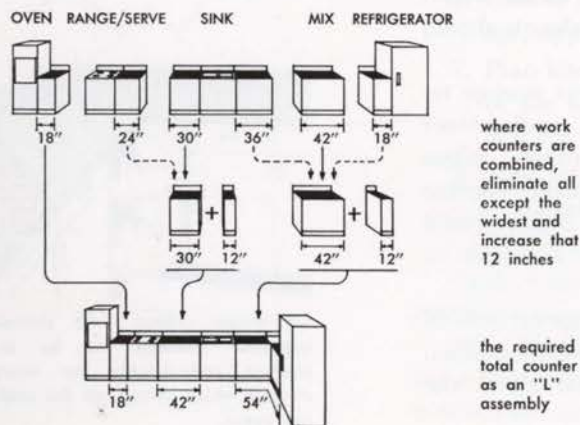


Storage walls, with shelves extending from the floor to at least 72" in height, provide maximum storage, but should be used only if other cabinets have ample counters.



Combine the counter frontage on both sides of a corner. This determines the frontage serving appliances on either side of the corner.

COMBINING LIBERAL-SIZED COUNTERS



where work counters are combined, eliminate all except the widest and increase that 12 inches

the required total counter as an "L" assembly

Storage Wall

If wall-cabinet frontage needs exceed the base-cabinet frontage, or if the space available for wall cabinets is limited, as in kitchens with large windows, a full-height cabinet can be used. A 12- to 24-inch-deep, full-height unit (six to seven feet high) with six or more shelves, is known as a storage wall. Each inch of frontage in a storage wall at least 12 inches deep is equal to two inches of wall cabinet. Each inch of frontage in a storage wall at least 20 inches deep is equal to two inches of base cabinet.

The location of the storage wall may violate the recommendations for storage at the place of first use. However, this is not a severe disadvantage if the kitchen has at least 6 feet of 3-shelf wall cabinets over the work counters, and a counter near the storage wall.

Space for Appliances

Space must be planned for the major kitchen appliances. The frontage for each appliance varies for different makes and models. If the kitchen is planned before the appliances are selected, allow 36 inches for the refrigerator, 36 inches for a double-bowl sink, 24 inches for a single-bowl sink, and 30 inches for the range or built-in surface unit. When planning for a dishwasher or built-in oven, allow 24 inches for each. If appliances are selected before planning the kitchen, use the actual dimensions.

A front-opening dishwasher will increase the usable counter space. Use of the built-in oven and surface units will increase the base-cabinet frontage by providing storage below both appliances.

A 4-appliance kitchen occupies more wall space than a 3-appliance kitchen with the same required amount of cabinets and counters. A 5-appliance kitchen occupies little or no more wall space than a 4-appliance kitchen if the dishwasher is below a useful counter and if part of the required base cabinet storage is below the oven or built-in surface unit.

Counter Space

The counter frontage must be distributed to provide counter on both sides of the sink and adjacent to all appliances. The recommended standards for minimum, medium, and liberal amounts of counter space for the various centers are shown on the next page.

Combined Counters

In a continuous assembly, some counters may be used for more than one of the above functions, and space may be saved by combining these counters. Whenever two or more counters are combined, the multiple-use counter should equal the longest counter in the group plus one foot. However, the combination of multiple-use counters should not reduce the total base-cabinet frontage below that recommended.

RECOMMENDED COUNTER FRONTAGE

Location	Minimum	Medium	Liberal
On the latch side of the refrigerator for setting out supplies	15"	15"	18"
At the right of the sink for stacking dishes before washing*	24"	30"	36"
At the left of the sink for draining and stacking clean dishes (If a dishwasher is placed to the left, 24 inches is liberal.)*	18"	24"	30"
Somewhere in the assembly for mixing and food preparation	36"	36"	42"
Beside the range or built-in surface unit for setting out serving dishes or plates (This does not include any area on the range.)	15"	18"	24"
Beside the oven	15"	15"	18"

* These assume a right-to-left dishwashing sequence. If the sequence is reversed, the counter requirements are reversed.

Space for Activities

Adequate space must be provided for access and work areas. Clearances should not be expanded beyond liberal. Such expansion will result in excessive walking. When an area qualifies under two of the following categories, use the larger clearance.

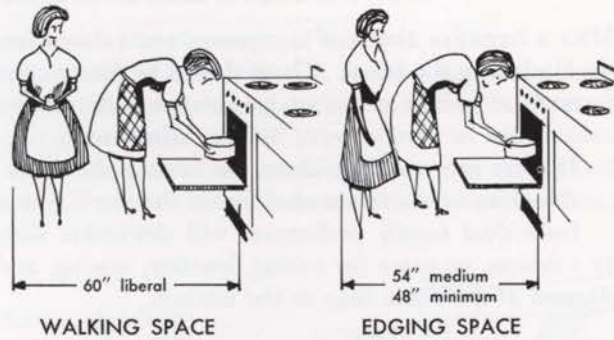
Access space: The space between cabinets or appliances at right angles to each other, and requiring access to one side, should be 38 inches liberal,³ 34 inches medium, and 30 inches minimum.

Work area: The recommended clearance for the work area between base cabinets or appliances opposite each other is 60 inches liberal,³ 54 inches medium, and 48 inches minimum. The same clearance is required from a counter front to a table, a wall, or to the face of a storage wall if the space is a work area. The liberal clearance allows room to walk past; the lesser clearances allow space to edge past.

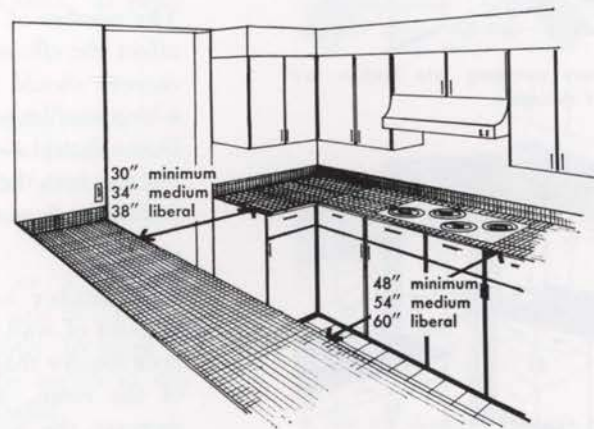
Dining area: Different clearances are recommended for the space beside a dining table that does not face a counter or appliance. If there is no passageway, the clearance from the table to a wall or counter back should be 36 inches liberal,³ 30 inches medium, and 26 inches minimum. Liberal clearance allows a person to leave the table without disturbing others.

If there is a passageway along one side of the table, the clearance to a wall or counter back should be 44 inches liberal,³ 36 inches medium, and 30 inches minimum. The liberal clearance allows room for a person to walk past a seated person.

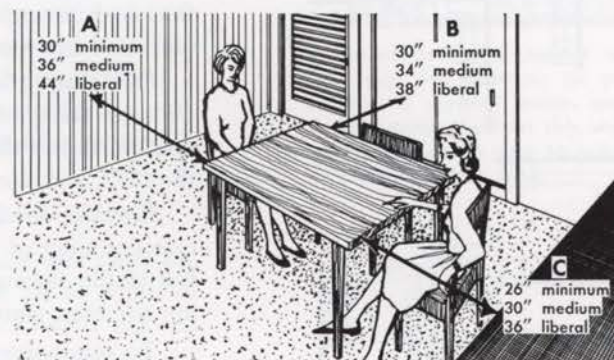
Storage wall access: If there is no passageway, the clearances between the front of a storage wall with sliding doors and a table or a wall should be 38 inches liberal,³ 34 inches medium, and 30 inches minimum. For storage walls with hinged or folding doors, allow room for the door to swing plus 16 inches.



The recommended activity space permits walking or edging past a person using an appliance.



Access and work clearances.



- A. Space to walk, edge, or squeeze past a seated person.
- B. Space to use a storage wall with a chair at the table.
- C. Space to edge past a seated person or to rise from a chair.

PLANNING THE KITCHEN LOCATION AND ARRANGEMENT

After a tentative choice of equipment and cabinet frontage is made, it is necessary to consider the location of the kitchen in the house. There should be direct connection with the dining area and easy access to the front entrance as well as to the service entrance. Access to an outdoor eating area is also desirable. A pass-through counter can be used to serve indoor eating areas.

If there are young children, the kitchen should be located adjacent to, and have full view of, a play area.

Avoid an arrangement that makes the work area the main thoroughfare to the rest of the house.

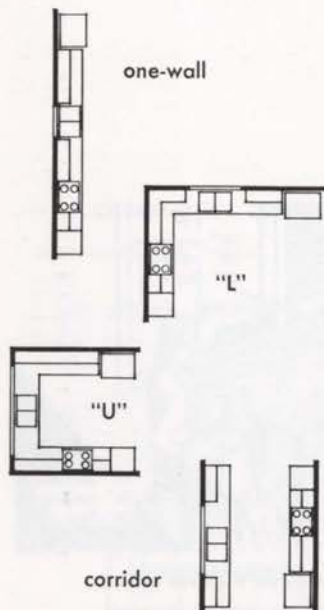
Individual family preferences will determine whether the kitchen will include extra storage, such as utility cabinets, or space for eating, laundry, sewing, and other activities. Space for extra activities should be planned at the same time as the kitchen.



Doors swinging into kitchen are not desirable.



Sliding doors do not block cabinets.



Four basic kitchen assemblies.

Room Layout

The shapes of good kitchens can vary widely, as long as there is sufficient wall space for the appliances and the necessary cabinets and counters.

Sometimes the kitchen plan is affected by certain fixed dimensions imposed by the plan or structure of the house. For example, the location of a load-bearing partition may establish the maximum width or length of the kitchen. This means that cabinets, counters, and appliances must be arranged to make the best possible use of the available space.

Doorways

The number of doorways, their location, and the direction of door swing affect the efficiency of the kitchen arrangement. Generally, doorways in corners should be avoided. It is also desirable to avoid door swings which conflict with the use of appliances or cabinets, or with other doors. Doors should swing against the side of the cabinets or out of the kitchen, but not into the path of travel in halls or other activity areas. A sliding or folding door avoids the problem.

Windows

The number and placement of windows in the kitchen affects the amount of wall space available for wall cabinets. Many building standards require that the glass area shall equal at least 10% of the floor area of the room. More windows are often desirable. Wherever possible, increase the window area to 15% or 20% of the floor area. If the kitchen is part of a dining or family room, the windows need not be in the kitchen work area but should be at least 10% of the total area.

Type of Assembly

The assembly of counters and appliances may take any one of four basic shapes.

One-wall kitchen: With this arrangement the distance between appliances is excessive for kitchens with medium or liberal standards.

"L"-shaped kitchen: This arrangement usually has no traffic through the work triangle, and allows room for a dining area in the opposite corner of the room.

"U"-shaped kitchen: This arrangement has counters and appliances on three sides, and has no traffic through the work triangle. A common modification is the "broken-U" which has a passageway in one section of the "U", and, consequently, has traffic through the work triangle.

Corridor kitchen: This arrangement has counter and appliances on opposite sides of the work area. It eliminates dead corners, but usually has traffic through the work triangle. This and the "U" arrangement are the most compact and require less walking than other arrangements.

To select the best assembly, determine the wall space available and check to see if the cabinets and appliances will fit. If these do not fit, develop a modified scheme. If the kitchen opens into another space, decide if a peninsula or island counter would be desirable.

PLANNING FOR EFFICIENT OPERATION

After the general kitchen arrangement is planned, the next step is the placement of the work centers.

The recommended sequence for a right-handed person is from right to left, that is, the refrigerator center followed in turn by the mix, sink, range-serve and oven centers. However, having each center complete in itself, with adequate counter and storage space, is more important than the sequence.

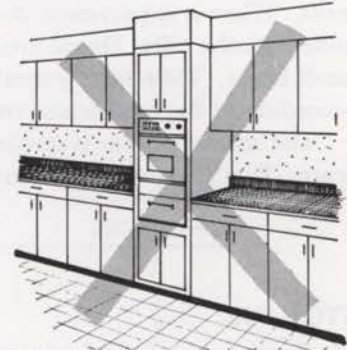
It is usually best to combine counters for at least two centers into one continuous counter, with corresponding storage above and below. An isolated unit is satisfactory if it is a complete center (with storage cabinets and work counters), and not merely an appliance.

Refrigerator and Oven Centers

The refrigerator and built-in oven, each being a tall appliance, should be located to avoid blocking the flow of work from one counter to another. This can be best achieved if the location of the tall appliances is the first step in planning the arrangement of the centers.

Refrigerators are normally hinged at the right and should be at the right end of the counter for convenience in transferring food to and from the refrigerator. The refrigerator should be positioned to avoid interference with the transfer of food between counters and the dining table.

In meal preparation, the built-in oven is used much less than the sink, refrigerator, or built-in surface unit. Therefore, saving steps is not an important factor in establishing the built-in oven location. If practical, it should be near the mix center.

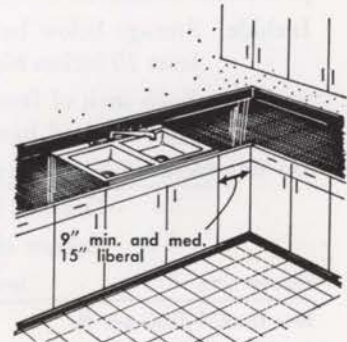


Tall equipment between two counters blocks the flow of work.

Sink Center

The sink with its adjoining cabinets is by far the most-used center.² It should be centrally located. The placement of the sink in relation to a window is a personal preference. Many women like the sink under a window. Installation of the sink along an interior plumbing partition will cost less.

When planning the location of the sink in an "L"- or "U"-shaped assembly, it is important to allow standing space on each side of the sink. For minimum and medium kitchens, 9 inches of counter frontage is needed, measured from the edge of the sink bowl to the corner of the counter fronts. In liberal kitchens, 15 inches is recommended.



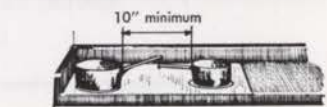
A sink too close to the inside corner of a counter restricts access to the sink counter when two people are working.

Mix Center

For convenience there is little difference whether the mix center is between the refrigerator and sink or between the sink and range. However, the latter arrangement involves more travel because the distance between mix center and refrigerator is greater. Most packaged, canned, and bottled foods should be stored near the mix center.

Range-Serve Center

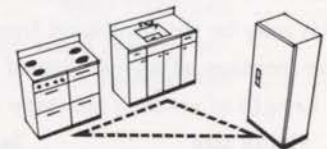
The range or built-in surface unit should not be installed under a window. The curtains are likely to catch fire, and the operation of such windows is hazardous. It is also important to locate the burners to provide adequate space for pot handles so they need not project into a traffic lane. With a 10-inch space between cooking units this is no problem. Units without this space require a counter on both sides to provide a sheltered area for handles.



A set-out counter is needed for the range and clearance for pot handles is required beside each burner. Ranges without this integral space need at least 10 inches of counter on both sides.

Work Triangle

An efficient "work triangle" should be established. Time and steps are saved if the sink, refrigerator, and surface cooking unit are at points of a triangle, the sides of which preferably total less than 23 feet, and not over 26 feet. The distances should be measured from the center front of each appliance. The triangle is smallest with the corridor and "U" assemblies. The kitchen should be planned with the doorways located to avoid traffic through the triangle.



The work triangle is a gauge of kitchen efficiency. It is measured from the center front of the sink, range, and refrigerator.

HOW TO SCORE KITCHEN PLANS

This scoring system, based on recommended principles, has been devised by the Small Homes Council as a guide for judging kitchen designs. The standards are adaptable to any residential kitchen using conventional storage cabinets. Although most of the principles set forth are applicable in large houses, it is not the intent of this scoring system to analyze custom kitchens. In order to make fair judgments it is important to recognize that some planning faults are more serious than others. The points assigned to each factor below have been weighted accordingly. All of the requirements of Part II of the scoring system are not applicable in every kitchen arrangement. When a requirement does not apply, score the maximum number of points to avoid penalizing a kitchen unnecessarily. The liberal kitchen is desirable in a large house, but may be an extravagant use of space in a small house. Therefore, several items in the scoring system have three separate ratings to evaluate the kitchen according to the total house area.

The scoring system is divided into two parts. Part I is used to evaluate the amount of storage and counter space. Part II is used to evaluate the arrangement of such space.

PART I Storage and Counter Space

Find your score from the tables at left, and enter points here

POINTS

STORAGE

1. Total base-cabinet frontage _____ inches

Cabinets must have at least one drawer and two shelves not less than 20 inches deep. Drawers are preferable to shelves.

Include: Storage below built-in surface unit and below built-in oven if the storage space is at least 20 inches high.

Each inch of frontage in a full-height storage wall at least 20 inches deep as equal to two inches of base cabinet.

Do not include: Cabinet space under sink.

Drawers in ranges.

Corner cabinets with stationary shelves.

House size	less than 72"	72" to 95"	96" to 119"	120" or more
less than 1,000 sq. ft.	0	17	17	17
1,000-1,400 sq. ft.	0	12	17	17
over 1,400 sq. ft.	0	7	12	17

2. Total wall-cabinet frontage _____ inches

Cabinets must have 3 or more shelves at least 10 inches deep.

Include: Each inch of frontage in a full-height storage wall at least 12 inches deep as equal to two inches of wall cabinet.

Do not include: Cabinets over ranges, refrigerators, built-in ovens, and sinks.

Corner cabinets with stationary shelves.

House size	less than 72"	72" to 95"	96" to 119"	120" to 143"	144" to 167"	168" or more
less than 1,000 sq. ft.	0	17	17	20	20	20
1,000-1,400 sq. ft.	0	12	17	17	20	20
over 1,400 sq. ft.	0	7	12	17	17	20

Counter Frontage

The "length of counter" refers to the total frontage for a section of counter that extends between appliances or that extends from an appliance to the end of the counter.

This may be the combined frontage of a continuous counter on two adjoining walls.

The frontage of any section of counter can be scored for more than one of the following needs.

3. Length of counter frontage adjacent to the latch side of the refrigerator _____ inches

House size	less than 15"	15" to 17"	18" or more
less than 1,000 sq. ft.	0	5	5
1,000-1,400 sq. ft.	0	5	5
over 1,400 sq. ft.	0	2	5

4. Length of counter frontage to the right of the sink bowl** _____ inches

House size	less than 24"	24" to 29"	30" to 35"	36" or more
less than 1,000 sq. ft.	0	10	10	10
1,000-1,400 sq. ft.	0	6	10	10
over 1,400 sq. ft.	0	3	6	10

5. Length of counter frontage to the left of the sink bowl:** _____ inches

House size	less than 18"	18" to 23"	24" to 29"	30" or more
less than 1,000 sq. ft.	0	10	10	10
1,000-1,400 sq. ft.	0	6	10	10
over 1,400 sq. ft.	0	3	6*	10

* If dishwasher is used score 10 points.

** These counter requirements assume a right-to-left dishwashing sequence.

6. Length of counter frontage to either side of the range or built-in surface unit: _____ inches

House size	less than 15"	15" to 17"	18" to 23"	24" or more
less than 1,000 sq. ft.	0	5	5	5
1,000-1,400 sq. ft.	0	3	5	5
over 1,400 sq. ft.	0	1	3	5

7. Length of counter frontage to either side of the oven: _____ inches

House size	less than 15"	15" to 17"	18" or more
less than 1,000 sq. ft.	0	5	5
1,000-1,400 sq. ft.	0	5	5
over 1,400 sq. ft.	0	2	5

8. Length of counter frontage for mixing: _____ inches

House size	less than 36"	36" to 41"	42" to 47"	48" to 53"	54" or more
less than 1,000 sq. ft.	0	7	10	10	10
1,000-1,400 sq. ft.	0	7	10	10	10
over 1,400 sq. ft.	0	3	5	7	10

9. Total amount of counter frontage: _____ inches

House size	less than 72"	72" to 95"	96" to 107"	108" or more
less than 1,000 sq. ft.	0	18	18	18
1,000-1,400 sq. ft.	0	13	18	18
over 1,400 sq. ft.	0	8	13	18

Total, Part I _____

PART II Arrangement

STORAGE

10. Base Cabinet

If there are at least 9 drawers or pull-out trays (one at least 24 inches wide and 12 inches deep with vertical pan dividers and another not more than 3 inches deep inside): score 3 points _____

11. Wall cabinet

a) If wall cabinets have adjustable shelves score 4 points _____

b) If there are at least 42 inches of wall cabinets within 72 inches of the center front of the sink: score 3 points _____

c) If there are at least 72 inches of wall cabinets over the counter space: score 10 points _____

d) If the wall cabinets are at least 15 inches above the counter top and if the third shelf is no more than 72 inches above the floor: score 6 points _____

COUNTER

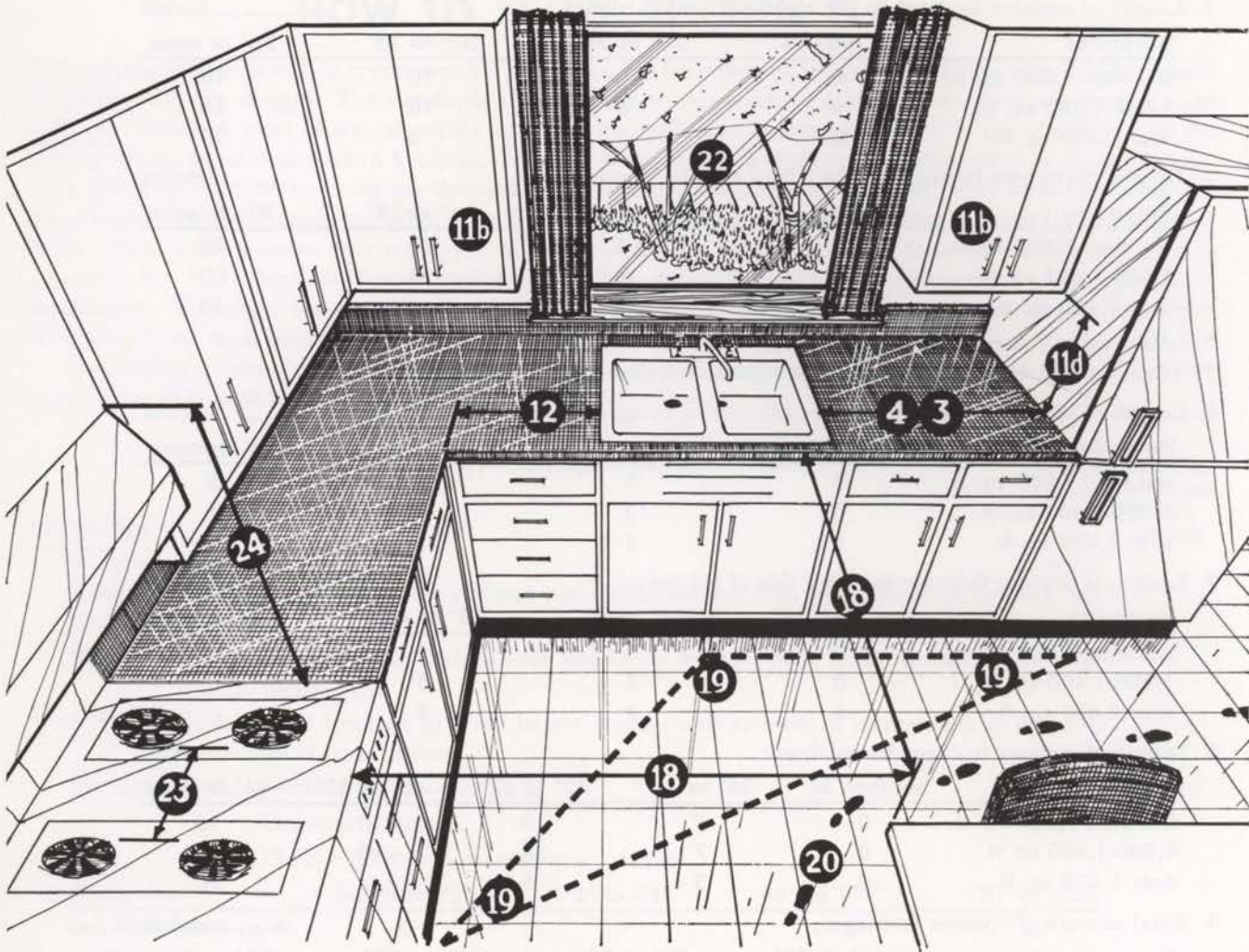
12. If the length of the counter front between the edge of the sink and the corner of a counter is:

at least 15 inches in a house larger than 1,400 sq. ft., or

at least 9 inches in a house smaller than 1,400 sq. ft.

score 3 points _____

If a kitchen has a sink without counter space on either side, it should be rated poor.



The kitchen plan can be reviewed to avoid faults. Some of the critical measurements and placement factors are shown above. The numbers refer to the corresponding steps in the scoring system.

APPLIANCES

13. If two or more of the primary work centers (sink, range-serve, refrigerator) adjoin each other: score 10 points _____
14. If the center front of a built-in dishwasher is not more than 72 inches from the center front of the sink: score 10 points _____
 If a portable dishwasher is stored so that it does not interfere with usage of any cabinets or appliances: score 10 points _____
 If there is no dishwasher, these requirements are not applicable, therefore: score 10 points _____
15. If no two work centers are separated by a tall appliance (refrigerator or built-in oven) or a full-height storage wall: score 6 points _____
16. If there is a double-bowl sink or a single-bowl sink and an automatic dishwasher (front opening) in a liberal or medium kitchen, or a single-bowl sink in a minimum kitchen: score 3 points _____

ACTIVITY SPACE

17. Clearance to provide access between the front of a cabinet or appliance and the blank face of an assembly at right angles to it. _____ inches

House size	less than 30"	30" to 33"	34" to 37"	38" or more	not applicable
less than 1,000 sq. ft.	0	6	6	6	6
1,000-1,400 sq. ft.	0	4	6	6	6
over 1,400 sq. ft.	0	2	4	6	6

18. Clearance for the work area between base cabinets or appliances opposite each other. The same clearance is required from a counter front to a table, wall, or face of a storage wall if the space is a work area. _____ inches

House size	less than 48"	48" to 53"	54" to 59"	60" or more
less than 1,000 sq. ft.	0	6	6	6
1,000-1,400 sq. ft.	0	4	6	6
over 1,400 sq. ft.	0	2	4	6

19. If the length of the work triangle (the sum of the distances between the center front of the sink, refrigerator, and the surface cooking unit) is:
 less than 23 feet score 8 points
 23 to 26 feet score 4 points
 more than 26 feet score 0 points _____

20. If the traffic from the front door or service entrance to the rest of the house does not cross the work triangle or there is an alternate route outside of the work triangle that does not conflict with other activities: score 6 points _____

21. If all doors including the refrigerator door swing so they do not interfere with the work area in front of counters or appliances: score 10 points
 If only one door interferes score 5 points
 If two or more doors interfere score 0 points _____

WINDOWS

22. If the total glass area in windows (width times height) is at least 10% of the total floor area of the kitchen: score 6 points
 If height of glass cannot be measured, assume 36 inches. If a wall of the kitchen opens into a dining or family room, the windows need not be in the kitchen, but they should equal 10% of the combined room area. _____

Total _____

SAFETY

23. If the burners of the range or built-in surface units are arranged so that the pot handles overhang the front or side of the counter or extend over other burners: deduct 6 points _____

24. If the vertical clearance above the range or built-in cook top to cabinets is less than 30 inches or if the vertical clearance to cabinets protected with ¼-inch asbestos millboard covered either with sheet metal or a metal ventilating hood is less than 24 inches: deduct 15 points _____

25. If the range or built-in surface unit is below a window deduct 10 points _____

Total deductions _____

Final score, Part II _____

¹ In establishing these standards, the number and kinds of items to be stored were based on previous research as reported in Small Homes Council Circular C5.31, "Cabinet Space For The Kitchen." Kitchens meeting limited-minimum requirements are called "minimum" kitchens; those meeting limited-ample or liberal-minimum requirements are called "medium" kitchens; and those meeting liberal-ample requirements are called "liberal" kitchens.

² Data reported in "Illinois Research" by the Illinois Agricultural Experiment Station, Winter, 1961, in article entitled "Kitchens to Date — Practical, Convenient Arrangements," by Helen McCullough and Mary B. Farnham.

³ The "liberal" space standards are from Space Standards for Household Activities — University of Illinois Agricultural Experiment Station Bulletin 686 by H. E. McCullough, Kathryn Philson, Ruth H. Smith, Ann L. Wood and Avis Woolrich.

RATING

The scoring system is divided into two parts. For example, 96/91, would indicate 96 (Excellent) in storage and counter space and 91 (Fair) in arrangement. The rating for each part shall be as follows:

Excellent	96-100
Good	92-95
Fair	85-91
Poor	84 or less

THE KITCHEN SCORE — HOW TO USE IT

The two kitchen plans illustrated show how the scoring system can be used to plan good kitchens. Cabinet sizes and clearances are shown, but cabinet heights, drawers, and adjustable shelves are not. The scores assume the cabinets meet these requirements. The plans are scored on the basis of recommendations for liberal kitchens.

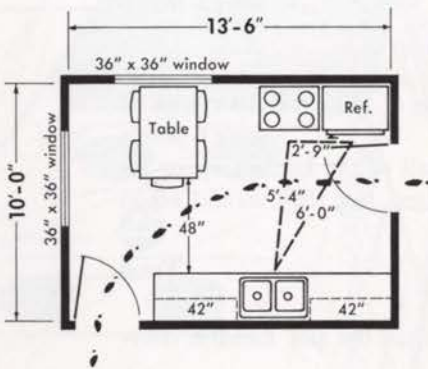
Both plans occupy the same space, 10'-0" by 13'-6", and have the same number of doors and the same provisions for dining area. The difference between them lies in the number of appliances, the amount of storage and counters, and the arrangement of those elements. The available space is used to better advantage in Plan B.

PLAN A

This illustrates a common type of kitchen plan. The sink unit and the adjoining cabinets furnish all the storage and counter for the kitchen. The range and refrigerator are placed together, away from the rest of the equipment.

The faults in this kitchen result in a "poor" rating for both Part I, Storage and Counter Space, and Part

II, Arrangement. The primary faults are: 1) insufficient base cabinet and wall cabinet; 2) lack of counter beside the range and refrigerator; 3) inadequate counter for the mix center; 4) traffic through the work triangle; 5) the dining area interferes with the work area; and 6) the door interferes with the use of the refrigerator.



PART I			PART II					
Step	Amount	Score	Step	Amount	Score			
1	84"	7	10	*	3	17	**	6
2	84"	7	11a	*	4	18	48"	2
3	0	0	11b	84"	3	19	14'-1"	8
4	42"	10	11c	84"	10	20		0
5	42"	10	11d	*	6	21		5
6	0	0	12	42"	3	22	13.3%	6
7	0	0	13		10	Subtotal		
8	42"	5	14	**	10	23		-6
9	84"	8	15		6	24	*	0
Total Part I			16		3	25		0
						Total Part II		79

* The score is based on the use of cabinets which meet these requirements
 ** Not applicable

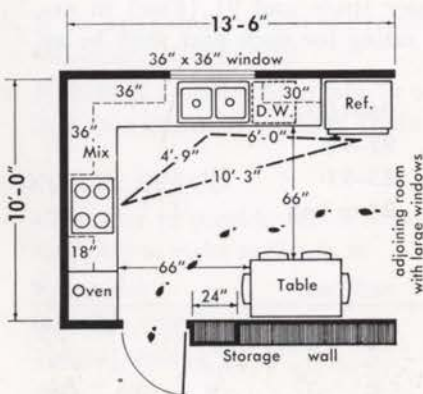
PLAN B

This room is the same size as in Plan A, with planning faults corrected. The location of the corner door has been changed to accommodate more cabinets, which have been expanded to occupy two walls. The additional storage space for dinnerware for 12 people, credited in step 2, was obtained by using part of a storage wall between the kitchen and an adjoining room, a space which is outside the kitchen.

With wall cabinets over all counters, there is room for only one window. The additional glass area is in a room opening into the kitchen.

This kitchen has a built-in oven and surface unit and a dishwasher. The dishwasher has been located at the right of the sink, which interchanges the sink counter requirements.

This kitchen rates "excellent" in both Part I and Part II of the scoring system.



PART I			PART II					
Step	Amount	Score	Step	Amount	Score			
1	138"	17	10	*	3	17	**	6
2	168"	20	11a	*	4	18	60"	6
3	36"	5	11b	102"	3	19	21'-0"	8
4	36"	10	11c	120"	10	20		6
5	54"	10	11d	*	6	21		10
6	54"	5	12	30"	3	22		6
7	18"	5	13		10	Subtotal		
8	54"	10	14	30"	10	23		0
9	108"	18	15		6	24		0
Total Part I			16		3	25		0
						Total Part II		100

* The score is based on use of cabinets which meet these requirements
 ** Not applicable