A student learning to work on stage sets needs to become familiar with standard materials and equipment, the ways in which they operate, and ways to piece them together to create a set for a scene. This package contains the following three lessons for acquainting the learner with such information: resources and equipment, piecing together some simple interior sets, and set decoration. The lessons outline purposes, performance objectives, instructions, activities, and postevaluations. Diagrams illustrate the text. (JM)
PIECING TOGETHER AN INTERIOR SET

TAP * 310

For Theatre Arts Department:

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Clayton, Missouri 63105

Written by:
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INTRODUCTION:

One of the first things a student working on stage sets needs to do is to become familiar with the materials and equipment in a theatre that are "stock" or standard and readily available. He needs to learn how the standard equipment operates and how stock pieces of scenery can be pieced together to create a set for an actual scene. This package will acquaint the learner with such information.

PRE-EVALUATION:

1. The purpose of a pre-evaluation is to help the learner discover how much he already knows and how much he needs to learn. The learner should not be discouraged if he finds the pre-evaluation difficult; that merely indicates that the package probably contains information he can profit from.

2. If you have had little or no experience with stage scenery, you may proceed directly to Lesson One. If you believe you already know some basic stagecraft terminology and have had some experience putting standard flats together to form an interior set, take the pre-test below and grade yourself using the "key" on the following page. A score of 80% (12 correct or better) may indicate that you should choose a more advanced package or only the final lesson in this one. See your instructor for advice. If you score below 80%, you can probably benefit from all three lessons in this package.

Pre-Test

Directions: Place a "T" or "F" in the blanks to the left of each of the statements below to indicate that you believe the statement is "true" or "false."

___ 1. A gridiron in theatre terminology is a metal brace used to anchor scenery to the floor.

___ 2. Pin-and-rail systems are used in connection with "flying" scenery.

___ 3. Counterweighted battens on a proscenium stage are hung parallel to the front of the stage.

___ 4. A flat usually consists of a wooden frame over which canvas or muslin has been stretched.

___ 5. A stage brace cleat is used more often on curtains than it is on flats.

___ 6. Stage screws should never be screwed directly into a stage floor.

___ 7. Lash lines should be used on scenery only when two flats are positioned at right angles to one another.

___ 8. A "toggle" is a metal bar used on flats for lashing scenery.
9. The vertical wooden member of a flat is called a stile.

10. Flats can be joined together with hinges.

11. Another name for a brace that holds flats vertically in place and secures them to the floor is a "stiffener."

12. Door and window frames must be nailed securely to flats before they can be used in a play.

13. A "leg" in stagecraft terminology refers to a curtain hanging on either side of a stage.

14. Many cycloramas are light blue in color.

15. Interior settings on a proscenium stage must always have at least three walls and two corners.

Answers:
LESSON ONE: RESOURCES AND EQUIPMENT

PURPOSE:

There are two ways to learn about the functions and design of stage equipment. One is through "hands on" experience; the other is by reading. The hands on experience is best, but books may clarify exactly how certain equipment works and why it is used.

PERFORMANCE OBJECTIVE:

The learner will demonstrate the proper operation of the pin-and-rail and counterweight fly systems. He will also demonstrate the proper support of a 4'x9' flat with two stage braces and stage screws. Then he will lash a second 4'x9' flat at 90° angle to the first one.

INSTRUCTIONS:

1. This lesson and others in this TAP can be completed by a single learner alone or two learners together. Because of the stress on hands-on experience NO MORE THAN TWO LEARNERS MAY WORK ON THIS PACKAGE AT ONE TIME.

2. The terms "pin-and-rail system," "counterweight system," "flat," "stage brace," "stage screw," and "lash" will be explained to you during the course of this lesson. They may also be checked out in the glossaries and/or indexes which are at the back of most of the books on scenery and scene design in the Drama Resource Area.

3. The major text referred to in this lesson is Scene Design and Stage Lighting by Parker and Smith. It can be located in the Drama Resource Area. There are several other excellent resources on the same shelf in case you find the explanations in the Parker and Smith book confusing or incomplete.

4. Do all the activities in this lesson. Your instructor will locate FLAT A and FLAT B for you.

5. Once you have had someone witness your performance during the Self-Evaluation, proceed to Lesson Two.

ACTIVITIES:

1. Ask your instructor to show you or to appoint someone to show you how to operate the pin-and-rail system and the counterweight system. If no one is immediately available to help you, you may wish to read pp. 276-278 of Scene Design and Stage Lighting by Parker and Smith and then see if you can figure out the operation of the systems on your own; be sure to check your work later with someone who has operated the systems before. Also, be careful to warn anyone on stage of your activity. When you have finished this activity, you should be able to show or tell someone else:

   ___ how to tie off the pin-and-rail ropes
   ___ how to raise and lower the counterweighted battens (pipes for hanging scenery and curtains)
   ___ how to add or remove weights from a counterweight rack
   ___ why one adds or removes these weights
   ___ what the advantage of a counterweight system is over a pin-and-rail system
   ___ what the advantage of the pin-and-rail is over the counterweight system
   ___ what a gridiron in a theatre is
   ___ what the term "flying scenery" means
2. Ask your instructor to show you or appoint someone to show you what a stage brace and stage screw are. There is also a designated piece of scenery (4'X 9') marked on the back "FLAT A" that has been constructed to accompany this TAP. On the back are two stage brace cleats that look like this:

You are to make FLAT A stand upright with the aid of two stage braces. The claw or hook part of the stage brace is inserted into the outer hole of the stage brace cleat (claw facing the muslin) like this:

Then the stage brace is flipped over like this:

and the brace is extended or shortened so it forms the hypotenuse of a right triangle formed by the floor and the vertical flat. The iron at the base of the stage brace is then secured to the floor with a stage screw. This process is repeated at the other side of the flat. However when several flats are secured together with hinges or a stiffener it is not necessary to use two stage braces for every flat. Common sense will dictate where stage braces are needed.

Driving a stage screw into the stage floor may seem to do irreparable damage to the stage floor. Many stage floors are made of soft wood that can be replaced every ten years or so. This is not true of the Little Theatre stage, but we still allow stage screws to be used. When possible try to locate spots in the floor where stage screws have been used before. The floor has lasted over twenty years.
3. Locate a 4'x9' piece of scenery marked on the back "FLAT B." Ask your instructor to show you or appoint someone to show you how to lash FLAT B to FLAT A at a 90° angle. If no one is immediately available to help you, you may wish to read pp. 183-185 of Stage Scenery: Its Construction and Rigging by A. S. Gillette and then see if you can complete the operation on your own. Note that there is a special knot for tying off lash lines. It is most clearly illustrated on p. 286 of Scene Design and Stage Lighting by Parker and Smith.

A diagram of two flats lashed together is shown on the cover sheet of this TAP.

4. Having completed Activities #1, #2, and #3, you should be able to meet the performance objective of this lesson. However, you will have better knowledge about the handling of scenery if you read a summary of what you have learned in Parker and Smith's Scene Design and Stage Lighting pp. 272-279. Be sure to study the illustrations including the ones in the margins on pp. 269-272.

By reading this summary, you will not only learn new information that will be helpful in completing later lessons, but you will become familiar with Parker and Smith's excellent book. When you have a question about scenery, you probably can find the answer in this book. Two other excellent resources are Gillette's Stage Scenery: Its Construction and Rigging and Burris-Meyer and Cole's Scenery for the Theatre which is perhaps the most detailed book on scenery available. Skim through any one of these three books if you want to get some idea of how much information is available in books and how much there is to be learned about the technical aspects of theatre.

**SELF-EVALUATION:**

Your self-evaluation will consist of your demonstrating the operation of the pin-and-rail and counterweight systems, the bracing of a 4'x9' flat, and the proper method of lashing a second 4'x9' flat to it. You are to perform these operations for your instructor or for a person he appoints to observe your work. Have your observer sign the statement below.

I observed (learner's name) perform the above-mentioned operations. He or she demonstrated a clear understanding of how these operations are performed.

Signed: ______________________________
PURPOSE:
For most of the scene work done in class and for some one-act plays large, elaborate sets are inappropriate. Several interior room arrangements can be suggested by fitting together various stock flats and frame pieces of scenery.

PERFORMANCE OBJECTIVE:
The learner will demonstrate the joining together of three to six stock pieces of scenery to create several suggestions of room interiors. He will also draw ground plan sketches for at least 3 different interior arrangements using up to 11 stock pieces of scenery.

INSTRUCTIONS:
1. The 11 stock pieces of scenery mentioned in the performance objective are stored with FLATS A and B that you used in Lesson One. FLATS C and D are each really two flats hinged together, but for clarity in the instructions below they are given a single letter identity.

2. Do all the activities in this lesson. Occasionally, you will need the aid of other people in lifting and moving scenery.

3. Do the Self-Evaluation and ask your instructor to observe your completed interior set.

ACTIVITIES:
1. Using FLATS C, D, and E, create an interior set wall with a door in the middle by completing the following instructions step by step:
   a. Locate DOOR FLAT E and lay it on the stage floor with the muslin against the floor and the wood frame facing up. Leave at least 6 feet on both sides of the flat for other flats to be positioned next to it.

You will notice that DOOR FLAT E has a "lip" along both of its vertical sides. These have been added so as to cover up the crack that would normally show between two flats that are joined together.
b. Locate FLATS C and D and place them face down on the floor on each side of FLAT E as in the following diagram.

The vertical pieces (stiles) of the right side of FLAT C and the left side of FLAT D should fit on top of the two "lip" edges of FLAT E so that the stiles of adjacent flats are flush against each other.

You will find three plates from loose pin hinges attached to the right stile of FLAT C that will fit together with three matching plates on the left stile of FLAT E. A similar arrangement will be found on the adjacent stiles of FLATS D and E. These plates should be hinged together with the loose pin that is already in one of the hinges or with a 6d (2") common head nail.

c. Locate the 12 foot long 1"X3" stiffener that should be among the flats provided with this TAP. It should have 4 loose pin hinge plates on it which should match up with corresponding plates about 18" down from the top of the three flats that have been joined together. There will be two hinge plates on the stiles of FLAT E and one each on "middle" stiles of FLATS C and D.

The reason the stiffener does not go the full length of FLATS C and D is that you may wish to fold the 2 ft. unstiffened sections in. Stiffening these sections could be done with shorter pieces of 1"X3" lumber and more loose pin hinges if that's what you desired.

d. With the help of at least two other workers, "walk up" the piece of wall you have constructed that is now 16 ft. long. To "walk up" a wall, one person must stand at the base somewhere near the center with his foot blocking the base so that it will not slide. Then the other workers position themselves at various points along the top of the wall, lift it, and begin walking toward the worker who is "footing"
the base. All workers should steady the vertical wall while it is being properly positioned on stage and braced with stage braces and stage screws. To help steady the wall you have been working on while it is being braced, you may turn "in" the two 2 ft. wide pieces at either end.

e. Once the wall has been secured, locate the stock combination door frame and door piece and fit it through the door frame opening in the middle flat. Fold down the strap hinges to hold the frame snugly in place.

f. After you have completed your wall, dismantle it by reversing the above steps. You will need to use many of the same pieces in completing the next activity.

2. Build a similar 16 ft. long wall using almost the identical steps as in Activity #1, except this time use WINDOW FLAT F in the center instead of FLAT E. Once the wall is in position and braced, insert the window frame in much the same way as you inserted the door frame. Then dismantle the wall as you did in Activity #1.

3. This time use the 4'X2' headpiece between FLATS C and D to form an open archway. This wall will be hard to "walk up" as you did the two walls in Activities #1 and #2 because there is no adequate bracing at the foot of the 4 ft. middle section. Probably the best solution to this problem is to insert the archway frame (which has a sill iron for a brace) into the wall construction while it is still flat on the stage floor. Lock the frame into place with the strap hinges, and then walk the wall up as you did in the earlier exercises. Position and brace the wall upstage center.

Do not dismantle this wall. It will be used in the next activity.

4. In the first three activities of this lesson you have created three variations of a stage interior wall. By taking the third wall treatment, adding one or two extra pieces, and using black velour curtains hung from counterweight battens, you can create a variety of suggested interior sets. For starters, try the arrangement shown at the top of the following page.
In this arrangement the back wall is the only wall, but the black legs help to finish off the sense of an "interior" room.

(It might be appropriate, here, to comment on some of the new terms introduced in the above diagram. You can check them out in any number of scenery books, but the following definitions will serve for the moment:

- **leg** = a curtain hung at either side of the stage
- **tormentor** = the leg [or flat] positioned closest to the audience near the proscenium wall
- **cyc** = cyclorama, a sky blue or neutral curtain or wall at the back of the stage often used to represent the sky.
- **drop** = a screen-like painted wall or curtains that extend across the stage.

The black velour would be raised in this setting if the scene it represents takes place during the day. It would be lowered for night scenes.)

Many of the curtains indicated on the diagram may already be hung in place. If not, hang the first set of black legs on batten #5 the next set on batten #13 and stretch three or four curtains along batten #21 to form the black drop.

Finally, locate the bay window piece and set it up behind the archway. It is self-supporting.
For the next variation using the archway wall, lash the door flat (FLAT E) flush to the stage right edge of the existing wall, and form the beginnings of side walls by bending the moveable portions (left and right) of the back wall in at a 45° angle. Move the bay window to stage left to suggest a wall. Consult the ground plan and sketch below for pictorial representations of this arrangement.

Ground Plan

Sketch

Note, that without a second arch treatment on the stage left wall the bay window looks a little bare. It is acceptable, however, with short scenes and one-act plays to use elements like this to suggest walls instead of giving the "full treatment." A similar device which you may wish to consider in the next lesson is to set up a fireplace against a black velour background to suggest a wall.
A third variation using the same basic archway wall is diagramed in the ground plan below.

Here, the archway wall is moved from its central position (you will need the assistance of other workers to do this) and the interior set is formed by two walls instead of three. You may wish to lash a 4'X9' flat (FLAT A or B) flush to the downstage edge of the door flat (FLAT E) to extend the length of the stage right wall some. Note that the stage left element of the archway wall has been straightened from its previous 45° position.

As you can see, the possible variations with just these few stock pieces of scenery are practically limitless. Now it is your turn to figure out some other variations. In the spaces provided on the following page (front and back) sketch in ground plans for four additional variations. Remember, you do not have to use all the stock pieces and you may use some (like the window flat) that were not used during the last three activities. If you would prefer to have the cyc as your background rather than some (or all) of the black velours which are already indicated on the sketch sheet, "white out" the curtain symbols with typing correction fluid and draw in a cyc. Additional sketch sheets are available from your instructor should you need them.
Two ground plan plots of the Little Theatre stage:
Two ground plan plots of the Little Theatre stage:

Scale: $\frac{1}{2}$" = 1'
SELF-EVALUATION:

For your self-evaluation choose one of the ground plan designs you created in Activity #7 and piece together and erect the actual setting on the Little Theatre stage using only the stock elements of scenery you have had available for this TAP all along. Show your completed interior and the ground plan it was based on to your instructor.

You may need some additional hardware (hinges, lash cleats, stage brace cleats) to complete your set. These may be obtained from your instructor. When you dismantle your set, however, please remember to remove this same hardware for its presence may confuse future learners who are just starting out on this TAP.

At the end of this lesson you may wish to leave your set standing and use it as is or part of it for Lesson Three. You will need to check with your instructor to find out whether or not this is an inconvenience to him. If it is an inconvenience, you can probably avoid dismantling the entire wall arrangements and lean them against the rear stage wall.
PURPOSE:
Creating the walls of a set are only a first step. To achieve the proper illusion, the room must be appropriately furnished and decorated. What is "appropriate" will depend on the scene that is being performed in the setting.

PERFORMANCE OBJECTIVE:
Using stock flats, set pieces and available furniture, the learner will create an interior setting for a specific scene or one-act play.

INSTRUCTIONS:
1. Do Activity #1
2. Then do any one of the following three activities.
3. When you have completed creating your interior setting for a specific play, arrange a post-evaluation conference with your teacher and bring this packet with you.
4. Please complete the package evaluation form on the last page.

ACTIVITIES:
1. Most interior sets require furniture different from the kind you find in most classrooms. For a full scale production the producer or designer may borrow furniture from private homes, rent it, or sometimes even build pieces especially for the play. For short scene work actors and directors often "make do" with furniture that approximates what they would ideally desire.

   Nevertheless, there are an amazing number of rooms within a school that contain furniture other than school desks or office furniture. In some cases the "owners" of this furniture will allow you to borrow a piece you need for a set if you approach them courteously, explain how you plan to use the furniture, tell them when you would want to pick it up and when you would return it, and guarantee that you will take good care of it.

   It is good to scout out these possible resources in advance. Make a list below of six rooms around school that contain some sort of non-office, non-classroom furniture. If you wish, you may make notes to the right about what specific pieces are located in each room. The first item on the list has been filled in for you.

   1. Men's faculty room - small table, long sofa
   2. ____________________
   3. ____________________
   4. ____________________
   5. ____________________
   6. ____________________
There are some pieces of furniture in the Little Theatre area itself. These are very serviceable and may be altered somewhat in appearance by covering them with a throw cloth or a table cloth or the like. One piece of "furniture" that may be useful in your set decoration later in this lesson is a fireplace.

2. The performance objective requires that you "create an interior setting for specific scene or one act play." Ideally, you should be creating this interior setting for a scene that will actually be performed by fellow classmates. You should be able to locate some other students in class who are currently working on a scene or who plan to begin work on one and would be delighted to have someone create a setting for them.

If this is the case, you will need to read the scene they have chosen to do and consult with the director about the type and placement of furniture, doors, windows, steps, etc. he or she has in mind for the scene. With the director's needs in mind, you should draw a ground plan of the setting you plan to build much like the ground plans you drew for Activity #7 of Lesson Two. This time, however, include boxes, circles or rectangles to represent the placement of furniture within the room.

Show your ground plan to the director and find out if it meets his or her needs. If not, try a second ground plan which reflects what you have learned about the director's desires in your second conference.

Once your ground plan is OKed by the director, piece together your set from the stock flats and set pieces available. Locate necessary furniture and props and gather them together for placement or use on your set. Then add whatever "finishing touches" you can to make the room look "lived in": curtains, ash trays, lamps, magazines, pictures on the wall, etc. Pictures can be attached to the wall by driving nails into the flat where a stile is or where a toggle (piece of wood running horizontally across the center of the flat) is. A standard picture-frame hanger is illustrated on p. 173 of Parker and Smith's Scene Design and Stage Lighting.

3. If you are unable to locate actors and/or a director who need your services as set builder and decorator, read the scenes from The Silver Cord which are on pp. 117 to 129 in 30 Scenes for Acting Practice by Elkind. Decide what doors, windows, and furniture would be necessary and/or useful in these scenes, and consider where it would be best to place these items in an interior setting.

For this activity you have to play the role of both director and designer which gives you the freedom of not having to alter your beliefs to accommodate the needs and wishes of another individual. You do have the responsibility, however, to think like a director and realize that he would not approve of a furniture arrangement, for example, that would force most of the actors to play the scenes primarily on one side of the stage only.

Once your ground plan is completed, check with your instructor. Scenes from The Silver Cord are often in rehearsal in one class or another, and it may be that he can get you together with the actors of an upcoming performance in another class. It would be best, then, to time your completion of this activity (and of the lesson and entire TAP) to correspond with the performance date with the other group.
Ultimately, however, with or without a performing group, you will be asked to piece together your set from the stock flats and set pieces available. Then, as in Activity #2 you are to locate necessary furniture and props and gather them together for placement or use on your set. Finally, add whatever "finishing touches" you can to make the room look "lived in"; curtains, ash trays, lamps, magazines, pictures on the wall, etc.

4. If The Silver Cord has been chosen by another learner working on this TAP, or if it doesn't appeal to you, ask your instructor for a copy of an often done scene from The Effect of Gamma Rays on Man-in-the-Moon Marigolds. Then follow the procedures outlined in Activity #3.

POST-EVALUATION:

The major part of your post-evaluation will be a discussion with your instructor about the set you have assembled and decorated. You will have an opportunity to explain why you chose the wall arrangement and set decorations you chose and your instructor will ask questions or make suggestions. A second part of your post-evaluation will consist of a review of your responses to Activity #1 of Lesson Three and Activity #7 of Lesson Two. Please bring this package with you to your post-evaluation conference.

Also, please fill out the package evaluation form on the next page.
EVALUATION OF PACKAGE TITLED PIECING TOGETHER AN INTERIOR SET, TAP 310

Instructions:

Please answer the following questions and then place this sheet in the box provided by your instructor. Your opinion will be appreciated, so do not ask a friend to help. It is not required that you sign this evaluation.

1. How many school days did you anticipate it would take you to complete this package? ______ SCHOOL DAYS

2. How many did it actually take? ______ SCHOOL DAYS
   If the difference between your two answers is greater than 3 days, what do you feel caused you to take more (or less) time?

3. Did you find the assigned reading in the Parker and Smith book useful?
   ___ yes ___ no
   Informative? ___ yes ___ no
   Easy to understand? ___ yes ___ no
   If your answer to any of the above questions is "no," please comment further:

4. Did you read any sections of the book other than the assigned ones? If so, which?
   Did you look through any other books? If so, which ones?

5. What was the most difficult activity to complete? What made it difficult?
   The most useless? Explain.

6. What problems, if any, did you encounter while working on this package?

7. What changes, if any, would you recommend in the wording or requirements of these lessons?

8. How would you rate this package? (Circle one)
   No  Some  Good  Very
   Good  Good  Good
   Good

   (Optional) Signed: ___________________________