



4-H MODEL PROJECT



PROJECT MANUAL



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OBJECTIVES OF 4-H MODEL BUILDING PROJECT

1. To be able to choose a model suited to one's age and ability
2. To be able to follow directions for building models
3. To develop patience in model building
4. To improve model building skills in the following areas:
 - a. Gluing
 - b. Painting
 - c. Assembly

PROJECT REQUIREMENTS

1. Read and study the information in this manual. Use the information as a guide for building your model.
2. Construct a model according to the guidelines listed for your grade. A model is a small, scale replica; no die casts.
3. Models must be on a display base and covered. The display case can be no larger than 20" long x 20" tall x 20" deep. Suggestion: Place model on piece of heavy cardboard approximately 1 inch larger than the model in all directions and attach with string. Stretch clear plastic wrap over the model and tape to bottom of cardboard.

Grade 3-5: Select a glue together model of your choice (level 2). This model does not need to be painted. It is suggested that the kit instructions with only the variations listed for that model be used. Decals, stickers, partial paint and paint (i.e. accessories and engine) may be used as skills improve. All parts that are suggested need to be included with model.

Grade 6-8: Select a glue together model of your choice (level 2 or 3). This model exterior needs to be completely painted. Other added details may also be added along with details from beginner level. It is suggested that this level also follow the kit instructions, but some variations may be used as skills improve.

Grade 9-12: Select a glue together model(s) of your choice (level 2, 3 or 4). This model will be completely painted. Accessories, parts, and model kits may be intermixed to "build" one of your own design. This may include scaled panorama or set for the display.

MODEL SELECTION

Hobby shops and department stores offer a large variety of model kits. There are model kits for cars, airplanes, trucks, boats, engines, etc. Some are made from plastic, some from wood, and many other various materials. Some kits are inexpensive, have few parts, and are rather simple to build. Others are more expensive, have many parts, and require more skill and experience. Your choices are many.

Guidelines to Help in Selecting a Model

1. How much model building experience do you have? If it's your first, you will want to start with something simple like a plastic car kit. If you've made a lot of models, you'll want to select a more complicated model with many parts which require more complicated construction techniques, such as a large model ship.
2. How old are you? The older you are the more complicated model you'll be able to build. Don't try to build something too hard for your age and experience.
3. Select a model you like and will enjoy building.
4. We hope you will enjoy building your model. Just be sure to pick a model you like, one you can do a good job with, and do your best. If you follow the above guidelines, you can be proud of your exhibit.

You don't have to build your model from a kit. In fact, models you make yourself from wood or various other materials, offer a great opportunity to express your creativity and artistic abilities. Any kind of model is acceptable and encouraged if it's of interest and challenging to you.

Grade 9-12 - You may follow a design or make your own design. Use your imagination and initiative. Of course, you will probably need considerable model building experience before attempting to design and build a model from scratch, but go ahead if you feel more confident. You can personalize model kits to show your creativity and artistic ability. You can do this by the way you paint or decorate them. You will discover various ways to decorate and materials to use as you progress in your model making experiences.

MODEL BUILDING

Model building can be fun and exciting. You can express your creative abilities, learn to follow instructions, and make models you're proud to display and to show your family and friends.

Guidelines to Help You Get Started

1. You will need a table to work from that is flat, and has a protective covering on it. Newspaper or plastic will serve nicely as a protector.
2. Your work table should always be kept clean and free of dirt or leftover pieces.
3. The tools you will need should also be kept clean.
4. Excess glue and painting mistakes should be wiped up before they harden.
5. Read and look over the instructions carefully before you begin. You will see there is a sequence to the assembly and you must follow this sequence to complete your model properly.
6. Each part is usually numbered. Constantly check these numbers with those in the instructions so you know you have the correct part and where it goes.

Now let's discuss gluing, painting, and brushes. You need a good understanding of these subjects to do a good job building your model.

Safety Guidelines

1. Use modeling glue in a well ventilated or open area. Vapor from the glue can be harmful if used in an enclosed or poorly ventilated place.
2. Handle sharp tools carefully. Precision tools used in modeling are razor sharp, consequently, they are very dangerous when used or handled improperly.
3. Use aerosol spray paint in an open place, but do not work around open flames with the aerosol paint supplies and/or the plastic component parts. The spray mist is flammable and spreads or travels easily. It is suggested that your models be spray painted in a three-sided cardboard box to collect and retain the spray drift.
4. When using aerosol spray paint, be careful not to inhale paint fumes.

Gluing

As you work on your model, have a piece of sandpaper or a knife handy for scraping off plastic burrs, casting, mold lines and other imperfections. Plating on chrome parts also need to be scraped where plastic glue is to be applied. Plastic glue will only glue to plastic.

Before gluing, fit parts together. Plastic parts that are not plated can be held together with cellophane tape until dry if these parts are not too small or easily broken. Small or easily broken parts can be held together with pins inserted into a small smooth board.

Use a straight pin to puncture the tip of the glue tube so you can control the amount of glue. When gluing, use a thin pointed stick such as a toothpick to apply the plastic cement. Apply only a little to each surface. If you use too much cement, it will ruin the appearance of the parts and the model.

The best glue for any plastic model is recommended on the side of the model box. Plastic cement is used for plastic models. For attaching clear plastic parts such as headlights and windows, use white glue or rubber cement. Plastic cement will frost over clear plastic wherever it touches. Always remember to keep the glue off of your fingers.

Painting

Painting models is a matter of care and patience. Parts are usually painted before assembly in order to make things easier and to prevent slopping unwanted color onto an already painted surface. Good brushes always should be kept clean.

Good color selections and combinations are a most important consideration when detailing models. It is helpful to have pictures of the model you are making always before you, especially when you want detail beyond anything a kit or its instructions give you. When selecting the color of paint for your model, try to choose a realistic color. Your model should resemble the real thing as much as possible.

Beginners should use enamel colors found in all hobby shops and model stores. There is a wide variety of colors and with some care and a good brush; they will give a smooth, glowing surface. Remember that it is best to flow these paints on rather than to brush them on. It is best to go slowly and build up the coats of paint

rather than to attempt to cover everything at once. When a part is painted, place it in a box with a cover that fits tightly, so that dirt cannot get on the painted surface while it dries.

Spray cans should only be used after the model builder has had considerable practice with paint. If you are going to spray paint your model, remember not to hold the can too close to your work. About eight inches away should give you satisfactory results. Always keep the can moving back and forth while spraying. Build up the color slowly and carefully putting many thin coats until a smooth, shining surface has been reached. Make certain that the part is dust free before applying any coat. Bits of dust particles may be sandpapered carefully off the surface. First be certain, though, that it is thoroughly dry.

Decals are a decorative additive that many model builders add to their models. Some kits come with decals or they may be purchased separately.

Brushes

When painting with enamel paints, use a good, soft brush – one with hairs that will not come out. At least four brushes should be on hand; a small one with a pointed end for lines and fine work, one with a round end, one with a flat end about ¼ inch wide, and one broad flat brush about ½ inch wide. The small pointed end brush gets into corners best, the round ones put paint on generally. The broad flat brush is best for larger, flat surfaces. Keep the brushes clean when not in use. Paint thinner will work to keep them clean.

We hope this information has helped you learn more about model building. You may wish to continue your study of model building by finding information in the library or purchasing booklets available in hobby shops. Also, some newsstands have magazines on model building.

Study the 4-H exhibit requirements, and good luck with your model building hobby!

SCORE CARD FOR MODELS

Judging is based on the following:

Workmanship – paint and detail	30 %
- assembly	30 %
Appearance and display	20 %
Difficulty (for grade level)	10 %
Originality and authenticity	<u>10 %</u>
	100 %

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