MAKE ANIMAL SCULPTURES WITH PAPER MACHE CLAY
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How to Create Stunning Wildlife Art Using Patterns and My Easy-to-Make, No-Mess Paper Mache Recipe - The New Way to Papier Mache

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INTRODUCTION

“Every child is an artist. The problem is how to remain an artist once we grow up. “

Pablo Picasso

What’s new about the methods in this book? Just about everything...

The all-new recipes and methods in this book will help you master the art of creating life-like animal sculptures with inexpensive materials in the easiest and most enjoyable way possible. These are the same materials and techniques that I developed to use in my own work.

HOW YOU’LL MAKE YOUR ANIMAL SCULPTURES:

1. Transfer a pattern onto cardboard—patterns are included, and I’ll also show you how to make patterns of your own, using your own sketch or photo.

2. Assemble the pattern pieces into an armature, so your sculptures have a natural, life-like posture.

3. Pad the armature with newspaper and masking tape to form a solid base for your paper mache clay.
You are probably familiar with the traditional methods of building sculptures with paper mache, (or papier-mâché, if you prefer to spell it in French). It usually involves sticking strips of newspaper onto a form with a paste made from flour and water. As you can see from the previous photos, there are no paper strips or paste used in the projects you'll be making in this book.

I used paper strips and paste for many years to make my own sculptures, mostly because the materials were affordable. I accepted the drips of paste on my counters and floor, on my hands, (and sometimes the dog), because they were a part of the creative process. In fact, many of the tutorials on my popular paper mache website show projects using traditional methods.

However, as soon as I developed the recipe for paper mache clay, I stopped tearing up newspapers and mixing up paste. From this sculptor’s point of view, the new clay has a number of important advantages over traditional methods.

The most obvious advantage is the mess—there isn’t any. However, that’s not why I worked so hard to develop these new methods. I spent many months experimenting with new recipes and techniques for just one reason: I wanted to find an easier way to create life-like animal sculptures with realistic details.

If you use the glazing technique I recommend, most of the details will almost “paint themselves,” and your finished sculpture will be very lifelike.

4 Cover the armature with a thin layer of home-made paper mache clay.

5 Paint your sculpture with acrylic paints after the clay is dry and hard.

Note
The new methods make sculpting easier, and that makes sculpting more fun.

My first priority was to find a method that would allow me to draw my intended sculpture on paper (or look at a photo) and be confident that my finished sculpture would actually turn out the way I wanted it to with the least amount of effort. That’s when the cardboard patterns were developed. They don’t do the sculpting for you (this is not “sculpt-by-number“ by any means), but it simplifies the process and it increases your chances of creating a successful sculpture. That’s not to say that you can’t make beautiful animal sculptures without making a pattern first, (many people do), but I use them because it gives me more predictable results. Once you try them, I think you’ll agree.

Next, I worked to find a solution to two of the problems that have plagued every sculptor who has ever made a crumpled paper and masking tape armature and covered it with traditional paper strips and paste:

1. How do you make the “skin” of your sculpture as smooth as you want it, without fighting with the bumps and crannies that are formed when you wad up a few pieces of paper and cover them with tape?

2. And how do you create fine details, like the eyes and nose?

The solution I eventually developed combines a few inexpensive products to create a material that can be spread over a form the way you would frost a cake (eliminating the bumpiness and the many layers of paper and paste. This material can also be modeled into fine details, and takes only a few minutes to make. It dries remarkably hard and strong, even when applied thinly - 1/8” or so.
I call this material Paper Mache Clay, but you could call it “home-made air-dried cellulose-reinforced polymer clay” (I don’t know how to spell that in French). The home-made paper mache clay is easy to use, it isn’t messy, and it lets you get to your goal (a magnificent animal sculpture) in less time—and in a way that I think you’ll find is much more enjoyable than messing around with paper strips and paste.

My instructions are not meant to show you how animals “should” be sculpted. Instead, what I’ve tried to do is create a system of steps that move you towards the successful creation of life-like animal sculptures in the easiest way possible, so you can concentrate on the fun parts instead of struggling to figure out how to put the materials together. Once you find out how enjoyable it is to create sculptures using these methods and materials, I know you’ll go on to invent new techniques that reflect your own character and style.

Please visit my blog to ask questions about this book, share your own ideas and methods, and show off your sculptures. Thousands of people visit my blog every week, and the conversation gets quite interesting at times. I do try to answer every comment I receive on the blog.

Please join us at UltimatePaperMache.com/book/
WHAT YOU’LL NEED FOR PAPER MACHE CLAY

Cheap Toilet Paper

The toilet paper completely “dissolves” into the clay in just a few minutes when you mix the ingredients together with an electric mixer. Since the resulting pieces of paper in the clay are so tiny, your clay can be formed into much finer details than you could get if you used another type of paper.

White Glue (Elmer’s Glue-All®)

I’ve found that the Elmer’s Glue-All® brand works the best. If this product is not available in your area, ask your hardware store for a “PVA” glue. PVA stands for Polyvinyl Acetate, a rubbery synthetic polymer. If at all possible, use the Elmer’s Glue-All, because we already know it works.

However, if you must use a glue other than Elmer’s Glue-All®, buy a small container so you can make up just one recipe as an experiment. Your clay should be smooth and easy to work with. If the clay gets lumpy or looks curdled, you need to find a different glue. (Hint - Elmer’s School glue does not work).

A 7 oz bottle is enough to make about a quart of clay. Many of the sculptures in this book can be made with one quart of clay or less. If you would like to make larger sculptures, (or more of them), you should be able to find the glue in gallon containers at the hardware store.

Drywall Joint Compound

Joint compound is normally used in the construction industry to smooth out the joints between pieces of plasterboard on new walls. The primary ingredient is either calcium carbonate or gypsum. Joint compound is called joint filler in the UK, Fugenmasse in Germany and joint finish in Australia. A gallon container of joint compound costs about $6.00 at the time of this writing, and it will give you enough material to make many quarts of paper
mache clay. If you keep the lid tightly closed, the joint compound will stay usable in the plastic tub for months. Buy the regular joint compound that is already mixed and ready to use. It comes in a handy plastic tub. Don’t get dry powder or fast-setting joint compound—they will not work.

**Boiled Linseed Oil**

The linseed oil improves the clay’s ability to take fine details. You can usually find it at the hardware store or paint store. If you can’t find linseed oil, you can leave it out of your clay recipe—your clay will still work.

**White Flour**

The white flour is used as a filler. Buy the cheapest flour you can find at the store, if you don’t already have some on hand. You don’t need much. If your clay comes out feeling too sticky, use less flour next time, or leave it out.

**A FEW MORE THINGS YOU’LL NEED:**

- Some of the projects in this book have ears made from expanded aluminum that is sold in hardware stores. This product is designed to keep leaves out of gutters. If your local store doesn’t carry this product, you can make your ears out of light cardboard instead, (you’ll see how to do this when you make your piglet), or you can buy metal grids that are specially designed for sculptors at an art store or online art supply website.
- A box cutter or craft knife for cutting your cardboard patterns.
- Masking tape (the cheapest brands are best for this work.) You’ll use a lot of masking tape, so pick up several rolls in different widths.
- Some sandpaper—and a face mask designed to be used while sanding.
- If you don’t already have a few scraps of bendable wire (for things like piglet and elephant tails), pick up a small roll of wire and some inexpensive wire cutters.
- An inexpensive glue gun, glue sticks and sheets of Styrofoam from a craft store. These are used when you put your pattern pieces together. For the pig and
the horse, you will also need four long finishing nails or pins to temporarily hold the legs in place before they’re glued.

- **A small portable mixer.** (The mixer chops up the toilet paper into very fine pieces. Mixing by hand will not work.) You can usually find a used hand mixer for a few dollars at a thrift store.

- **Old newspapers** and some **aluminum foil**.

- Scraps of **corrugated cardboard or foam board**, and some **light cardboard**, like the kind used for cereal boxes. Poster board or heavy paper can be substituted for the light cardboard.

- To paint your sculptures you’ll need some **acrylic paint** and **brushes**. I’ll give you the names of the colors I used for each project. Very few colors were needed for all the animals in this book. I also recommend that you purchase some **Golden Acrylic Glazing Liquid**. If your local art store doesn’t carry this product, you can find it online. I use this material extensively in my work because it makes it easier to get a realistic look when I paint my animal sculptures.

- For the final protective finish you’ll need some **matte acrylic varnish** or a protective coating of your choice.

**HOW TO GET THE MOST OUT OF THIS BOOK**

Some of the projects in this book are much easier than others, and some may appeal to you more—but I do hope you will try them all because you’ll learn new skills in each chapter. As I said before, my goal is to show you a system of steps that move you towards the successful creation of life-like animal sculptures in the easiest way possible. If you complete all the projects in order, you
should then be confident about taking what you learned in this book and use the same techniques to create original designs of your own.

In the first few chapters you’ll learn basic techniques, like creating simple armatures out of crumpled newspaper and masking tape, and then applying the paper mache clay to your form and creating interesting textures. I think you’ll enjoy learning these skills while making your first projects—the vintage chicken and the clown fish. Then, as the difficulty level increases, you’ll add to your skills while following a set routine for creating the armatures. The bodies and faces of each animal are unique, but the steps you use to create them will stay the same from one project to the next. You’ll find instructions for making your own patterns from original drawings or photos at the end of the clown fish and piglet chapters.

Want to make a giraffe or rhino? No problem—soon you’ll know how to sculpt any animal you like.

The paper mache clay recipe was developed to replace the traditional paper strips and paste that many students and artists now use. Your sculptures should last just as long and remain just as beautiful when you make them with the clay instead of traditional paper mache materials. However, the recipe has not been tested in a laboratory, so it should not be considered “archival.”

**Saf**ety Issues

As with many other artists’ materials, the paper mache clay and acrylic paints used in these sculptures should be used with care.

Several of the ingredients in paper mache clay are made for the construction and remodeling industry. Please read the labels carefully before using these products if you are not already familiar with them. If you’re supervising a younger artist, please make sure the child is old enough to understand how to use the products safely.
Paper mache clay is *not* edible, either while wet or after your sculptures have dried. The finished sculptures should not be used as toys for small children—especially teething babies.

Several of the projects in this book were painted with acrylic paints that contain pigments that need to be treated with respect, such as Cadmium Red and Cadmium Yellow. Since most of the projects are fairly advanced, I think it’s reasonable to assume that you’re mature enough to understand the need to handle these pigments with care—which means, primarily, that you should keep your brushes away from your mouth. If you supervise younger children, I suggest you use craft paints with non-toxic ratings on the label, instead.

You should *never* sand paper mache clay (or *any other* material) without using a face mask. Sanding causes fine dust to be thrown up into the air. If you don’t use a mask, the dust will enter your lungs. Once it’s in there, it may never come out, and that’s not a good thing. Be smart—use a face mask when you sand.

Craft knives and box cutters are basically razor blades on a stick. Be extra-cautious when using these tools. I still have a scar to remind me that I cut my thumb with a box cutter almost 40 years ago, so I speak from experience. Use knives carefully.

Glue guns and melted glue are hot. Yes, I know that’s obvious, but you’d be amazed at how often I manage to stick my finger in hot glue. You, of course, will be more careful.

I recommend that you air-dry your sculptures near a radiator or heat vent instead of drying them in the oven, because Elmer’s Glue-All contains a form of plastic. In the summertime you can put your sculptures outside in the shade to dry naturally. If you’re impatient, you can keep yourself busy by starting another project while your first one is drying.

Now let’s move on to the next chapter, for an overview of the skills you’ll be learning in this book.
In this chapter you’ll learn how to make your paper mache clay, how to use the patterns in this book, how to create your armatures, and how to apply your clay.

Every project in the book has a “skin” made from paper mache clay. We went over the ingredients in the previous chapter, so flip back to page 10 if you skipped right past the introduction and if some of the materials are unfamiliar to you.

Also, if you need help in finding out what joint compound is called in your part of the world, come visit my blog and leave a comment. Another reader from your country is likely to help you out.

This photo shows you how your clay will look after you’ve mixed up the ingredients. It spreads easily with a knife, and can be molded into fine details. The recipe and mixing instructions begin on the next page.
Paper Mache Clay Recipe

Ingredients:

- 1 roll of toilet paper (see step 3, below)
- 3/4 cup (170 mL) of white glue (Elmer's Glue-All®)
- 1 cup (285 mL) of pre-mixed drywall joint compound (see previous chapter, page 10, if you aren’t sure what this is)
- 1/2 cup (63 gm) white flour
- 2 tablespoons boiled linseed oil, more or less (I don’t actually measure mine— that way I don’t have to wash out the spoon...)

Tools and Utensils:

You’ll also need a large bowl, an electric mixer, a measuring cup, and an air-tight container. And a tablespoon if you’re not as lazy as I am. The recipe makes approximately 1 quart (about 1 litre) of paper mache clay.

Mixing Your Paper Mache Clay

1. Fill a high-sided bowl with warm water. Remove the toilet paper from the roll and throw it into the water. Push down on the paper to make sure all of it gets wet.

2. Then pick up the paper and squeeze out as much water as you can. Your paper should be damp, but not drippy.
3 This step only needs to be done the first time you make a batch of clay.

Take your damp paper and press it into a large measuring cup. The recipe in this book works well with a roll that contains approximately 1-¼ to 1-½ cups (296 to 355 mL) of wet paper pulp.

If your roll contains more than this amount, your clay will come out too dry to be workable. Either buy a different brand with smaller rolls, or measure each roll before using it so you’ll use the correct amount of paper with each recipe. After the first roll, guessing should be OK.

Put the paper back in the bowl and break it into chunks about 1” across. This will allow your mixer to move around the pieces and break them apart.

Mix the ingredients together, using a hand-held electric mixer. The mixer will pull the fibers of the toilet paper apart and turn it into pulp. Continue to mix for at least 3 minutes to make sure the paper has been mixed in with the other ingredients.

Your paper mache clay is now ready to use. If you won’t be using it right away, keep it in a tightly covered plastic container. The clay should stay usable for at least a week if you keep it covered.

Troubleshooting and Customizing the Recipe

If your clay seems too dry or if it makes clumps instead of a nice workable clay, check to make sure your toilet paper rolls don’t have too much paper. (See Step 3, above). Also check the brand of glue you’re using—Some brands of white glue don’t work very well.
Making Your Armatures

You make your inner forms with newspaper, a few scraps of cardboard, and masking tape. Some of the projects call for aluminum foil for padding smaller parts.

Simple armatures without patterns:

1. Gather up some newspaper and crumple it into the basic shape you need for your sculpture. Then start squishing, poking, prodding and taping until you have the shape you want.

2. Completely cover your crumpled paper shape with masking tape. You should have a firm, compacted form that will provide support for the clay. There will be bumps and ridges, but don’t worry—the paper mache clay will even them out.

Note

The photos here show a simple ball-shaped form, but in coming chapters you’ll also make long thin twists of paper (for the chicken’s tail and the elephant’s trunk) and a flat fish-shaped form for your clown fish. Crumpled paper can be made into almost any shape you can imagine, and several shapes can be taped together to create more complicated forms.

If you can’t find Elmer’s Glue-All in your local stores, you may need to experiment with other brands of PVA glue, but make small batches until you find a brand that works.

If your clay feels sticky, make your next batch without the flour.

If you can’t find linseed oil, you can leave it out as well. The clay will feel a bit different, but it will still work just fine.
Forms with patterns:

For most of the projects in this book you will be using a pattern. I’ll use the baby penguin pattern here to show you how to pad the patterns with crumpled paper and masking tape. In the next section I’ll show you how to transfer the pattern itself onto cardboard so you can make a sculpture in any size you prefer.

1. After you cut out your pattern from cardboard or foam board, crumple up a piece of newspaper into a shape that will fit a specific area—the head, for instance. You will be filling out the shape on one side at a time, and the edges of the pattern will determine the final profile of your padded form.

2. Tape the crumpled paper to the pattern. The tape should go over the edge of the pattern so the paper is firmly attached to the armature—but you don’t want any extra paper to cover the edges. The pattern should be allowed to determine the final shape of the animal, as seen from the side.

3. When your first bit of paper is covered with tape, continue to cover the pattern with more paper until you have the final shape you need. Some areas will need to be fatter than others.

   After the first side is done, flip the pattern over and cover the other side.

In the step-by-step instructions in each chapter you’ll see how much each pattern piece will need to be padded, and which areas, like the baby penguin’s beak and wings, don’t need to be padded at all. The padding should be well-taped, and the legs and wings should be very firmly attached so the completed form or armature can stand on its own.

Beginning with the adult penguins, you’ll also be using Styrofoam and a hot glue gun to attach the legs to your armatures. I’ll show you how to do that on page 22.
TRANSFERRING PATTERNS TO CARDBOARD

In this section you’ll learn how to transfer the patterns from the book onto cardboard, so you can use the cardboard pieces to help shape your armatures.

You’ll need a ruler, a pencil, and something with a square corner. A carpenter’s square is very helpful, but you can also use a piece of paper or even the edges of this book.

1. Draw a grid on your cardboard. Your grid should have the same number of squares as the pattern in the book. However, you determine the size of your squares, because that’s how you control size of your finished sculpture.

2. Transfer the pattern to your cardboard by drawing just one square at a time. If you ignore everything else, it will be easy to reproduce the fairly simple shapes inside each square.

3. When you have all the pieces drawn on your cardboard, cut them out carefully with a craft knife. To make two identical legs or ears, use the first piece as a pattern and trace around it.
ATTACHING THE LEGS WITH STYROFOAM BLOCKS

Beginning with the family of Emperor Penguins, you’ll be attaching legs to your armatures using Styrofoam blocks and a hot glue gun. You can find Styrofoam at craft stores, and it’s easy to cut and measure. I use a serrated bread knife to cut my foam blocks.

The foam blocks are used as separators so you can position your legs a precise distance from the inner body pattern. The measurements are based on the size of the squares you use when you transfer the original pattern onto cardboard. That way, I can tell you how large to make the separating blocks for the legs, even though you’re free to make your animal sculpture as big or as small as you like by changing the size of the squares you use for your pattern.

The outer edges of your foam blocks should fit inside the outside edges of your leg pattern at it’s widest end (the hips and shoulders). If a corner of the block sticks out beyond the leg pattern, just cut it off with a serrated knife.

Front Legs

The separator blocks are a different size for each project. The important measurement is the depth of the block, because this determines how far the leg pattern will be separated from the body.

The example shown on the left is for the dachshund’s front legs. The instructions call for a block that is two squares deep. I glued two pieces of foam together to make my block the right size.

In the example on the right, for the piglet’s front legs, the instructions call for a block that is ½ as deep as the size of the squares on your pattern grid.
Hind Legs

The foam blocks for the hind legs need to be cut at an angle. As you can see from the photo on the left, (of the dachshund just after the legs have been attached to the body pattern), the foam blocks on the hind legs are much deeper at the front than at the back. This puts the legs at the correct angle so the dog can sit up nice and straight. The African elephant’s hind legs are made the same way.

Even when animals are standing up, like the horse and the piglet in this book, the blocks for the hind legs are cut at an angle so the legs are closer together at the back, towards the tail. In the photo on the right you can see me holding the hind legs of the horse armature as the hot glue cools.

The foam block on the left is cut according to the instructions for the hind legs of the dachshund. The block is one square deep at the back, and two squares deep on the front. Although the measurements for each type of animal are different, all measurements will be based on the size of the squares you used for your pattern grid.

After the blocks are cut, they’re first glued to the leg patterns with a hot glue gun, and then they’re attached to the body pattern. The legs shown here are for the piglet. In the chapters for the standing animal sculptures I’ll show you an easy way to make sure your finished sculpture will stand up without wobbling—an especially important trick to know for the horse, who has only three feet on the ground.
APPLYING YOUR CLAY

When the legs are attached, and the form is padded and taped, you’re ready to apply the clay. Use a knife to spread the clay onto the form, and smooth it as you go along. As you can see, any irregularities in your armature will be smoothed out as you apply the clay. The first layer of clay should be ⅛ to ¼ inch (3 to 6 mm) thick.

You can use your fingers if you prefer, but the clay will stick to your hands and it will be much more difficult to get a nice smooth surface. A knife is really easier. You will only be able to apply clay to about one half of a sculpture at a time. As soon as you no longer have a dry spot to hold on to, put the sculpture aside to dry in a warm place. When the clay is dry enough to handle, continue adding clay until the entire piece is covered.

When the first smooth layer is dry, you can add more clay to the areas where you’ll be sculpting details, like eyes and noses. For fine details you can use clay modeling tools, found objects, or a table knife, as shown. Experiment with different tools until you find the ones you enjoy using.

Textures

You can apply a texture at the same time that you apply your first layer of clay, but it is almost always easier to apply a thin, smooth layer first and let it dry, then add your details and textures with a second layer.
That way, you don’t have to worry about finding a dry spot to hold on to while you work on your textures and details.

You can make realistic-looking fur with the edge of your knife, or you can use found objects to press a texture into the clay. You may be surprised by how many common objects you can find to create realistic or fanciful textures in your future paper mache clay sculptures. In fact, you probably have lots of “modeling tools” in your junk drawer.

**How these textures were made:**

1. The edge of a knife was pressed into the clay to form tight ridges, which could be used for fish fins or shells.
2. The clay was applied roughly with the flat side of a knife.
3. The edge of a knife was pressed into the clay to form rough “fur.”
4. The rounded tip of a table knife was pushed into the clay to make “feathers.”
5. A sheet of plastic wrap was placed on the clay and the flat side of a knife was pulled across it to smooth the clay.
6. An old piece of burlap was pressed into the clay.
7. This texture was made by pressing a wooden craft stick into the clay in a random manner.
8. A ball of crumpled aluminum foil was lightly pressed into the wet clay. This texture could be used to represent rough fur.
9. Window screening was pressed into the clay. I used this material to make the dry, cracked skin of the elephant.
10. Expanded aluminum gutter screen was pressed into the clay to form “scales.” (You’ll be making ears with this material, if you can find it at your local hardware store.)
In this chapter you’ll make a small “practice” chicken in vintage colors. Since there are no legs or extended tails to worry about and the details are fairly simple, no pattern is needed. This is a good project to start with. In coming chapters, the difficulty level will increase.
Making a Paper and Masking Tape Form

In This Section

You’ll learn how to use crumpled newspaper and masking tape to create an inner form for your sculpture.

Materials Needed

Gather together a few pages of newspaper and some masking tape. You’ll also need a few small scraps of cardboard for the chicken’s comb, beak and wattles, and an old pair of scissors or a craft knife to cut the cardboard.

This is a whimsical chicken, so feel free to play around with it—your chicken doesn’t have to end up looking exactly like mine. In fact, you could get lots of practice by making two or three chickens—they make nice gifts.

1. Take one to three sheets of newspaper and crumple it into a ball. Then start taping the paper with masking tape. The size of this ball will determine the size of your finished chicken.

2. You don’t want a ball that’s perfectly round—see photo. If necessary, add small bits of crumpled newspaper to fill out any large dips and to round the shape. Cover the ball completely with masking tape.

3. Push your paper ball down on the table to flatten the bottom. Cut an oval shape from your cardboard with a craft knife or old scissors and tape it to the bottom of your paper ball. This will give you a solid, flat base that will keep your chicken from wobbling.
4 Take a square of newspaper, about ¼ page, and twist into a long roll. Tape the roll to the chicken's pointy end to form the tail. You will probably need to cut off the ends of your twist to make it fit. The twist of paper will create an upside-down U shape.

5 Now make a small teardrop-shaped ball for the head. You may need to tear your tape into narrow pieces. Use lots of tape to make the head as smooth as possible. Squish it to make it flat on the bottom and rounded on top.

6 Tape the head to your chicken. Play around with the placement until you get a posture you like. The masking tape is easy to remove and reposition, so you can try out different placements until you find exactly the right spot for the head.

Adding the Beak, Wattles and Comb

1 Draw a small triangle on a piece of cardboard like the one in the drawing. The wide end is cut into tabs that will be folded back and taped to the front of the chicken’s head. Cut out the beak with a craft knife or old pair of scissors. Bend the beak so it has a ridge down the top, and tape the tabs to your chicken’s head.
2 Cut out the chicken’s wattle from another scrap of cardboard in the shape shown in the drawing. Using narrow bits of tape, attach the top of the wattle to the head just below the beak. The bottom part of the wattle should hang loose, with no tape.

3 Put a scrap of cardboard behind your chicken’s head and draw the curve of the head on the cardboard. This will make the curve on the bottom of the comb fit snugly against the head.

4 Then draw the scallops at the top of the comb and cut it out using a pair of old scissors or a craft knife. Use narrow pieces of tape to attach the comb to the head, as shown.

Your inner form is now finished.

Look over your chicken and press down any masking tape ends that may be sticking up. You may need to snip off a few ends if they won’t behave, or cover them with new pieces of tape. Also check the form from all sides to make sure it’s as round and symmetrical as you want it to be. If necessary, add a few more bits of paper to fill in low spots, but don’t worry if it’s a little lumpy.

Now you’re ready to start adding your paper mache clay.
In This Section:
You’ll learn how to apply paper mache clay to your form and add textures to the clay. The clay will dry to a hard, durable “skin” that can be painted any way you like.

Materials and Tools
You’ll need some paper mache clay and a knife to spread it with. You’ll find the recipe and instructions on page 14.

Note
The amount of clay you need depends on the size of your form. My chicken, which is only about 6 inches long, was made with less than a cup of paper mache clay. The recipe makes about 1 quart of clay, so you’ll have lots of clay left over if you make a chicken the same size as mine. Be sure to keep left-over clay in an airtight container so it won’t dry out. You can use it later for another project in this book.

1 Use a table knife to put a glob of paper mache clay onto your armature. Smooth the clay onto the form with the flat side of the knife. If at any time your knife seems to be sticking to the clay, you can dampen it slightly, but try to not get the clay too wet.

Continue to add clay until you no longer have a dry spot to hang on to. Then put the chicken aside and allow the clay to dry overnight. When the clay is hard, continue covering the sculpture with clay. Feather the wet clay over the dry clay to make a nice smooth transition.

Don’t put any clay on the bottom of the chicken yet—you’ll do that part last.
2 Carefully cover the cardboard comb, wattle and beak. Smooth the clay with your knife.

3 Use the edge of your knife to create the line where the top and bottom of her beak meet. Use the tip of the knife to form her nostrils and use a round-ended tool to make a depression for her eyes.

Note

In the photos above, you can see that I made the polka-dots (with the cap from a felt-tip pen) in my first layer of clay. You may find it easier to put on one smooth layer first, and then add a second layer for your texture. Or, if you prefer, you can sculpt “feathers” into the clay, or make spots with the end of a brush, (see images below). Or you can just leave your chicken smooth. See the previous chapter for texture ideas.
Making the Bottom Flat:

When all the clay has been added to the upper portion of your chicken, it’s time to add clay to the bottom of your sculpture. If you do it as shown below, the bottom of your finished sculpture will be nice and flat.

1. Put a piece of plastic wrap on a flat surface. Then put a thick layer (about \(\frac{1}{4}\)" or 6 cm) of paper mache clay on the bottom of your chicken. Place the chicken, bottom down, on the plastic wrap and push down to flatten the clay against the plastic.

2. Then carefully pull the plastic away from the clay. Use your knife to smooth out the transition between the sides and bottom. Lay the chicken on her side and put her in a warm place to dry.

When your chicken is completely covered with paper mache clay she needs to dry in a warm place until the clay is hard and no moisture is left in it.

If you place your chicken outside in the shade during the summer, or over a heat register or radiator, she will dry in one or two days. You know your chicken is completely dry when you can push on any part of her “skin” and you don’t feel any movement at all. Since you added a thicker layer of paper mache to the bottom, be especially careful to check that area to make sure it’s dry all the way through.
FINISHING WITH ACRYLIC PAINT AND GLAZE

In This Section:
You’ll learn how to finish your sculpture with tinted home-made gesso, paint and matte acrylic varnish.

Materials and Tools
To make your chicken look like the one in the photo you will need acrylic paint and some glazing liquid to bring out the sculpted details. You will also need one large flat brush and one narrow brush for details, and a sheet of fine sandpaper.

If needed, use your sandpaper to smooth any jagged or bumpy areas. You may find a small ridge where new clay was feathered over dry clay, and this should be sanded smooth. Remember to use a mask when you sand.

Make some home-made gesso by mixing:
- 1 tablespoon joint compound
- 1 teaspoon white glue
- A dab of white acrylic paint

Cover your chicken with your home-made gesso, using a wide soft brush. The gesso will help smooth out the surface of your chicken. If the gesso is too thick and details are being lost, add a little bit of water to thin the gesso. If you have store-bought gesso on hand, you can use that, instead. When the gesso is dry, you can sand it, if needed.

Mixing Your Colors
You can paint your chicken in any colors that appeal to you. To match my chicken, mix acrylic artist’s paints in the colors as listed below. You can also use pre-mixed acrylic craft paints, if you prefer.
To match my chicken, mix:

- **Warm White**: Titanium White mixed with a dab of Raw Sienna.
- **Terra Cotta**: Cadmium Red Light, Burnt Sienna and Cadmium Yellow Light.
- **Orange**: Terra Cotta mixture (above) mixed with Titanium White.
- **Sage Green**: Ultramarine Blue and Cadmium Yellow Light.
- **Yellow**: Cadmium Yellow Light and Burnt Sienna.
- **Final Glaze**: Glazing Liquid mixed with a small amount of Burnt Umber.

Remember that acrylic paint dries quickly, so mix up only as much as you need, and only one color at a time.

**Using a Glaze to Bring Out the Details**

1. Give your chicken an undercoat of warm white acrylic paint.

2. When the white is dry, paint your chicken’s comb and wattles with the terra-cotta color. Use the orange, green, and yellow for the polka-dots, distributing the three colors evenly among the spots. The beak is yellow.

3. Spread the glaze onto a small area of the chicken. Immediately wipe off the glaze with a paper towel, allowing it to stay in the recessed details of your design.

   If you want to remove more of the brown glaze to let the original colors show through, use a lightly damp towel.

   The glaze retards the drying time of the acrylic paint, so you will have time to experiment. Allow the glaze to dry overnight.
When all the paint is completely dry, give the chicken a protective coat of matte acrylic varnish. Allow your sculpture to dry completely.

Paint the eye with a fine-tipped permanent marker or a fine brush and black paint. When the eye is dry, dip the sharp point of a pin or wooden toothpick into white acrylic paint and dab a tiny white dot into the eye. This will make a spot of reflecting light, and makes the eye come alive.

Congratulations! You’ve just completed your first sculpture with paper mache clay. In the next chapter you’ll learn how to use a pattern to make a fish, and you’ll learn how to create patterns of your own.
You'll use a pattern for the first time when you build the colorful clown fish in this chapter. The fish will probably look familiar to you, because this species was used as a model for the animated movie character called Nemo.
Transferring the pattern onto cardboard

Draw a grid with ½” (1.25 cm) squares onto a piece of light cardboard, like the kind used for cereal boxes, or onto a piece of poster board or card stock. Transfer the pattern (on the top of the next page) onto your cardboard grid. Pay attention to just one small square at a time. In this manner, you can transfer even highly detailed patterns, like this one.

It will be easier to transfer the pattern if you draw the outline of the fish’s body first (the dark gray line). Then add the fins and tabs.

Making your sculpture

1. Make a body from crumpled paper, the way you did when you made your chicken, only a lot flatter. Use your pattern to determine the shape and size. You can give the body a sideways curve or two, (so the fish will look like it’s swimming), by squishing it and bending it until you get a shape you like.
Now cut the fins out of the light cardboard pattern you made, including the extra bit for tabs. Then fold the tabs and tape them to the body. The fins will stand up straight if the tabs are alternated so some tabs are taped to each side of the fish. You'll need two of the large fins that go on the fish’s side, (the pectoral fins), and two of the lower front fins, (called the pelvic fins), on the fish’s belly.

**Applying the Paper Mache Clay**

1. Cover the body (but not the fins) with a thin smooth layer of paper mache clay. Apply the clay to just one side at a time, allow that side to harden, and then cover the other side.
2 Now apply a very thin layer of clay to each fin and use the side of your knife to press lines in the clay to form the spines. Don’t worry about the extra bit of clay that extends over the edges of the fins—you can easily remove it later with sandpaper or a craft knife.

3 If you would like a texture on your fish that indicates scales, you can do it now by covering the body with another very thin layer of clay and then pressing a metal grid or other found-object with geometric scale-like patterns into the clay, or you can draw the scales with a knife. See the section on textures in the *Basics* chapter for more ideas.

4 Now add the lips and eyes, using small dabs of clay. If you want your fish to look like Nemo, make really big eyes.

**FINISHING YOUR FISH**

When the clay is completely dry, sand your fish, paying special attention to the edges of the fins where extra clay needs to be removed. Large lumps can be cut away with a craft knife. Your fins will be very thin, but they are surprisingly strong.

First give your fish a coat of home-made gesso, made with:

- 1 tablespoon of joint compound
- 1 teaspoon of glue
- A small dab of white paint.
When the gesso is dry, you can sand it if needed.

To match my clown fish, mix:

- **Cadmium Red Light** mixed with a small amount of **Cadmium Yellow Light** for the red stripes.
- **Titanium White** for the white stripes.
- A thin wash of **Ultramarine Blue** mixed with water over the top 1/3 of the red stripes after they were dry.
- A thin wash of **Cadmium Yellow Light** mixed with water over bottom 1/3 of the red stripes.
- Black made from **Ultramarine Blue** and **Burnt Sienna** for the black stripes and the eyes.

Mix the colors as they’re needed, so they won’t dry out before you’re ready to use them. After the acrylic paint is dry, finish it
MAKE YOUR OWN FISH PATTERNS

In This Section
You will learn how easy it is to make patterns of your own. This technique works for any type of fish, from the smallest goldfish to the biggest shark.

Materials Needed
To make your own fish pattern, find a nice photo of any type of tropical or fresh-water fish you like. Be sure your photo shows the fish from the side. The fish I used for the example is a Powder Blue Surgeonfish*. You can use a sketch instead of a photo, if you like.

1 Print out your photo or draw a fish on a piece of paper. Then draw the outline of the fish over the photo or sketch and add the tabs.

2 Draw a grid over your fish so you can transfer the outline onto a piece of light cardboard.

3 Now draw another grid on a piece of light cardboard. The size of the squares on your grid will determine the size of your sculpture. Transfer the pattern as you did when you made your clownfish, and then complete your sculpture using the instructions in this chapter. A hanging mobile with 5 or six colorful fish would be very nice - but do keep your sculptures out of reach of teething babies.

Note
Whales and dolphins are shaped almost like fish, so you can use these instructions to make a sculpture of your favorite marine mammal, too. The biggest challenge would be turning the tail so the flukes are horizontal.

*©iStockphoto.com/viridis
EMPEROR PENGUINS

Now we’ll make a family group of Emperor penguins. You can make all three, or just make one or two. If you know someone who loves watching the *March of the Penguins* movie, this group would make a very special gift.
SCULPTING WITH A PATTERN

In This Chapter

This is the first project in this book that uses a full pattern, including both body and legs. You’ll learn how to attach the legs to the body pattern in the correct place using Styrofoam and a hot glue gun.

Materials Needed

In addition to the materials you used for your fish and chicken, you’ll also need some blocks of Styrofoam from a craft store, and an inexpensive hot glue gun. The patterns are on the following two pages.

TRANSFERRING THE PATTERNS

The pattern for the adult penguins are on the following page. An adult emperor penguin is about 48” (122 cm) high, but you don’t have to make your birds that big. I used a grid with 1-½” (3.8 cm) squares, so my tallest adult penguin sculpture is about 15 ½ inches (39.4 cm) tall. You can make your own penguins in any size you want by changing the size of the squares on the grid you draw for the patterns.

The dotted gray lines on the adult penguin patterns show how the wings and legs are positioned on the body.

1. Transfer the patterns onto cardboard or foam board. There are no separate leg pieces for the baby.

2. Use the leg and wing pieces as templates, and draw around them so you have four of each. Cut the baby’s wings out of light cardboard.
PREPARING THE LEGS

1. Tape the adult penguins’ feet to the bottom of the legs, as shown.

2. Pad the inside of the legs about half-way up, and pad the entire outside of the legs. Pad the toes with three rolls of paper and masking tape, as shown. Leave a deep indentation between the toes,
3. Cut blocks of Styrofoam that fit inside the wide portion of the legs. Your Styrofoam blocks need to be as deep as one square on your pattern grid. For instance, the squares I used for my grid were 1-½" high, so I made my Styrofoam blocks 1-½" deep. If you made your penguins larger or smaller than I did, use the measurements from your own pattern grid. If necessary, glue several pieces of foam together to make the Styrofoam blocks thick enough.

4. Glue one block to the inside of each leg with a hot glue gun, and then glue the legs to the body, using the dotted grey lines on the pattern to help you find the correct position. Make sure the tail sits flat on the table—you need the tail to help your penguin stand up.

**Padding the bodies**

1. Firmly tape crumpled paper to the lower tummy and tail, beneath the legs. Then continue to pad the body and head, covering the paper completely with tape. The penguins’ bodies will look a bit like footballs with heads after you’ve added all the padding.

When you attach the wings, use tape only on the shoulder area at the top, leaving most of the wing free. Do not add paper padding to the wings or beak. Cover the cardboard edges of the wings and beak with masking tape so the clay will stick better.
2 Pad the body and head of the baby penguin, as shown. Attach the light cardboard wings at the shoulders. Cut a round piece of cardboard and tape it to the bottom of the baby penguin to give it a flat surface, like you did when you made your vintage chicken.

APPLYING THE CLAY

Cover the birds with a thin, smooth layer of paper mache clay. Remember to cover the inside surface of the wings, too, and make the bottoms flat like you did when you made your chicken.

The beaks are quite pointed—add enough clay to the end of each beak for the point, but don’t worry if you can’t get the wet clay to hold the pointed shape just yet. You can shape the clay with sandpaper or a craft knife after it’s hard.

Use your clay to give your baby penguin some toes peaking out from under his belly, as shown in the photo.

When the clay is dry, sand if needed. You can now use your craft knife and sandpaper to give the beaks a nice smooth surface and a sharper point.
**PAINTING YOUR ADULT PENGUINS**

1. Cover your penguins with home-made gesso (page 29) or store-bought gesso. If you like, you can use a fairly stiff brush to create a “feather” texture with the gesso.

2. Use a sharp wooden tool to draw the eyes in the wet gesso. Since both the eyes and the surrounding feathers are black, they will be difficult to see when the sculptures are finished.

3. Allow the gesso to dry completely. Sand lightly, if needed. Then use a pencil to draw the edges of the color patterns on each penguin (see photo at the beginning of this chapter).

4. Use **Titanium White** acrylic paint to cover all the areas that will not be black or dark gray.

5. When the white is dry, make up a very dark stain using **Burnt Sienna**, **Burnt Umber** and **Ultramarine Blue**. The color should be a dark slate gray. Dilute the color with water and a little bit of **Acrylic Glazing Liquid** to keep the stain from drying too quickly. Brush the stain onto all the dark areas of the adult birds, including the feet, and then rub some of it off with a dry paper towel.

   This initial stain will show through after the final dark glaze is applied, and I think it makes the large expanse of gray a bit more interesting. However, if you prefer you can paint the dark parts of your adult penguins with one coat of undiluted gray paint, instead.

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Most penguin species have basically the same shape as the Emperor Penguin (although most of them are not as big). Other species can be identified by the colors and patterns of their feathers. Some penguins also have interesting feather topknots on their heads. You can use the directions given here, with slight variations, to make other species of these cold-loving birds.
6 When the grey wash is dry, use **Cadmium Red Light** mixed with a little **Cadmium Yellow Light** to paint the orange crescent shape on the head. Mix **Cadmium Yellow Light** with **Titanium White** and fill in the yellow portions of the penguin’s head and upper chest.

7 Paint a **black** stripe down the edge of the dark gray area on the chest and legs, and around the edges of each gray wing. Look at the large photo at the beginning of the chapter to see how this stripe should look. Paint the head black. When the black paint is dry, paint the thin pink line on the beaks.

8 Mix up a glaze using the same colors you used in step 5, but dilute it with **Acrylic Glazing Liquid** only, without water. Use this transparent glaze to completely cover the gray stain you used on the penguins’ backs and wings. This will even out the color somewhat, but you will still see an bit of variation and texture showing through. This makes the gray look more interesting than a large amount of one flat color.

Use **Titanium White** to retouch the white area, if needed. Allow all the paint to dry, and then finish your sculptures with a matte acrylic varnish.
PAINTING YOUR BABY PENGUIN

Draw the color patterns on the dry gesso with a pencil, and then paint the white area of the face.

Use the final dark gray glaze you used for your adult penguins (step 8, on previous page) to darken your baby’s toes. Then add Titanium White to this gray paint to lighten it, and paint the baby’s body (including the back) with this new color.

Paint the beak, the back of the head, the thin line around the chin, and the eyes with black paint.

Add a tiny white spot in each eye for a reflection. When all the paint is dry, finish with matte acrylic varnish.

Now you’re ready for the next project, which has some interesting new challenges. Your piglet will have four legs instead of two, he has floppy ears and an interesting nose, and you’ll have much more opportunity to give him a “personality” by modeling his eyes and smile. Yes, he’s a bit more difficult, but I know you’re ready the challenge. On to the next project, a happy spotted pig!
In this chapter you'll make a loveable little piglet, with spots modeled after a KuneKune pig, a rare miniature breed.
MAKING YOUR PIGLET

In This Chapter

- You’ll learn how to use a pattern to make a four-legged sculpture.
- You’ll sculpt the fine details, like eyes and feet.

Materials Needed

You will use the same materials you used for your previous projects, plus a short piece of wire for the tail and a tool for cutting the wire. You’ll also need some aluminum foil and four finishing nails or long pins.

TRANSFERRING THE PATTERN ONTO CARDBOARD

Transfer your pattern (on next page) onto corrugated cardboard or foam board. For the pig in the photo, I used a grid with 2” squares, so my piglet is about 12” long from nose to tail. You can make your own pig in any size you want.

Cut out the pieces with a craft knife. Then trace around the front and back legs on another piece of cardboard so you will have four leg pieces in all.

Use the cardboard ear as a pattern and trace around it on a piece of light cardboard or poster board to make two ears. Cut the tabs on the ears, like you did when you made the fins on your fish.
PREPARING THE BODY PATTERN

1 Mark the divisions on the head, as shown on the pattern. Then tape the nose to the end of the snout.

Note: You can use crumpled paper for the next steps on this page, but the foil is easier.

2 Crumple a bit of aluminum foil into a flattened cylinder that conforms to the shape of the snout, as shown. Tape it to one side of the snout, then make another one and tape it to the other side.

3 Form some foil into a triangular shaped ball that will fit the lower jaw. Tape it to the pattern piece, and then repeat this step for the other side. The upper jaw sticks out farther than the lower jaw.

4 Form a large ball that fits the cheek area, and tape it on.

5 Now make the forehead piece in the shape of a flattened cylinder. The forehead, or “eyebrow bone,” should be thicker than the padding on the snout.

6 Check the overall shape of the head, and add more aluminum foil, if needed. The cheek should stick out farther than the forehead, and it should be nice and round, as shown.
PREPARING THE LEG PATTERNS

1 Pad the lower legs on both sides, but don’t pad the feet just yet. Leave the hips and shoulder areas free of padding, as shown.

2 Pigs have cloven hooves, meaning that they’re split in the middle between the two toes. To make the feet, crumple two triangular-shaped aluminum balls. Tape the first ball to one side of the cardboard pattern.

3 Cover the other ball with masking tape, and then tape the top and back of the ball to the foot, as shown. This will leave the two toes separated.

4 Cut four Styrofoam blocks. The two blocks for the front legs need to be as deep as one-half of a square on the grid that you used to make your pig pattern. For instance, I used a grid with 2” squares, so my foam cubes are 1” deep. Make the cubes wide enough so they fit inside the shoulder area of the pattern, without sticking out over the edges.

The blocks for the back legs need to be angled, to give the pig a natural posture. Make two blocks that are ½ of one square deep on one side. The other side should be 1-½ squares deep.

Since I used a grid with 2” squares, my cubes are 1” deep on the tail side, and 1 ½” deep on the front side. Your measurements will be different if you made your pig in a different size than mine. Use a hot glue gun to attach your cubes to the legs, as shown.
ATTACHING THE LEGS

1. To position the legs temporarily, use four long finishing nails or pins. Push one nail through each cardboard leg pattern, and then through the Styrofoam cube.

2. Press the sharp ends of the nails into the body pattern, as shown. Reposition the legs until your pig is standing up straight, and his legs are in the positions shown.

3. When the pig is standing the way you want him to, use a pen to draw the outline of the foam blocks onto the body pattern. Then remove the legs from the body and take out the nails.

4. Use your hot glue gun to add glue inside the marked areas on the body pattern. Do just one leg at a time.

5. Glue the leg to the body pattern, using the drawn lines as guides. Do the same for each leg. Check to make sure the legs are all still in the correct position while the glue is still slightly warm, so you can make adjustments if needed.

6. When the glue is cool, your armature should stand up on its own, as shown.
PADDING THE BODY

1 Put crumpled paper beneath the hips and shoulders, as shown. Also fill in the neck area between the cheek and the front shoulders. You can now bend the pig at the neck if you want him to be looking slightly to one side.

2 Add padding to the body. Fill in the tummy so it comes up to the level of the shoulder and hip patterns, as shown.

3 Fill out the shoulders and hips with more padding. Use lots of masking tape. The newspaper should be completely covered.

4 Pad the insides of the hind legs so they form buttocks. Also fill in the insides of the front legs. When seen from underneath, your piglet should look like the photo on the right.

ADDING THE EARS AND TAIL

1 Cut the tabs on the light cardboard ears and bend them back. Curve the ear into a “C” shape and tape the tabs to the pig’s head, just behind the “forehead” or eyebrow bone (page 49, step 5).
1 Cut a piece of light wire long enough for the tail plus a few inches more. Completely cover the wire you use for the tail with masking tape to keep it from rusting, which would ruin the painted finish on your pig.

2 Tape the extra portion of the tail to the pig’s backbone, as shown.

Your armature is now finished, and it should look like this.

APPLYING THE PAPER MACHE CLAY

1 Begin applying the clay to the pig’s tummy and the insides of the legs. Don’t put any clay on the bottom of the feet just yet. If you’re making a boy pig, this is a good time to add a little bump

2 Continue to add clay to the outsides of the legs and beneath the pig’s chin. You can now turn your pig right-side up on the table, and continue covering the sides and top.

3 Cover the head, including the nose, with clay. Use your knife to define the mouth, as shown. Don’t cover the ears yet, but do cover the ear tabs that you taped to the head.
Then cover the outsides of the ears. Don't worry about the extra clay on the edges of the ears. You will shape the ears with a craft knife and sand them smooth when the clay is dry.

At this point you should allow your pig to dry before continuing. Once the clay is hard, you will finish the ears and feet.

Use the rounded end of a paintbrush or similar tool to form the nostrils.

Cover the tail with a thin layer of clay. Don't worry if you can't make it smooth—you can correct this with sandpaper when the clay is dry.

When the clay on the head is dry and hard, cover the insides of the ears with a thin layer of clay, like you did when you made the fins on your fish.

Add some clay to the pig's head so you can sculpt the eyes. Use a pointed tool to shape the eye, and smooth the edges of the new clay over the old clay, to form a smooth surface on the face.
You can now add clay to the bottoms of the feet. Shape the hooves, making sure the cleft between the toes is well defined. Place the pig feet down on a piece of plastic wrap to make the bottoms of the feet nice and flat. If you allowed the body clay to dry before covering the feet, you can now place your pig upside down in a bread pan to allow the feet and ears to dry.

**Finishing Your Piglet**

The piglet in the photo at the beginning of the chapter has a warm pink skin and spots borrowed from a KuneKune pig, a miniature breed. Pigs come in a wide variety of colors and patterns, and there are even wooly pigs. You can use the instructions below to make a pig that looks like mine.

1. Sand the edges of the ears, and trim the hooves, if needed.

2. Cover your pig with gesso, and allow it to dry. When the gesso is dry, sand your piglet to make a fairly smooth surface.

**Home-made gesso:**

- 1 tablespoon joint compound
- 1 teaspoon white glue
- Dab of white acrylic paint
3 To give your pig a nice pink glow, make up a stain using Burnt Sienna, water and a small amount of Glazing Liquid. Using a wide brush, cover a small area of the pig and then wipe the color off with a paper towel.

4 When the stain has dried completely, make up a warm white glaze using Titanium White and a small dab of Raw Sienna. Thin this paint with Glazing Liquid to make it transparent. Apply this glaze over the pig, as shown.

5 When the white glaze is completely dry, draw spots on your pig with a pencil, and then fill in the spots using black, made from Burnt Sienna and Ultramarine Blue.

6 Use the same black to paint the pupil of the eyes.

7 To make the halo around the spots, thin some of your black with Glazing Liquid and paint this glaze around the spots.

8 When the black is dry, mix up a small amount of light brown, using Raw Sienna, Burnt Sienna, and a little water. Paint this on the eye, then use a cotton swab or the corner of a paper towel to rub off a small amount of this brown from the lower front quarter of the iris.
Mix up a very transparent glaze using Burnt Umber and Acrylic Glazing Liquid. Paint this glaze over the eye, the mouth, the nostrils and the insides of the ears. Use a damp paper towel to remove almost all of the glaze - you want it to define the details, but it should not be allowed to color the skin. Then use a very fine brush to add a small dot of white over the black pupil for a reflection.

Your pig is now ready for a final finish of matte acrylic glaze.

MAKING PATTERNS FOR FOUR-LEGGED SCULPTURES

After you finished making your Clown Fish, I showed you how to make a pattern for any kind of fish using a photo or drawing. On the next page I'll show you how the same techniques can be used when making patterns for four-legged sculptures. I'll also show you how I use a drawing as the basis for most of the patterns I use for my own sculptures.
MAKING A PATTERN FROM A PHOTO

First, let’s see what happens when we trace around this photo of a pig*. The process is the same as the one we used to make the fish pattern, but you do need to add legs, ears, noses, and tails when you make patterns for four-legged critters. Even when you use a photo, you will need to get creative for things like ears and the legs that are on the hidden side.

1 Print your photo, and then draw around the outline of the body. Then draw the legs—including the hip and shoulder. The legs in this photo are very similar on both sides, so we only need to draw one front leg and one back leg.

2 Draw the grid over the drawing, so you can transfer the pattern pieces onto a piece of cardboard.

3 Create a grid on a piece of cardboard or foam board, and transfer the outline of the pig’s body and legs to the new grid. Some guesswork is needed when drawing the nose and ears, so these pieces may need to be changed when the sculpture is put together.

After the pieces have been cut out of cardboard, you can get a good feel for how your finished sculpture will look even before you add the paper and masking tape padding.
CREATING A PATTERN FROM A SKETCH OR DRAWING

Now I’ll show you the same process, but using a drawing instead of a photo. This is how the pattern for the piglet in this chapter was made.

I used the photo on the previous page as one of the references for my drawing, but I wanted the finished piglet sculpture to seem younger and happier. I made the head rounder, the ears a bit bigger, and put a smile on his face. The piglet in the sketch is also a bit fatter than the real pig I used as a model.

If your drawing doesn’t show your animal from the side, you may have to do a lot of guesswork. In fact, you may need to make several patterns until you find exactly the right proportions and shapes.

For instance, the dachshund in the next chapter started out as a fast sketch, shown here. Changing my scribbles into a finished sculpture did take a bit of experimentation and a lot of guesswork.

I found many reference photos of dachshunds so I could get the proportions right, and I used more photos for the details, like the eyes and nose. Then I continued to make changes during the process of putting the armature together. The result is the pattern you’ll find in the next chapter.

I suggest that you start making many sketches of your favorite animals, and then practice turning those sketches into patterns. At this stage, a good book on drawing animals and a sketchbook can be two of your most valuable resources.

1. Once you have a drawing you like, you’ll need to outline the body and legs, including the shoulders and hips, just as you would if you were using a photo.

2. Then you transfer the pattern onto cardboard or foam board. Again, some guesswork is needed for the ears, since they’re folded.
In this chapter you’ll create a delightful begging dachshund looking loveable and hoping for a treat. This dog sculpture would make a wonderful gift for anyone who loves this breed.
Making Your Dachshund

In This Chapter

You’ll learn how to give tails and bodies a twist to imply movement and give your sculptures a more dynamic pose; you’ll get more practice sculpting eyes, noses and paws; and you’ll learn how to create realistic fur texture with the paper mache clay.

Materials Needed

In addition to the materials you used in previous chapters, you will also need some aluminum grid, which is sold at the hardware store as a product to keep leaves out of gutters. If you can’t find any, you can use light cardboard for the ears.

Preparing the Body Pattern

Transfer the pattern (on next page) to cardboard or foam board and cut out the pattern pieces. As usual, you can make your sculpture any size you like by changing the size of the squares on your grid.

Cut one ear out of the cardboard and set it aside. You’ll use it as a pattern to cut two ears from expanded aluminum or light cardboard.

1 Pad the muzzle with aluminum foil, as shown. Tape the padding to the pattern.

2 Roll up a triangular ball slightly thicker than the muzzle padding. (You’ll add clay over this area when you sculpt the eyes.)

3 Make a larger ball for the cheek and back of head. A dog’s head is almost square when seen from the top.
4 Pad the neck with aluminum foil. The foil will help when you bend the neck. Tape all the foil firmly to the pattern, and repeat these steps on the other side of the head.

5 If you want your dog's head to cocked slightly to the side, like the dachshund in the photo, grasp the head and neck and twist them until the head is in the position you want. If you made your pattern on foam board it may tear, but that's OK. Just use plenty of tape to repair any tear or cut in the pattern.

6 Make two long, thin twists of aluminum foil for the tail. Tape the twists to the sides of the tail pattern. Then bend and curve the tail until it looks natural. The foil will help hold the curves in place.

PREPARING THE LEG PATTERNS

1 Three of the paws need to be turned. For the left front leg and both back legs, make a cut towards the middle of the leg where it meets the paw, but leave a small tab in the middle. Then twist the paws and tape them in place, as shown. The right “arm” is bent in at the elbow and at the wrist.
2 Add padding on both sides of the lower legs, as shown.

3 The paws are held close to the dog’s chest, so it would be hard to add clay to the underside of the paws after the pattern pieces are attached and padded. It’s easier to add the clay now.

Put clay over the paw, building it up to the same level as the padding on the legs. Put extra clay over the ends of the paws so you’ll be able to make four toes on each foot. Put the legs aside and allow the clay to dry.

ATTACHING THE LEGS TO THE BODY PATTERN

Cut four Styrofoam blocks, like you did for the pig. The cubes for the front legs should be as deep as two squares on the grid you used for your pattern. For instance, I used 1” squares on my pattern, so the cubes for the “arms” on my dachshund are 2 inches deep.

The hind legs are attached at an angle. The Styrofoam cubes should be 2 squares deep at the front, and one square deep at the back. Glue the legs to the body as shown with your hot glue gun.

PADDING THE ARMATURE

1 Begin by filling out the insides of the legs, and tape the legs and padding firmly to the Styrofoam blocks.
2 Turn the dog over and fill in the buttocks area.

3 Fill in the sides of the tummy and chest. The body should have a nice sausage shape.

4 Fill in the hips and shoulders and use small bits of padding to round out the upper legs in the chest area.

**EARS**

1 To make ears with expanded aluminum, use your cardboard ear pattern and use it to cut two ears out of the metal grid. You can use an old pair of scissors to cut the aluminum. The grid will stretch, so you don’t need to cut into the tabs, as you did when you made the pig’s ear out of light cardboard.

2 Curve the ear into a “C” shape. Bend and stretch the tab area so it will lie flat on the head. Tape the ear to the head.

You may want to cover the edges of the ear with masking tape, as shown, to make it easier to get a smooth edge when you add the clay. It also keeps the cut aluminum wires from scratching you.

If you don’t have the aluminum grid, make the ears the way you did when you made your pig.
APPLYING THE CLAY

1 Completely cover the armature with a thin layer of paper mache clay. As you can see from the photo, the muzzle is still quite narrow, because the details like lips and eyes will be added later with more clay. Leave the ears bare for now, because it’s easier to model the eyes and other facial features first.

2 Put extra clay on the back of the “arms,” the back of the hind legs, and the tail. Use the edge of your knife to press in some “feathers,” or deep fur texture, as shown. You may find it easier to allow the first layer of smooth clay to dry, and then add the textures with a second layer.

3 Add a bit of clay at the top of the legs to indicate the narrow muscle that connects the leg to the side, just above the knee. You’ll also notice that a female dog’s lower belly fat tends to divide along the center line. You can indicate this line, as shown. If you’re making a male dachshund, you’ll need to add a bump between the legs on the lower belly.
Sculpting the Details

When the clay on the body is hard enough to handle, you can begin adding the details.

A dog’s forward-looking eyes tend to make the skull somewhat square when seen from the top. Check your head from above to make sure you’re getting the right shape to the head. Also note that the dog has a valley down the center line between the ears, so add a bit of clay to each side of her head, as shown. In this photo the ears are already covered, but you don’t want to do that just yet.

When the general shape of the head is correct, add enough clay to form the eye and eyebrow bone. Try to form the shape of the eye, as seen from the front, top and side. Remember to add a bump for the eyebrow, too. Dogs have very expressive eyebrows.

You can use the photos shown here as models, but you should get into the habit of looking closely at photos of real animals—or, if you have a dog in your own home, ask her to model for you. However, you should be very conscious of the fact that dogs consider a direct stare to be a sign of aggression. Try to look at your dog’s eyes without causing her distress, because she may feel threatened if you get too close or stare at her too long.
The overall shape of the muzzle as seen from the front is a rounded triangle, with the wide part of the triangle on the bottom. Add additional clay to the muzzle to form the general shape, as you did for the wider part of the head.

Then add clay to the front end of your dachshund’s muzzle and model the nose as shown here, (or use a photo or your own dog for a model, as suggested for the eyes).

Notice the slight crease in the bottom half of the nose, which extends down to the mouth. The top lip is made from a layer of fatty skin that hangs over the lower jaw.

When the eyes, nose and mouth are finished, put the sculpture in a warm place to dry. When the details of the head have been added and the clay is dry, it’s time to finish the ears.

To make a firm connection between the top and bottom layers of clay, firmly press some clay onto the underside of the ear with your knife so some of it bulges through the holes of the aluminum grid.

Then add a bit more clay to the outside of the ear and spread it so it’s smooth. Completely cover the ear, including the edges of the wire. You will trim the outside edge of the ear after the clay is dry. When the clay dries it may shrink and create a slightly bumpy surface. If so, just add another very thin, smooth layer of clay to the ear and let it dry a second time.
FINISHING YOUR SCULPTURE

When the clay on the ears and the rest of the body is completely hard, sand if needed, paying special attention to the edges of the ears. Make the nose as smooth as possible. Then apply a layer of gesso with an old, stiff brush. The brush marks will look like smooth fur. Begin adding your gesso at the tail-end of the dog, and move up towards the head, overlapping the fur marks in a natural way.

Once the gesso has dried, you can lightly sand it, if needed, and then paint your dachshund.

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1 Begin by staining the entire sculpture with a thin wash made from Raw Sienna and Burnt Sienna thinned with water and a little bit of Glazing Liquid. Paint the wash onto the sculpture, and then wipe much of it off with a paper towel. This will bring out the texture of the fur.

2 Allow the base coat to completely dry. Then paint the black portions of your dog. Make the black by mixing Burnt Sienna with Ultramarine Blue. Add a mustache below the nose with a fairly dry brush, and smudge the black under the nose with your finger or paper towel.

3 After the black parts are dry, mix up Raw Sienna, Burnt Sienna, and a touch of Ultramarine Blue. Thin this paint with water and a small amount of Glazing Liquid to make a transparent reddish wash for the paws, eyebrows and muzzle.
PAINTING THE EYES

1 Use a pencil to draw the edges of the dog’s iris. Then paint the white part of the eye with a warm mixture of Titanium White, Burnt Sienna and a small amount of Ultramarine Blue. For a small pink spot in the corner of the eye, add a bit more Burnt Sienna.

When the white is dry, paint the edges of the irises with a thin black line.

2 Paint the pupils black and allow the paint to dry. Then add a wash of warm reddish brown, made from Burnt Sienna, Burnt Umber and a bit of Glazing Liquid. Use a cotton swab or the corner of a paper towel to remove a patch of this paint in one side of the iris, to allow the lighter brown beneath it to show through.

3 Then place a tiny spot of white for a reflection, on the side of the pupil opposite the light spot on the iris, as shown here.

When the paint on the eyes is completely dry, mix up a very small amount of Burnt Umber with Acrylic Glazing Liquid. Use this transparent glaze along the edges of the black stripe on the top of the dog’s muzzle, and to blend in the black mustache below the nose. Also use this color to bring out the line of the mouth by painting it onto this area and then wiping off almost all of it. This will help define the mouth in a natural way.

When the glaze is dry, finish your dachshund with a coat of matte acrylic varnish.
Why mix your own black instead of using black acrylic paint straight from a tube?

Black fur almost always shows a strong hint of red in the black areas, (which can be seen when you look at a red and black dachshund in just the right light), or a hint of blue if the animal is exceptionally black (like a raven, for instance).

However, the black paint that comes from a tube has a slightly green tint. Even though we don’t consciously notice this, black paint doesn’t “feel” quite natural.

Mixing your own black from Burnt Sienna and Ultramarine Blue will create a warm, natural black that is much richer and more interesting than plain black paint from the tube.
African Elephant

In this chapter you’ll make a very realistic African elephant. This is a rather advanced project, but you should now be ready to take on the challenge.
In This Chapter

You’ll play with the posture of your elephant until you get it just the way you want it, and you’ll create a textured surface on your sculpture that looks very much like real elephant skin.

Materials Needed

This project uses the same materials you used to make your dachshund, plus a bit of wire for the tail.

When elephants sit on the ground in this position they are usually taking a dust bath, which they seem to enjoy. When you make your elephant sculpture you can curve the trunk in any way that you find particularly captivating, and you can move the head around until your elephant’s “body language” is saying just what you want it to.

In the illustration shown here, I highlighted a photo of my elephant sculpture so you can easily see the relationship between the eye, the “eyebrow bone” above the eye, and the tusk. These three features make up a long bony ridge that sits just behind the beginning of the trunk. Keep these columns in mind as you add padding to the head pattern.

Preparing the Body Pattern

Transfer the pattern (next page) onto cardboard or foam board, as usual. The trunk on the pattern has been cut short because you’ll make the rest of the trunk with aluminum foil. That way, you’ll be able to twist and curve it any way you like.
Use the cardboard ear you cut out as a pattern, and use it to cut two ears from expanded aluminum, as you did when you made your dachshund.

1. Take two pieces of aluminum foil and fold them into long twists. Tape them to each side of the elephant’s snout. The trunk pieces should be almost as long as the body pattern.

2. Twist the two pieces together to form the slightly tapered trunk. Tape the trunk in a few places to keep the pieces together.

3. Form a large ball from aluminum foil to fit the top half of the head. Tape it to the pattern.

4. Make a ball for the cheek area that is just slightly deeper than the forehead. When you look at your elephant’s head from the front, it will look almost square.

5. Make a small teardrop shape for the eyebrow bone. Tape it to the forehead, as shown.

6. Add aluminum foil to the beginning of the trunk to fill it out. The trunk has a rounded triangle shape, and it’s flat on the bottom.
7 Twist some aluminum foil in the shape of the tusk. The tusk goes on the head starting just below the eyebrow bone.

8 Use a small ball of aluminum foil below the tusk to push the tusk slightly away from the bottom of the face, as shown. This will help give the tusk the correct curve. Tape the tusk to the head and completely cover the tusk itself with masking tape.

9 The upper tusk has a thick layer of skin covering it. Make this layer of skin with a folded sheet of aluminum foil. Cover it with tape. Then repeat all steps for the other side.

PREPARING THE LEG PATTERNS

1 Pad the bottom portion of each leg with crumpled newspaper and masking tape. The bottom of each foot is flat.

2 Cut four blocks of Styrofoam. The size of the blocks depends on the size of the squares you used for your pattern grid.

The blocks for the hind legs should be as deep as one square on your grid at the back, and as deep as two squares on the front. The blocks for the front legs should be as deep as one square on the grid you used when you transferred the pattern to your cardboard.

3 Use your hot glue gun to attach the foam blocks to the hip and shoulder portion of the leg patterns, as shown. The thickest part of the blocks on the hind legs should be towards the feet.
PUTTING THE ARMATURE TOGETHER

1 Use thin finishing nails or pins to temporarily hold the legs onto the body pattern. Play with the position of the front legs until you find a posture you like. Then draw around the foam cubes to mark the body pattern where the legs will go.

2 Remove the pins and use your hot glue gun to attach the legs to the body.

ADJUSTING THE POSITION OF THE HEAD

1 If you used foam board, a serrated bread knife works quite well for cutting off the head. If you used cardboard for your pattern, use a craft knife.

2 Raise the head or turn it until you get the look you want. Then fill in any gap you’ve created between the head and neck with a ball of aluminum foil or crumpled newspaper. Tape the “wound” securely.

Note
You don’t have to change the position of the head, but it’s good to know how to do this in case you want to. Often, a slight change in the direction an animal is looking can make a sculpture more interesting.
PADDING THE ARMATURE

1 Use crumpled paper and masking tape to pad the body.

2 Pad the shoulder and hip area, and round out the elephant’s buttocks.

3 Now add additional padding to the body where gravity pulls the great bulk of the elephant downwards while he sits on his tail. The body will look somewhat pear-shaped, and you may need to add additional padding over the edges of the inner pattern to get the look you want. In these photos, you can also see that I am still playing with the position of the head and trunk.

4 Attach the expanded aluminum ear to the head, as shown.

5 Cut a piece of wire long enough for the tail, plus enough to go up the elephant’s backbone. Put a twist of masking tape on the end of the tail, and thicken the other end of the tail with foil. See photo on next page.

6 Completely cover the wire with masking tape so it won’t rust through the clay and ruin the finish on your sculpture. Then tape the wire so it follows the curve of the backbone, all the way to the neck.
1. Completely cover your elephant with a thin layer of clay. The ear tabs should be completely dry before you add clay to the ears, so the weight of the clay won’t pull them off the sculpture.

When the first layer of clay is dry, apply another thin layer of clay. You will sculpt the eye detail in this second layer, and apply wrinkles and texture to the skin.

2. Sculpt the eyes with an extra bit of clay just below the eyebrow bone. Remember that the eyebrow bone, the eye, and the top end of the tusk all fall on one continuous ridge. Also note the dip that goes down the middle on top of the head.

3. Use the edge of your knife to create wrinkles in the top of the trunk. The bottom of the trunk is flat. Use the tip of your knife to make two nostrils in the end of the trunk.

4. To make the dry, cracked texture of the skin, press a bit of expanded aluminum into the clay while it’s still damp. Do this in a somewhat random pattern, leaving some of the skin smooth.

5. Then go back over the entire body (except the tusks, of course), with a small square of aluminum window screening. If you don’t have these items handy, look for found other objects that you can use instead. Get creative!
FINISHING YOUR ELEPHANT

When the clay is completely dry and hard, sand your elephant—paying special attention to the edges of the ears and the surface of the tusks. Since the skin texture would be covered by gesso, we won’t use it this time. The following instructions show you how to apply several glazes in various shades of gray to make an all-gray animal look more interesting.

1. Paint on a very thin wash of warm gray directly over the dry clay, covering everything except the tusks. This results in an uneven base coat, with some areas darker than others. To make your gray, mix Burnt Sienna, Raw Sienna and Ultramarine Blue, and thin it with enough water and Acrylic Glazing Liquid so most of the natural color of the clay shows through. If the wash runs, wipe it off with a dry paper towel.

2. When the base coat is completely dry, mix up a cooler gray with more blue in the mix, and add Titanium White to make the mix more opaque. This color should be thinned with Glazing Liquid and washed over the warm gray. Wipe some of the cool gray off with a paper towel to let the warm base coat show through.

3. When the previous glaze is dry, mix a small amount of Burnt Umber and Glazing Liquid. Paint this color around the eye area and then rub it off with a paper towel, leaving the darker color only in the details around the eye. You can use this color in other places, too, to define wrinkles or the texture of the skin.

4. When this dries, the eye can be completed with brown and black fine-tipped permanent markers or a small brush. Be sure to add a tiny spot of white paint for a reflection.
When all the paint is dry on the elephant’s skin, sand the tusks to remove all the unwanted color that may have accidentally splashed on them. You might want to leave a tiny bit of gray at the very top of the tusk where they emerge from the head, for a realistic look. The white color of the clay makes very convincing ivory.

Complete your elephant by giving it a protective finish of matte acrylic varnish.

Note

Elephants have very unusual eyes. If you made a larger sculpture that allows for more detail than mine, be sure to find a photographic model to use. You can find photos online using Google’s image search.
Our last project is this beautiful horse sculpture. The horse in the photo is a bay mare, but you can paint your own sculpture in the colors you like best.
Making Your Horse

In This Chapter

You’ll learn how to reinforce the delicate leg patterns with wire, and you’ll use pins or finishing nails to temporarily position the legs so your horse will balance correctly, even though she only has three hooves on the ground.

Materials Needed

You’ll be using all the materials you used in previous chapters, plus some light wire for reinforcing the legs, and a wire-cutting tool.

Preparing the Body Pattern

Transfer the horse pattern (next page) onto cardboard or foam board. Cut out all the pieces carefully - the legs are very narrow, and the cardboard will tend to bend or tear. Use the ear you cut out as a pattern, and trace around it to make two ears out of heavy paper or light card stock.

1. Crumple a ball of aluminum foil for the horse’s cheek. Tape it to the area indicated on the pattern.

2. Form a flat piece with aluminum foil for the muzzle and above the cheek. Tape it to the head.

3. Make a small ball of aluminum foil for the eyebrow bone and tape it to the area above the cheek as indicated on the pattern.
4 Create a larger form out of crumpled aluminum foil for the neck. Tape it down. Now repeat all steps for the other side of the pattern.

5 Twist two pieces of newspaper for the tail. Tape the twists on each side of the body, then tape the two twists together.

6 Cut a piece of your wire to reinforce the tail. Tape part of the wire to the body pattern, and bend it so it follows the curve of the tail. Tape it securely, and completely cover the tail with tape.

PREPARING THE LEG PATTERNS

1 Lay the leg pieces on the pattern out on a table so you can see where the legs will go. Mark the outside of each leg.

2 Cut lengths of wire and bend them to fit the leg patterns. Tape them securely to the outside of each leg. The masking tape should completely wrap the lower legs, and all of the wire should be covered to keep rust from ruining the final finish of your sculpture.

3 Pad the lower legs with crumpled aluminum foil and tape the pieces on securely. The tape, foil and wire will all act together to strengthen your horse’s legs. Remember that the clay will make the legs thicker, so don’t pad the pieces too much.
PUTTING THE ARMATURE TOGETHER

1. Cut four blocks of Styrofoam for spacers. The thickness of the blocks is determined by the size of the squares you used when you transferred your pattern to the cardboard. The blocks for the front legs should be as deep as one square on your pattern grid. The cubes for the back legs need to be angled—one side of the block should be as deep as one square on your pattern, and the other side of the block should be one and one-quarter times the size of your grid squares. As an example, if your grid used squares 1 inch wide, the cubes for the horse’s back legs should be 1 inch deep at the back, and 1-¼ inch deep at the front.

2. Use your hot glue gun to attach the cubes to the upper portion of the legs. Remember to put the thickest part of the cubes on the hind legs towards the front of the horse, as shown.

3. Use pins or small nails to hold the legs into position temporarily, like you did when you made your pig. Push the pins through the leg pattern and the Styrofoam block, and into the body pattern. You may need to use more than one pin to hold them steady.

Note

If you want your horse to be looking off to the side instead of straight ahead, bend her neck before attaching the legs. The foil inside the neck will hold it in the new position. The position of the neck and head will affect the balance of your horse, so it’s important to do this before the legs are attached.
Keep moving the legs until your horse is holding the correct position and the horse is balanced. Then use a pen to trace the shape of the Styrofoam cubes on to the body pattern.

Put hot glue on the area inside one of the traced rectangles. Then press the foam block into the glue. Attach all four legs, and then test the balance of your sculpture before the glue completely cools, so you can make minor adjustments if needed.

Your horse pattern should now stand on its own.

**Padding the Body**

1. Begin by adding crumpled paper beneath each leg pattern at the hips and shoulders.

2. Fill in the main body area, and add the chest muscles below the neck. Turn the horse over and fill out the area between the legs and the body, and form the buttocks area below the tail.

3. Now fill out the shoulder and hips. Check your sculpture and make any final adjustments that may be needed.
4 Curl up the ears you cut out of heavy paper, and hold the curl with a small bit of masking tape at the bottom of the ear, just above the tabs, as shown.

5 Tape the tabs to the horse’s head. The ear sits just at the back of the eyebrow bone you made when you added aluminum foil to the head. The ears will be the most delicate part of your finished sculpture.

**APPLYING THE PAPER MACHE CLAY**

1 Apply a smooth, thin layer of paper mache clay to your horse, but leave the bottoms of the hooves for last. Use the edge of your knife to texture the clay on the tail. Use your knife or a smaller tool to form the nostrils and the line between the upper and lower jaw. Cover the ears, both inside and out, with a thin layer of clay.

2 Add additional clay to round out the cheek, if needed, and add more clay to the eyebrow bone so the final shape of the head looks as shown.

3 Add more clay to the head, just in front of the eyebrow bone, and use it to sculpt the eyes.
4 Add more clay to one side of the neck for the mane, and a bit between the ears for the forelock. Use the edge of your knife to texture the clay to look like hair.

At this point, put your horse in a warm place and allow it to dry.

5 When the clay is hard enough to handle, add a bit of clay to the bottom of each hoof, blending it into the hardened clay on the sides. Place the horse, feet down, on a sheet of plastic wrap like you did when you made your pig. Carefully pull off the plastic and allow your horse to dry upside down until she’s completely dry and hard.

**FINISHING YOUR HORSE**

Sand your horse, paying special attention to the ears, legs and hooves. Use your craft knife to define the ridge just above the hoof. Use the sandpaper to remove extra clay that might be making the legs too thick, but be careful to not break into the masking tape or aluminum foil beneath the clay.

Apply a layer of gesso, allow it to dry, and sand it if needed.

I applied a series of glazes to build up the warm brown coat of my bay mare. If you’re particularly fond of another breed or color pattern, go ahead and paint your horse in any way you like. The following instructions will show you how to paint a horse that looks like the one at the beginning of this chapter.

1 Start with a base coat using *Yellow Ochre* with a small amount of *Ultramarine Blue* added to bring down the tone just a bit. When the base coat is dry, paint the white socks and the star on the mare’s forehead.
2 Make a transparent glaze using Burnt Sienna and Raw Sienna, mixed with Acrylic Glazing Liquid. Apply the glaze over the yellow base coat. Some of the yellow will show through.

3 When the first glaze is completely dry, add another glaze using Burnt Sienna, Burnt Umber, a bit of Raw Sienna, and Ultramarine Blue. The color should be reddish brown.

Use the same glaze on the hooves, but wipe most of it off so the color on the hooves is lighter.

4 The final glaze is made from Raw Sienna, Titanium White, and a touch of Ultramarine Blue. This glaze is slightly lighter and warmer than the previous glaze. Apply this glaze to the dark brown areas. Wipe off most of this glaze, so the darker color shows through. Leave the eyes dark brown, with no lighter glaze added.

5 Mix up a very dark brown or black using Burnt Sienna and Ultramarine Blue, plus a little bit of Acrylic Glazing Liquid to make it easy to blend the edges of the black parts into the brown. Paint the points, (mane, tail and lower legs above the socks), blending the dark paint into the brown at the top of the legs.

I used my finger to smudge the paint at the top of the black area on the legs, creating a natural-looking transition between the black and brown.
Use the black glaze you used for the mane, tail and lower legs to darken the insides of the ears, to darken the muzzle, and to bring out the detail around the eyes. In these three areas, most of the glaze should be rubbed off with a paper towel.

Paint the iris of the eye black. When all the other paint is dry, touch up the star on the mare’s forehead with white paint, and add a small spot of white to the eye. Finish your horse with matte acrylic varnish.
CONGRATULATIONS! If you completed all the projects in this book, you’re now ready to sculpt original life-like animal sculptures based on your own designs, drawings and photos.

You now know the “system” for creating life-like animal sculptures with paper mache clay. If you follow the same steps you used to make the projects in this book, you can now produce new sculptures from your own original designs, based on photographs or drawings.

Your work will steadily improve as you practice, practice, and practice some more. As you become more and more comfortable with the steps, you’ll begin to develop techniques of your own, and your sculptures will reflect your own personality and your own relationship with the animals you choose to sculpt. It doesn’t matter what kind of animal—aardvark, donkey, Tasmanian devil, or ??? If you follow the system, you can make a sculpture of any animal you want.

THE BASIC SYSTEM FOR CREATING YOUR OWN ORIGINAL SCULPTURES:

1. Create a drawing or find a good photo, showing your chosen animal from the side.

2. Turn the drawing or photo into a pattern, using the grid system you learned on page 58.

3. Transfer the pattern to cardboard or foam board, and carefully cut out all the pieces. Determine if the legs will require reinforcing wire, and decide if you should make the ears from light card stock or expanded aluminum.
4 Prepare the leg pieces of the pattern.

5 Prepare the body piece, paying special attention to the shapes on the head. Break down the basic shapes of muzzle, cheek, eyebrow bone and lower jaw, and pad the head with crumpled paper or foil and masking tape.

6 Assemble the leg and body pieces with foam spacers and a hot glue gun. You’ll need to look at photos or drawings of your animal from the front and back to determine how thick your spacers should be, and what angle you need to cut the foam blocks for the hind legs.

7 Pad the body, shoulder and hips on the armature with crumpled paper and masking tape. Twist and turn the critter’s head, neck and back to give your sculpture a more dynamic posture.

8 Apply the paper mache clay and model the details like eyes, nose and mouth with a knife or modeling tool.

9 Allow your sculpture to dry completely. Then finish with a coat of gesso, acrylic paint and a protective finish or matte acrylic varnish.

JOIN OUR ONLINE COMMUNITY

Remember - I want to see the sculptures you’ve created, and I’d love to meet you online. Thousands of people visit my website every week to learn new techniques for making paper mache sculptures. I do hope you’ll drop by to show off your sculptures and join the conversation. We have a lively community of artists who would love to see your work, answer your questions, and receive your suggestions and help.

If you have questions about any technique in this book or if you have suggestions that would help your fellow sculptors, please visit my blog and leave a comment. I try to answer every comment I receive so we can all learn from each other. I hope to see you, (and your new sculptures), soon.