

Magic Mud®

Information-Instructions



Conforms to
ASTM D-4236

Greetings,

Thank you for bringing Magic Mud® into the lives of children.

As a teacher, I discovered how much children love and learn from clay, yet rarely have the opportunity to experience it. I created Magic Mud® to give children the chance to play, explore and build with an ideal modeling material. I designed the accompanying products to help make it easy for you as a parent or teacher to manage clay. Magic Mud® is made with durable, high quality, non-toxic materials. Use this guide to let the magic begin!

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MAGIC MUD® IS...

Magic Mud® is a non-toxic, soft, air-drying, natural clay. Magic Mud® can be used over and over again and can be air-dried or fired in a kiln. If Magic Mud® dries, it can be turned back into mud by just adding water (see "STORING AND REUSING"). Magic Mud® comes from the earth, formed by the erosion of igneous or metamorphic rock.

WHY USE MAGIC MUD®?

• Unlimited Discovery

Children love clay. It is an essential creative material that can be easily manipulated, changed, and formed over and over again.

• Strengthens Important Skills

Clay teaches children about form, space, texture, weight and structure. Working with Magic Mud® aids in the development of fine and gross motor skills through touching, poking, pushing, pulling, prodding, squeezing, and joining.

• Allows Self-Expression

Clay provides a medium for children to express ideas, feelings, and their reactions to what is going on in their lives.

• Fosters Open-Ended Creativity

Magic Mud® is soft, pliable and forgiving. Children are able to explore, experiment and express their ideas without worrying about making mistakes.

• Makes Sense for Children

Since Magic Mud® is non-toxic, natural and can be used over and over again, it is the best choice of modeling materials for children. Clay is commonly used in the classroom or at home after children have had experience with modeling dough and are ready for a material that offers broader possibilities and experiences.

STORING AND REUSING

Keep Magic Mud® in its original bag away from heat sources and bright windows until used. Once opened, Magic Mud® can be made into a project or reused.

Line a small plastic bucket, garbage pail, or 5-gallon bucket with a plastic kitchen garbage bag. This will help keep the clay moist. After working with the clay, before returning it to the bucket, add water to the clay to keep it soft and moist. One way to do this is to have the children make a clay ball from their remaining clay on their boards and poke a hole with their finger into the clay ball. Add water into the hole and close it by pinching it together. The dry ball

will "drink" the water during the night and will be soft and supple by morning. After all the balls have been conditioned and placed back in the bucket, close the liner bag and cover with the lid. Your clay should stay soft and supple and last for a long time.

Magic Mud® can be easily restored to its moist state. If the clay becomes rock-hard, place it in a strong plastic bag (like the one it came in), push out most of the air and seal it with a twist tie or rubber band. Wrap this bag between a towel and lightly hammer the clay until it is broken into minute pieces. Be careful not to puncture the bag.

Once clay becomes dry powder, open the bag carefully – **DO NOT BREATHE THE CLAY DUST!** See "Health and Safety". Add water to the bag as needed and reseal the bag. Knead the clay while it is in the bag. Once all dry material is mixed, the clay can be taken out and kneaded on untreated wood or newspaper until it no longer sticks to your hands. If the clay is too sticky, leave it out for a while before kneading until the extra moisture is absorbed.

MAKING YOUR LIFE EASIER

Managing the Work Area

Each child should be given a non-stick work surface, such as a Magic Mud® clay board, a ball of clay, and one wet paper towel if needed. The paper towel is used to help keep the child's hands moist while working with the clay. It allows the child to have a defined source of water to prevent the clay from drying out. If the clay is moist to begin with, the children may not need to add any water while working and will only need a wet paper towel for clean-up to wash the boards and take off any major clay clumps on their hands. Wiping hands with a paper towel will prevent the clay from clogging the sink. As children become mature, they can be taught to dip their fingers into a shallow container of water to re-moisten the clay. To help the very young children keep their hands moist while working, place a pad of wet paper towels on a paper or plastic plate for the children to pat their hands on. This method allows them to moisten their hands without the distraction of squeezing a wet paper towel. Foam meat trays from a grocery store or plastic trays help manage preparation and distribution of paper towels. To save resources, cotton washcloths can be used in place of paper towels. Wash them daily.

We recommend two basic rules: 1. Keep your clay on the board. 2. Never touch someone else's work without their permission. These two rules will help prevent the throwing of the clay, messy work areas, and tears caused by one child damaging another child's work.

Health and Safety

Clay in its moist form is non-toxic and does not present any health problems. Magic Mud®, like all natural clays, contains silica. Silica has been linked to the possibilities of environmental health problems. These health problems may occur through long-term respiratory exposure to the dust in dry clay. Dry clay is dusty and should not be inhaled. Avoid contact with the eyes. To minimize exposure to dry clay, be sure to wipe all surfaces with a wet sponge, cloth or mop after use. This also includes the clay boards and plastic aprons if they have been worn. Do not sweep the floors and tabletops. Pieces of clay on the floor can be picked up by hand before the floor is mopped. If dust enters the eyes it may be removed by washing the eyes with water. Wash hands after each session.

Children should always wear old clothes or smocks when working with clay. Old men's shirts with the sleeves cut short are ideal. They cover the entire child and are easy to don. Button on backwards. Wash regularly. Old adult t-shirts work quite well.

The wire cutter is intended for adult use only. DO NOT allow chil-

dren open access to it. It is included to help the teacher or supervisor cut the clay with ease.

STARTING

Getting Ready

Magic Mud® can be used directly from its original bag. Simply take the clay out of the bag, place it on a clay board, and use the wire cutter provided to slice through the block to create slabs. Pass out one slab or 1/2 of a slab to each child. (See 'Cutting' on next pages.)

Creating balls of clay from the slabs for the children to work with in advance will save you time. The size of the balls depends on the size of the children's hands. However, a general guide is to allow one pound for each child or approximately an apple-sized ball. Don't be afraid to give the children more clay if needed. Have some spare balls ready!

The clay tool provided can be used for shaping, cutting, scoring or providing texture to your finished piece.

You may also want to let the children have free exploration with a large block of clay. Cut a desired amount from the original slug and place it in the center of the table or on a canvas or plastic tarp on the floor. Encourage the exploration and observe what happens!

Working with Magic Mud®

Before beginning a project, let the children explore the clay. Children need plenty of time to explore clay to understand its qualities. No tools are necessary at first, since hands are the best tools. If you are working with young children, allow them to play freely with the clay without much direction. The material itself is the motivation. Young children are more interested in the process than the product and do not need to make a finished piece! Once the children have had time to explore, they will begin to make basic shapes like coils and balls. Children are developmentally ready to begin projects once they express interest in making representational objects, such as people, automobiles or pets.

Young children willingly return the clay back to the container when they are finished. Many adults find this hard to believe and are often surprised when there is no fuss involved in cleaning up. When children realize that clay will be offered on a regular basis and their experience can be repeated, they will naturally focus more on the process of creating rather than the end product.

OPEN-ENDED LESSONS FOR EARLY CHILDHOOD

Developmentally appropriate lessons as recommended by the National Association of the Education of Young Children (NAEYC).

Your role as a teacher

The teacher is an observer, encourager, leader and technician. The teacher observes developmental growth, encourages individual creativity and risk taking, leads the children in artistic exploration and teaches technique both to the whole group and to the individual.

Introducing Clay

Introduce the clay to the children as you play with a ball in your hands. Find out what they know about clay. Describe how it feels to you, where clay comes from. Model for them different ways of interacting with the clay and gather their thoughts and ideas. As the excitement builds but before it dissipates, show them how to clean up, where and how the clay will be kept after they are done with it. When they are ready to work with the clay, give them a board and a ball. Let them explore.

Going further: For the next few weeks have the clay available as a choice activity. Allow the children to explore only with their hands. Observe their interaction and relationship with the clay. Offer technical strategies when needed.

Table Activity—Clay Techniques

While sitting at the clay table with the children, point out the different techniques you notice and introduce new ones. By verbalizing the techniques you see being used, you are giving the children at the table the vocabulary to express what they are doing, an awareness of clay possibilities, and acknowledgment of their abilities. The following techniques can be introduced to young children:

POKING POUNDING JOINING PULLING ROLLING TWISTING
TEARING ADDING PATTING PINCHING SQUEEZING FLATTENING

To point out a technique, you might say, "I see Jessica is rolling the clay". To show a technique, demonstrate on a lump of clay that you are holding. Say, "I am pinching the clay" as you are pinching a portion of your ball. Make your demonstrations nonrepresentational and exaggerated.

Going further: Over the next few weeks, encourage the children to use all the techniques they learned. While they are working, you can reinforce the vocabulary and experimentation by saying, "How did you make this? What techniques did you use?" Or more specifically, "I see you pinched the clay to make the legs". Later on in the year, To extend their learning further, you may want to point out different techniques to the children through a thematic lesson as described in the lesson on pets.

Tools

To keep the momentum of interest in clay, introduce new tools and objects to the clay area throughout the year. It is best to wait a few months before introducing tools or else the children won't have enough time to develop a sensitivity and understanding of clay through their hands. You might want to use the following sequence:

- 1st Sticks such as popsicle sticks, twigs, tongue depressors, blunt-end toothpicks, etc...(Introduce one type of stick at a time.)
- 2nd String
- 3rd Objects that create texture: buttons, legos, coins, cake decorating tips, stamps, etc... (See lesson below.)
- 4th Dowels or rolling pins, texture materials such as burlap, lace, doilies, mesh, bubble wrap, corrugated cardboard, etc...

Place the objects for use in a low-rimmed container on the clay table to encourage free choice. It is always a good idea to have available any object or tool that the children have already been introduced to out in the open. This encourages children to continue building on prior experiences and knowledge as well as develop more complex uses for the material. However you may also want to rotate the materials and combine them in different ways for different provocations.

Textures and Patterns

Find several of objects that can make textures and patterns on clay. Burlap, forks, wheels of a plastic truck, string, mesh, bottle caps, coins, beads, legos, acorn caps, etc.. Place all the objects on a tray and ask each child to choose one and describe how it feels. Does it feel bumpy, rough, sharp, smooth...? After each one has a turn sharing, have them place the objects back on the tray or take their objects with them to the clay table and explain that you would like them to discover what these objects do to clay. Show them how to pat their clay or roll it out with a dowel or rolling pin to make it smooth. Choose one object to show them how to press the object into the clay and remove it carefully. Talk about how you might want to try a few objects. Show them how you can make a texture design by placing one textured imprint next to another or overlapping. Give each child or each pair of children a bin full of textures to explore. Encourage them to explore each object and texture.

As the year progresses and after the children have had plenty of experience exploring clay, you can use clay to enhance whatever the focus is in the classroom: portraits, patterns, family, textures, zoo, pets, animal dens, spaceships, trees, etc... as well as teach techniques. Clay can be used, for example, after an in-depth exploration of pets through picture books, hands-on visits, discussions, photographs, etc....

Clay Pets

Start the circle off by talking about pets and what kinds of pets the children are familiar with. You might want to show photos of pets or toy animals for the children to see. This will help the children form a visual picture of the animal. The children can then take these visual resources back with them to refer to as they are working.

After discussing and looking at a variety of pets, demonstrate a few techniques they might need to make a pet. Your emphasis should not be on how to make a pet but on the techniques needed. You could show them how to pull out the legs from a lump of clay, pinch ears or how to attach a tail on to the animal by joining.

After the demonstration be sure to tell the children how they will save their project, where it will be put to dry and how they will clean up. You could end the lesson by saying, "Today you might want to try to make your pet or a pet that you would like to have. You may want to try pulling and joining to make body parts."

It is important to teach the children how to join properly as a preparation for more complex forms. If clay sculptures are not attached well they will break and fall off. Joining can be done by rubbing water in the joint to make it smooth, using slip (watered-down clay) and/or using a fork or clay tool to make a tic-tac-toe pattern (called scoring) on the two pieces before they are joined. Even if the children forget to score, slip and/or rub water in the joint, their pieces should hold together if the joint is smoothed over.

Texture Tiles

This can be used as a final project toward the end of the school year if you have a kiln. Do not attempt this project if you are not going to fire the tiles.

Making Slabs: Make slabs $\frac{1}{4}$ to $\frac{1}{2}$ inch thick. There are three ways to make slabs: cutting, rolling, and patting. Rolling requires the use of wooden thickness guides which are $\frac{1}{4}$ inch to $\frac{1}{2}$ inch wooden strips and a dowel or rolling pin.

Rolling: Rolling is the best method for creating uniform, sturdy tiles that will dry without cracking. Making slabs by rolling is more appropriate for school age children, however young children can also be successful at it as long as the wooden thickness guides are nailed down onto the wooden boards.

Place a piece of burlap, fabric, or canvas on top of the board so that the clay doesn't stick to the board after it is rolled. Put a flattened lump of clay between the thickness guides. Roll the clay out with a dowel allowing the clay to spread toward the guides. It is important to turn the clay over as you roll it out. Turning will insure an even thickness and prevent the clay from sticking to the cloth. Remove the slab once it has reached the desired thickness.

Cutting: Cutting is the easiest way to prepare slabs. Place the clay block provided in your kit on a table, covered with a cloth or burlap to prevent sticking, and place the wooden guides on either side. Using the cutting wire, cut through the clay towards you as you slide the wire along the guides. Once the slab is cut, remove the block and place the slab on plastic until it is ready to be used.

Patting: Patting is best if the end product isn't as important as the process and/or you are working with very young children. Slabs can be later trimmed for uniformity and smooth edges.

Allow the children to pat the clay while continually turning it over. Make sure they pat it only $\frac{1}{4}$ to $\frac{1}{2}$ inch thick. If it is too thin it will crack and if it is too thick it will dry unevenly. To avoid clay sticking to the work surface, you might want to use canvas or a non-stick material to work on.

Decorating Slabs: Once the slabs are made, have children apply textures to them. Be sure to place a piece of heavy paper between the board and the slab so that the clay doesn't stick to the board after the children press into it. They should have had plenty of opportunity by this point to experiment and explore with various textures. To add an element of discovery and excitement, ask them to go around the room and find something that can make a texture to use on their tile. They can then share those objects with each other. Encourage them to build up textures as well as press textures into the surface. Advise them to press with medium strength into the slab. If they press too lightly, their design might not show and if they press too deeply, the slab can crack into pieces once it has dried.

Once the slab is decorated, it should be removed to dry. The secret to successful drying is to allow the slab to dry slowly. You can place each tile onto a piece of cardboard and cover it with plastic to slow down the drying time or place the group of tiles on wire cookie racks or discarded oven racks. As the tile dries, it can be turned over once or twice to allow both sides to dry evenly. Another method to dry tiles is to place them on plastic trays or heavy cardboard and stack the trays on top of each other. The weight of the trays will keep the tiles flat. This will only work if the tiles are flat and have no raised additions. If the clay tiles are simply left out to dry, they tend to warp because the top dries more quickly than the bottom. Once the tile is leather-hard, you can use a card template with a knife or popsicle stick to trim all the edges to the exact size you would like your tile to be. The trimming makes the tiles uniform. To finish the tile, use a damp sponge and wipe the edges of the tiles to create a smooth edge. Don't forget to have you or the child initial the back of the tile.

PROJECTS

Once the children have had time to play with the clay freely and have shown interest in making representational objects, you can introduce projects. The following projects use more advanced clay techniques and teach the children how to pinch and decorate a pot and form 3-dimensional sculptures.

Animals

Have the children look at images of animals in magazines, books, or postcards. Help them notice the interesting shapes the body parts make. Are the animals' bodies long, short, round, triangular, or rectangular? Ask them to decide which animal they want to make in clay. It could be an animal from a picture or an animal they know well.

First form the shape of the body and then either pull out or attach body parts. Ears and tails are best pulled out from the clay, made thick, and close to the body. Clay doesn't like to be too thin. If the children decide to attach body parts, make sure they are attached securely by smoothing all the seams and or applying slip. When they are finished, their clay animal should look like it came from one piece of clay. If the legs or head looks pressed on, go back and smooth all the seams. Add details to the animal like spikes, eyes, whiskers, horns, hair, fur, etc....

When the children are satisfied with how their animal looks, place their animal in a safe place to dry. Be sure to wind a piece of plastic around any small body parts so they dry evenly and don't break. Keep away from direct sunlight or heat vents. Slower drying minimizes

cracking. Once dry, decide how it will be finished. Will it be painted? Have a sealer over it? Glazed and fired? See "Finishing" for details.

Going further: Will your animal be friendly or fierce? Can you make your animal in an action pose (standing, sitting or lying down)?

Pinch Pots

Pinch pots are fun and easy to make. Once the technique is mastered, pinch pots can be combined to make animals, rattles, and used as a base for coil pots.

Start by making a clay ball that fits comfortably in the palm of the hand. As you are holding the ball in one hand, use the thumb of the other hand to push a hole into the center of the ball. Keep pushing down into the ball to create a deep hole, being careful not to break through the bottom. If this happens, start over or smooth the hole over with clay. With the same hand, gently start pinching and squeezing the clay upwards between the thumb and the fingers. The thumb should be inside the pot and the fingers outside. After each pinch and squeeze, turn the pot in a clock-wise direction, developing a rhythm of pinch and squeezing.

You can create the way you want the pot to look by either pressing more with your thumb or fingers. If the pot starts cracking, add a drop of water to the clay and smooth the cracks over. The goal is to gently pull the pot walls upward while turning to create a uniform look. Once finished, place the pot in a safe place to dry.

Going further: Press or place dried flowers or leaves onto the walls of the pot. Press textured fabric such as corduroy or burlap into the walls or the bottom of the pot to create interesting patterns. Wrap any type of fabric around the pinch pot, press, and remove to create texture on the clay. Turn your pinch pot into something else! Add eyes, ears, feet...

Found Objects Sculptures

Collect a variety of natural objects such as twigs, dried flowers, seeds, acorn caps, etc.... Garden stores that sell dried flowers are a good source for interesting stalks. Place the natural objects in shallow bins. Create one bin for each child or every two children. You might want to add some beautiful shiny objects to the bin to create variety. Objects such as beads and sequins make a nice contrast to the natural objects.

Give each child an apple sized ball of clay and let them begin. They can form their ball into an interesting shape or into a representational form before adding the objects to it. Children will naturally know how to design. Let them explore the objects and place them where they feel is right. Remind the children to press the objects firmly into the clay. When the clay dries, it will shrink and the objects will remain embedded.

To dry, put the sculpture in a safe place. Once dry, the clay base can be painted with a glue wash (60% glue and 40% water) or an acrylic sealant to help make it more durable. After the sculpture dries, it can be carefully taken home in a padded shoe box and/or moved to the dining room table as a centerpiece. Found object sculptures work well when Magic Mud® is air-dried. DO NOT fire after making this project.

Action Figures

Ask the children, "What do you like to do in your sneakers?" After hearing their responses, have them position their bodies as if they were doing the activity and freeze. Ask the following questions to increase their body awareness: "Are your arms bent? What are your feet doing? What are your hands doing? Are you standing straight and tall or is your back bent?"

Once the children have a good sense of how their bodies are positioned, have them form a person from their clay balls either by

adding clay or by pulling out details. As they are working, encourage the children to bend their clay figure into the pose they formed with their own bodies. The children might need to have their bodies reform the position again, to remember how it felt.

Going further: Here are some questions to help the children stretch their thinking and create people in different poses:

- Can you make a person walking in the wind?
- Can you make a person and an animal together?
- What do you like to do with your family?
- What is your favorite thing to do in the winter?

FINISHING

Cleaning Up

If you plan on having the children reuse their clay, have them form a ball from the clay on their board and pick up any left over clay scraps with their clay ball. The scraps will adhere to the clay ball. Have them bring the ball over to the storage container and follow the directions "Reusing Magic Mud®". Once the clay is stored in the bucket, the children can wipe down the tables and clay boards with a wet paper towel.

Take care of your boards! It is best not to wipe down the boards under running water or leave them in a sink to soak. The boards are made from wood and over time will warp if they absorb too much water.

Keeping Clay Pieces

Magic Mud® is air-drying clay. The clay is fully dry once it turns a lighter color and is dry to the touch. This may take anywhere from two days to a week depending on the thickness of the piece. If the children want to keep their sculptures, they can let them dry out on a shelf. It is important that they dry slowly so that small parts (tails, ears, feet...) do not fall off. You can wind a small piece of plastic or polyethylene wrap around small parts and then lay a piece of plastic loosely over the whole piece, if you want to be extra careful. Once dry, sculptures can be finished by painting, firing in a kiln, or applying a sealant, a mixture of 40% water with 60% glue or acrylic paint. All finished sculptures should either be sealed or fired to increase durability.

Firing

Magic Mud® does not need to be fired. However, firing the clay will make it stronger and less breakable. Magic Mud® bisques at Cone 04 and glaze fires at Cone 05. Acrylic, tempera or watercolor paints can be used to paint the bisqued clay. A sealant or a glue wash can be used afterwards to create a shiny appearance. Older children may want to glaze their work. We recommend using one of the many AMACO® low fire glazes and/or underglazes.



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