

# Wheel Throwing



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## Unit 8

# Project Requirements

Create a set of two matching functional pieces, such as two vases, cups, bowls, or plates of equal height, width and shape. Pieces should be trimmed, fully glazed, and complete. The pieces should be at least 4" in width or height and no larger than 12" in width or height.

## Basic Information

Wheel throwing is a pottery technique where you shape clay on a spinning wheel. The wheel rotates, allowing you to form bowls, cups, plates, and other items by using your hands and simple tools. It's called "throwing" because you're shaping the clay while it spins — not because you're literally throwing it!

You may have a potter's wheel available to you in school, but if not, you will have to find a potter or a studio who can provide access to a wheel and help you with this project. This is the most challenging technique to master. It takes practice, time and patience to make a piece in which you can be proud of. Evaluate your piece using the judging sheet as a guideline.

Throwing ceramic pieces on a wheel isn't just a skill — it's a way to express yourself. You can create things that are beautiful and useful, like mugs for morning tea or bowls for your favorite snacks. Pottery also helps you relax and focus, making it a great hobby for relieving stress. It also requires a lot of

upper body strength and control and teaches you to have patience with yourself. This section of the manual will guide you through the basics of wheel throwing, from preparing your clay to creating your first masterpiece. Let's dive in!

## Tips for Beginners

Here are some helpful tips to make your pottery journey easier:

- **Be Patient:**  
It's normal for your first few pieces to look wonky. Practice makes perfect!
- **Start Small:**  
Begin with 1 pound balls of clay attempting simple shapes like bowls or cups before trying more complex designs.
- **Keep the Clay Wet:**  
Dry clay is harder to work with, so keep your hands and the clay moist.
- **Clean Your Tools:**  
Wash your tools and wheel after every session to keep them in good condition.
- **Ask for Help:**  
Don't be afraid to ask your 4-H leader, teacher, or peers for advice. Pottery is a skill that takes time to master.

# Tips for Beginners

## **Centering the Clay:**

Be sure when using a pottery wheel that your clay stays centered on the wheel as you work on it.

## **Speed of the Wheel:**

The wheel needs to start out fast (but not too fast) and gradually get slower, which takes practice. Centering your clay is easier if the wheel is spinning more quickly. Once centered, you can gradually slow down the speed of the wheel as you begin to pull the clay. Reduce the speed about three-quarters when opening out and compressing the base, then move to half speed for pulling up the walls. The taller your piece, the slower your wheel needs to turn. Finishing your piece should be done slowly to help it have smooth sides.

## **Opening the Clay:**

Once your clay is centered on the wheel, you will compress your thumbs down into the center slowly. Don't push too hard, or the base of your piece will be too thin and flimsy. The base needs to support the rest of your structure. Let the wheel's rotation help you when opening up the clay. A good way to check if your bottom is too thick or thin is to stop the wheel and use your needle tool to poke straight down through the bottom placing a finger on the needle where the bottom of your piece is and pulling up holding your finger in place to check the thickness of your bottom. If the tip of the needle tool to your finger looks to be

about 1 cm or  $\frac{3}{8}$ " thick then you are at a good thickness for your bottom and can begin pulling.

## **Pulling the Clay:**

With one hand on the inside of your pot and the other on the outside, you will begin to pull the walls of the pot up starting from the bottom and steadily and slowly working the clay up. This will begin to thin out the walls and allow you to shape the pot the way you want. This takes many tries and very steady hands. You can use rib tools and sponges to help you achieve the desired texture and shape you are wanting to achieve. The walls of your pot should be around  $\frac{1}{4}$ " thick. If the walls are too thin the shape may not hold up and if they are too thick you may run into a lot of shrinkage during the firing process. Watching other potters throw also helps you understand the movements, skills, and techniques you can use to master this step.

## **Trim and Wire Off the Piece:**

Once you have gotten your piece to the desired height and shape that you want, you will need to trim some of the excess clay off the bottom around the outside of the pot. Once you have trimmed it up to your liking, you will wire off the pot. Using the wire tool, hold each handle in each of your hands and pull tension between to make the wire very straight and tight. Then carefully drag the wire along the wheel bat separating the pot from the wheel. If you are throwing on bats that have a small removable center, then you can leave your pot on that center bat

## Tips for Beginners

piece and lift it out of the bat and place it on the drying shelf. If you are throwing on a full size bat and do not have extras, you must either carefully lift the pot with as little disturbance to the form as possible and place it on the drying shelf. Or you can use a pot lifter tool to help assist you in getting the pot off the bat and onto the drying shelf.

### Trimming the Pot:

Once your pot has dried to a leather hard state, many potters will trim the bottom of their piece to give the pot a beautifully finished and professional look with what we call a foot. A foot typically is a thin raised edge somewhere between a ½" to ⅜" wide that allows your pot to sit level and gives it a very professional looking finish to the form. A foot also aids in glazing, giving your pot the ability to be glazed on the bottom side surface leaving only the foot as the exposed raw clay edge. The foot should also be sanded and smoothed after the piece is completely fired. To create the foot you will need to bring your leather hard pot back to the wheel this time placing it upside down on the bat and centering it. You can buy a special bat that will center and hold your piece in place for you called a Giffin Grip, or you can do it the traditional way by using some raw wet clay pressed gently to the lip of the pot and the bat to hold the bat in place once you have it centered on the wheel. From here you will use a number of trimming tools to carve out the foot, round the side into the bottom, and

finish the bottom of your pot. Lastly, you will sign the bottom of your pot before firing it.

### Control and Speed:

Throwing on a wheel allows you to have more precise control over the shape and symmetry of your piece. As you become more efficient with your skills throwing on the wheel, you can also create pieces more quickly than when handbuilding.

### Mistakes Happen:

Don't worry if your piece collapses. You can recycle the clay and try again! Though it can be frustrating, this is part of the learning process.



## Safety First

Pottery is fun, but it's important to stay safe:

- **Protect Your Lungs:** Clay dust can be harmful if inhaled. Always clean up carefully and avoid creating dust.
- **Use the Kiln Safely:** Only trained adults should operate the kiln.
- **Tie Back Long Hair:** This prevents it from getting caught in the spinning wheel.
- **Don't Rush:** Take your time to avoid accidents.
- Never splash water on others.
- Keep fingers away from spinning parts of the wheel.
- Sit up straight and brace your elbows against your body or on your legs for balance.

## What You'll Need

Before you start, make sure you have the right tools and materials. Here's a list of essentials:

- **Pottery Wheel:**

This is the spinning tool where you'll shape your clay. The cost of a pottery wheel depends on its capabilities and features. You may want to take a class before purchasing a pottery wheel to make sure the cost of a wheel is something you want to invest in.

Electric pottery wheels are lighter and smaller in size than the kickwheel type that is powered by your foot.

Generally, it is easier to use an electric pottery wheel.

- **Clay:**

Choose a beginner-friendly clay like stoneware or earthenware. Some clays may be too stiff to work well on a pottery wheel. Other clays can be too soft. Consistency is important. If it is too soft, it won't hold its shape and water added to it on the wheel can make it collapse. If clay is too hard, it might be difficult to center on the wheel as you are working with it.

- **Bucket of Water:**

To keep your hands and clay moist while working. The amount of water you use is very important. If your bowl gets too sticky, it might move off the center of the wheel. If you use too much water, you will lose clay on your hands and waste the material or your piece will not be strong enough to support the structure. Using warm water will ensure your fingers do not get too cold when working the bowl into shape.

- **Pottery Tools:**

- Sponge for smoothing and shaping the clay
- Needle tool (for cutting and detail work)
- Wooden rib (for smoothing and shaping)
- Wire cutter (to remove your piece from the wheel)

- **Apron or Old Clothes:** Pottery can get messy!

- **Towel:** For drying your hands and cleaning up.

- **Bat:** A removable flat surface that attaches to the wheel, making it easier to remove your finished piece.

# Wheel Throwing Technique List

Ceramic Knowledge and Goals Checklist	New skills I have learned	Skills I want to learn or improve
Wedging: Kneading clay to remove air bubbles and make it smooth and even.		
Centering: Positioning the clay in the exact middle of the wheel so it spins smoothly.		
Coning Up and Down: Pushing the clay up into a cone and back down to improve centering.		
Opening: Pressing into the center of the clay to create the inside space of the form.		
Flooring: Flattening and compressing the bottom of the pot to create a strong base.		
Pinch Pulling: Using fingers to gently squeeze and raise the walls.		
Collaring In: Narrowing the opening by gently guiding the walls inward.		
Widening: Expanding the walls outward to create bowls or rounded forms.		
Compressing the Rim: Squeezing the rim to prevent cracks and add strength.		
Shaping with Hands: Using fingers and palms to form curves and angles.		
Rib Shaping: Using a wooden, rubber, or metal rib to smooth and refine shapes.		
Bellying Out: Creating a rounded or bulbous form in the middle of a pot.		

# Wheel Throwing Technique List

Ceramic Knowledge and Goals Checklist	New skills I have learned	Skills I want to learn or improve
Necking: Narrowing the top of a form (common in vases and bottles).		
Creating a Spout: Shaping the rim to form a pouring lip for pitchers or teapots.		
Smoothing: Using a sponge or fingers to remove excess water and smooth the surface.		
Burnishing (on wheel): Polishing the surface with a rib or spoon for shine (on suitable clay).		
Texturing: Adding patterns with tools, fingers, or found objects while the wheel spins.		
Trimming (off the wheel): Removing excess clay from the base once the pot is leather-hard.		
Foot Ring Trimming: Carving a raised ring on the bottom for balance and style.		
Throwing in Sections: Making large forms by stacking thrown pieces.		
Throwing Off the Hump: Creating small items from a larger mound of clay.		
Attaching Handles: Pulling and attaching handles to mugs or pitchers.		
Altering: Changing a round form into oval or faceted shapes after throwing.		
Cutting Off the Wheel: Using a wire tool to safely remove finished pieces.		

# Unit 8 – Wheel Throwing Bowl Project 1

## Basic Information

Creating a simple bowl is one of the best projects for beginner potters learning to use a potter's wheel. It teaches you essential skills like centering, opening, pulling walls, and shaping – all while creating something functional and beautiful. Follow these steps to make your first pottery bowl!

## Steps

### Step 1: Prepare Your Clay

Before you start, you need to wedge your clay. This means kneading it to remove air bubbles and make it smooth. Air bubbles can cause your piece to crack in the kiln, so it's important to do this step carefully.

1. Wire cut and weigh out several (3-5) 1-1.5 lb blocks of clay from your pugged wet clay bag. This way you will have multiple balls of clay seasoned and ready to throw if you make a mistake and need to start over or if you have time to make more than one pot.
2. Wedge the Clay: Press, fold, and roll the clay repeatedly on a clean surface. Imagine you're kneading dough for bread! Repeat this on all the cut out blocks of clay you prepared.
3. Shape the Clay: Form the clay into a ball. This makes it easier to center on the wheel. Repeat this for all the cut out blocks of clay and store the extras in a plastic bag or air thighs container.

### Step 2: Center the Clay

Centering is the most important skill to learn when throwing on a wheel. If your clay isn't centered, your piece will wobble and be difficult to shape.

1. Attach the Clay: Slam your ball of clay firmly onto the center of the wheel. Pat it down so it sticks.
2. Wet Your Hands: Dip your hands in water and start spinning the wheel at a medium-fast speed.
3. Center the Clay:
  - Use your hands to push the clay down and towards the center of the wheel.
  - Apply steady pressure with the heel of your palms and fingers to keep the clay in a perfectly balanced and centered position.
  - Increase the speed of the wheel as you gain control.



# Unit 8 – Wheel Throwing Bowl Project 1

## Steps Continued

### Step 3: Open the Clay

Once your clay is centered, it's time to create the opening. It is important to have a solid brace position with your elbows tucked in. Experiment with the height of your wheel to find the most comfortable and stable position for working the clay on the wheel. The speed of the wheel is also important to help you maintain control.

1. Use Your Thumbs: Press your thumbs into the center of the clay ball while the wheel spins. Push down gently to create a hole.
2. Shape the Opening: Gradually widen the hole by pulling your fingers outward. This creates the base of your piece.
3. Stop the wheel and check the bottom for thickness with your needle tool, it should be  $\frac{3}{8}$ "– $\frac{1}{2}$ " thick.



### Step 4: Pull Up the Walls

**Now comes the fun part – shaping your piece!**

1. Wet Your Hands Again: Keep your hands moist to prevent the clay from sticking.
2. Pull the Walls:
  - Place your fingers on the inside and outside of the clay.
  - Apply gentle pressure and slowly pull upward from the base to create taller walls.
  - Keep the wheel spinning at a steady pace.
  - Make sure your walls are no thinner than  $\frac{1}{4}$ " and no thicker than 1 cm.
3. Refine the Shape: Use your sponge or rib tool to smooth the surface and shape the piece.

### Step 5: Trim and Wire Off Your Piece

**When you're happy with your creation, it's time to finish up.**

1. Trim Excess Clay: Use your needle tool or wooden rib to remove extra clay from the bottom.
2. Cut the Piece Off: Use a wire cutter to separate your piece from the wheel.
3. Dry Your Piece: Let your piece dry to a leather hard state.
4. Trim a Foot: Once your piece has dried to a leather hard state, trim a foot on the bottom of your piece and sign it with your initials or signature. Then let it dry completely before firing it in the kiln to the proper cone for your clay.

## Unit 8 – Wheel Throwing Bowl Project 1

### Creative Options for Decorating Your Thrown Piece

There are many options for decorating the surface of your thrown piece. You may use any of the techniques or skills provided in the glazing units of this Ceramics manual (Units 3-6) or research and apply something else. You could also investigate a variety of skills with your instructor, 4-H leader, or club members. Identify some skills you would like to learn that will allow you to get very creative and original. Beginning with one of the skills, you can add combinations of carving, cut-outs, texturing, add-ons and unusual glazing and glaze combinations. You can indeed create some unique, one-of-a-kind pieces of art. If you formulated your own glaze, it would be good to include your recipe in your record book and write about this in your story. Evaluate your piece using the judging sheet as a guideline.



# Unit 8 – Wheel Throwing Vase or Pitcher Project 2

## Basic Information

For this project, you will be creating a vase or pitcher on the pottery wheel. You will be using basic techniques like centering the clay so it is perfectly balanced in the middle of the wheel so it doesn't wobble. You will be opening the clay, pulling up, shaping, and smoothing the clay into a vase or pitcher shape.

## Steps

### Step 1: Prepare the Clay

- Wire cut and weigh out about 1.5–2 lbs of clay from the pugged wet clay bag.
- Knead the clay like dough to remove air bubbles.
- Roll it into a ball.

### Step 2: Attach the Clay to the Wheel

- While the wheel is off, slam the clay ball firmly onto the center of the wheel.
- Press it down so it sticks well.

### Step 3: Center the Clay

- Turn the wheel on (medium-fast speed).
- Wet your hands.
- Use both hands to gently push the clay into the middle.
- The clay should spin smoothly without wobbling.

Tip: Elbows on your knees help keep your hands steady!

### Step 4: Open the Clay

- Slow the wheel slightly.

- Press your thumb into the center of the clay.
- Stop about ½ inch from the bottom (don't poke through!) use your needle tool to check your thickness (when the wheel is stopped), your bottom should be ⅜"–½" thick.

### Step 5: Pull Up the Walls

- Place one hand inside and one hand outside the clay.
- Gently pinch and lift upward.
- Repeat 2–3 times to make the walls taller and thinner.
- Make sure your walls are no thinner than ¼" and no thicker than 1 cm.

Tip: Go slow—thin walls are easier to break!

### Step 6: Shape Your Vase or Pitcher

For a vase:

- Keep the bottom narrow and widen the top.

For a pitcher:

- Make a rounded body and slightly narrow the top.

### Step 7: Smooth and Finish

- Use a sponge to smooth the inside and outside.
- Gently shape the rim with your fingers.
- Turn the wheel off.
- Add a spout once you are finished throwing but the clay is still wet and easy to manipulate.
- Handles are usually added later when the clay is firmer.

## Unit 8 – Wheel Throwing Vase or Pitcher Project 2

### Steps Continued

#### Step 8: Remove Your Piece

- Use a wire cutter to slide under the vase or pitcher.
- Carefully lift it off (or leave it to dry on the wheel bat).

### What Happens Next?

- Let your piece dry slowly to somewhere between the soft leather and leather-hard state.
- Trim the bottom of your piece.
- Add a handle at this point, if you desire.
- Let the piece dry completely to the bone dry state then bisque fire the piece.
- Lastly, you can glaze it to your liking!



## Unit 8 – Wheel Throwing Identical Pieces Project 3

### Basic Information

For this project, you will be creating 2-4 cups, bowls, or plates so they look identical. The idea is to develop your skills in production pottery and make a set so the sizes and shapes are the same.



### Steps

Use the same steps as Project 1 to prepare, center, and open your clay. Then make your cup, bowl, or plate shape. Once you create the first piece, you will need to repeat the same process with the next pieces, so they look as much the same as possible as the first piece you created.

You may need to create more than 2-4 pieces to come up with the 2-4 that look the most alike.

You can glaze the pieces differently if you like, but the size, shape, and structure of each piece should look identical.

## Unit 8 – Wheel Throwing Exhibit Piece

### Basic Information

This project will be your exhibit piece for project judging. Create a set of two matching functional pieces, such as two vases, cups, bowls, or plates of equal height, width and shape. Pieces should be trimmed, fully glazed, and complete. The pieces should be at least 4" in width or height and no larger than 12" in width or height.

### Steps

You can use the best of the items you made in Project 3 as your exhibit pieces if you would like, or you can make something different. However, the pieces you select for your exhibit should be matching and identical.

- Complete your e-record and expense supplement sheets.
- Evaluate your project using the Unit 8 guideline for judging.

### Challenge Yourself!

Once you've mastered the basics, try experimenting with new techniques:

- Add Texture: Use stamps, leaves, or tools to create patterns on your pieces.
- Mix Colors: Experiment with colored slips or glazes to make your pottery unique.
- Try New Shapes: Make vases, plates, or even teapots!

Learning how to throw ceramic pieces on a wheel is an exciting journey that combines creativity, patience, and skill. Remember to enjoy the process, celebrate your progress, and don't be afraid to make mistakes – they're part of learning! So, roll up your sleeves, get your hands dirty, and start creating your own pottery masterpieces. Who knows? You might discover a lifelong passion!



# Guidelines for Judging Your Project

Here are some common issues to look out for when judging pottery:

- **Wobbly Shape:**  
This happens when the clay was not properly centered on the wheel.
- **Cracks:**  
Cracks can appear if the clay was not wedged properly or dried unevenly.
- **Uneven Walls:**  
Walls that are too thick or thin can cause structural problems and affect the look of the piece.
- **Glaze Problems:**  
Uneven glaze application, drips, or missing spots can make the piece look unpolished.
- **Sharp Edges:**  
Check that rims and edges are smooth and safe to touch.

Judging pottery pieces thrown on a wheel involves evaluating both the technical execution and artistic expression of the work. Whether you're assessing your own creations or someone else's, these guidelines will help you understand what makes a piece successful and identify areas for improvement.

## Craftsmanship

Craftsmanship refers to the technical quality and skill demonstrated in creating the piece.

Key Points to Assess:

- **Centering:**  
Is the piece symmetrical? A well-thrown piece should be evenly balanced, with no wobbling or uneven walls.
- **Wall Thickness:**  
Are the walls of the piece consistent in thickness? Uneven walls can lead to cracking during firing or make the piece feel unbalanced.
- **Smoothness:**  
Check for smooth surfaces inside and outside the piece. Rough or bumpy areas may indicate poor technique.
- **Base:**  
Is the base of the piece even and not too thick or thin? A well-formed base supports the piece and prevents it from tipping over.

## Design and Shape

The shape of the pottery should be visually appealing and functional.

Key Points to Assess:

- **Proportion:**  
Are the dimensions of the piece balanced? For example, a bowl should have a smooth curve and a stable base, while a mug should have a comfortable handle and rim.
- **Form:**  
Does the piece have a clean, intentional shape? Avoid awkward angles, unintended bulges, or slumping.

# Guidelines for Judging Your Project

## Design and Shape

- **Functionality:**  
If the piece is meant to be functional (e.g., a mug or bowl), does it serve its purpose? For example:
  - Can the bowl hold liquid without leaking?
  - Is the mug comfortable to hold and drink from?

## Surface Decoration

Surface decoration adds artistic value and personality to a piece. It should enhance the overall design rather than distract from it.

Key Points to Assess:

- **Texture:**  
If the piece has a textured surface, is it intentional and well-executed? Uneven or accidental texture can detract from the design.
- **Glazing:**  
Is the glaze applied evenly? Does the color complement the shape and style of the piece? Are there any drips, bubbles, or areas where the glaze is too thick or thin?
- **Details:**  
If the piece has carving, stamping, or painting, are the details clean and well-defined?

## Creativity and Artistic Expression

Evaluate the originality and aesthetic appeal of the piece.

Key Points to Assess:

- **Uniqueness:**  
Does the piece stand out or show a creative approach to design?
- **Theme or Story:**  
Does the piece convey a mood, idea, or story? Artistic pottery often has meaning or evokes emotions.
- **Color Harmony:**  
Are the colors and patterns used in the glaze or decoration visually pleasing and cohesive?

## Functionality

If the pottery is meant to be used (e.g., as a bowl, mug, or vase), check how well it fulfills its intended purpose.

Key Points to Assess:

- **Size and Shape:**  
Is the size appropriate for its function? For example, a bowl should be deep enough to hold food or liquid.
- **Comfort:**  
If the piece has handles or a rim, are they comfortable to hold and use?
- **Durability:**  
Check for cracks or weaknesses that might make the piece fragile or prone to breaking.

# Guidelines for Judging Your Project

## Finishing Touches

The final details of a pottery piece can make a big difference in its overall quality.

Key Points to Assess:

- **Footing:**

Is the base of the piece clean and finished? A well-trimmed foot adds a professional touch.

- **Signature/Mark:**

Many potters include a maker's mark or signature on their work. This adds authenticity and personality.

- **Overall Finish:**

Does the piece feel complete? Are there any rough edges, fingerprints, or smudges that detract from the finished look?



## Overall Impression

Finally, consider the piece as a whole. Does it meet the expectations of a well-thrown pottery piece?

Questions to Ask:

- Is the piece visually appealing?
- Does it feel balanced when you hold it?
- Does it show skill and effort in its creation?
- Does the design and decoration enhance the piece, or does it distract from the overall look?