

# WALL CLOCK



# Lesson plan

Step	Activity	Duration
1	Discuss and label wooden part	3 minutes
2	Discuss color wheel	10 minutes
3	Plan how to personalize	25 minutes
4	Personalize your project	60 minutes
5	Discuss hardware	5 minutes
6	Assemble project	20 minutes



# Supplies & materials

## Art supplies

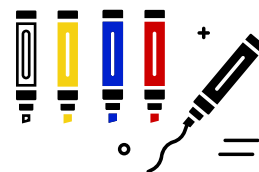
*\* not included*

- Pencil
- Scratch paper or notebook



Choose to decorate with paint or markers:

- Paint:
  - Paint
  - Paint tray
  - Water cup to clean brush
  - Detail brush
  - Foam brush
- Markers:
  - Markers



# Supplies & materials

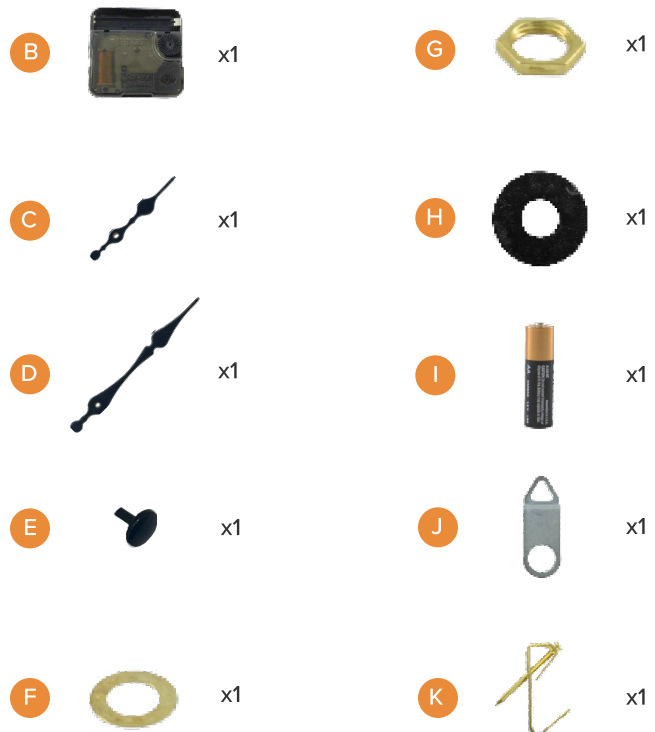
## Wood parts

- **Part A:** Clock face



## Hardware

- **Part B:** Clock dial
- **Part C:** Hour hand
- **Part D:** Minute hand
- **Part E:** Clock hands cap
- **Part F:** Washer
- **Part G:** Nut
- **Part H:** Rubber washer
- **Part I:** Battery
- **Part J:** Clock hanger
- **Part K:** Picture hanger





# Discuss the color wheel

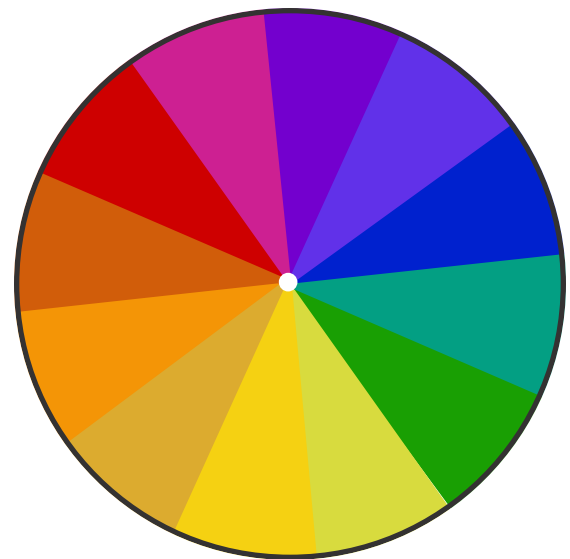
Students will be provided with the following paint colors: Red, Yellow, Blue, Black, and White. They can use combinations of these colors to create other colors.

The color wheel is a visual representation of colors with hues arranged according to wavelength. Color wheels allow color relationships to be represented geometrically, and they show the relationship between primary colors, secondary colors and tertiary colors. In the traditional Red-Yellow-Blue color wheel, the primary colors are red, yellow and blue. You can create secondary colors — like orange, green, and purple — by mixing primary colors.

For example, red and yellow create orange; yellow and blue creates green; red and blue creates purple.

- Primary Colors: Red, Yellow, Blue
- Secondary Colors: Orange, Green, Purple

You can change a color's hue by adding white for tint, which will give you lighter pastel colors, and black for shade to darken and dull color. When gray is added to primary, secondary or tertiary colors, it creates a tone. If a color is toned down, its brightness and intensity is lessened.



<i>Primary colors</i>	Red	Blue	Yellow
<i>Secondary colors</i>	Orange	Violet	Green
<i>Tertiary colors</i>	Yellow Green	Yellow Orange	Red Orange
	Red Violet	Blue Violet	Blue Green

# Personalize it

## Plan how to personalize your project

Give students 15 - 30 minutes to draft their design on paper before they begin bringing their vision to life on their project.

- Remind students that it is important to test out any designs or colors they plan to use to personalize their project
- Students should present their plan to the instructor before they begin
- If the student is doing a design, have them sketch it onto wood pieces in pencil first

## Personalize your project

Once the students have finished planning how they will personalize their project and have completed any necessary sketches, they can be given paint or marker supplies and allowed to decorate their project.

## Clean up!

# Assembly overview

Assemble  
clock dial



Attach clock  
hands



# Assemble clock dial

## 1 Part(s): B H J

1. Place the clock dial on your desk with the threaded shaft facing the ceiling
2. Place the clock hanger onto the threaded shaft
3. The clock hanger should fit snugly around the circular plastic lip at the bottom of the threaded shaft
4. Position the pointed side of the clock hanger opposite from where the battery will go
5. Place the rubber washer on the threaded shaft over the clock hanger



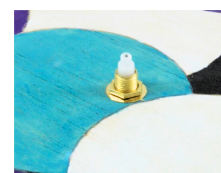
## 2 Part(s): A

1. Push the threaded shaft through the hole in the center of the clock face
2. The shaft should be pushed through from the back of the clock face (opposite of the painted side)



## 3 Part(s): F G

1. Place the washer onto the threaded shaft
2. Place the nut onto the threaded shaft and tighten with your fingers to secure the clock dial to the clock face
3. Hold the clock dial with your off hand while you tighten the nut
4. Make sure that the pointed side of the clock hanger is oriented at 12 o'clock



# Attach clock hands

## 1 Part(s): C

1. Place the clock on your desk so that the threaded shaft is facing the ceiling
2. You will notice that there is a white plastic cylinder at the top of the threaded shaft
3. Place the hour hand (shortest clock hand) onto the wider section of the white plastic cylinder
4. Apply equal pressure on the hour hand until it is snugly secured



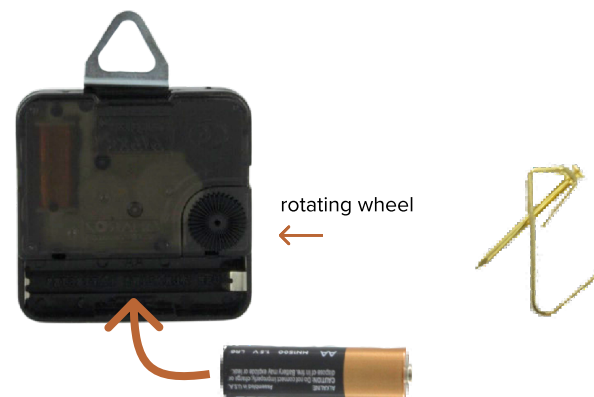
## 2 Part(s): D E

1. Place the minute hand (longest clock hand) onto the narrower section of the white cylinder
2. Apply equal pressure on the minute hand until it is snugly secured
3. Place the cap over the end of the shaft



## 3 Part(s): I K

1. Install the battery on the back of the dial
2. Use the rotating wheel on the clock dial to set the correct time
3. The picture hanger can be used to mount the clock in your desired location



# History

- The first mechanical clocks were created in the 1300's in Europe.
  - These clocks needed to be wound by hand each day.
- In 1815, Francis Ronalds published plans for the first electric clock powered by batteries.
- In 1969 the first commercial quartz clock became available.

# Facts & Information

- All clocks keep time by relying on something oscillating (moving back and forth) at a specific speed so that each oscillation takes the exact same amount of time.
- The clock we are building today is known as a quartz clock.
  - Quartz clocks use a tiny piece of quartz as an oscillator (the thing that moves back and forth).
  - When you connect the piece of quartz inside the clock to the battery it begins to oscillate.
  - The oscillation moves a gear inside the clock dial that causes the clock hands to move.



# Discussion

## Question 1

Where do you plan to display your wall clock?

## Question 2

What theme did you choose for your wall clock's decoration, and why?

## Finished!

Share your projects on Instagram and tag @eh\_enrichment so we can see and share your creativity!

# Stay connected!



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