HEART OF HOMESCHOOL

Activity Guide & Student Worksheets

10 hands-on projects • Flexible for ages 3–18 • Family-friendly and print-ready

How to use this guide

Choose an activity, gather materials, and adjust the challenge to each learner. Younger children may dictate answers or draw; older learners can add measurements, research, or written analysis. Every activity works as a starting point, not a rigid assignment.

Activity menu

1. Start a Mini Garden — Science, observation, responsibility. Plant herbs or beans; track water, sunlight, and growth.
2. Explore Kitchen Science — Chemistry, predictions, evidence. Combine baking soda and vinegar in a tray; observe the fizz.
3. Learn Through Cooking — Fractions, nutrition, geography. Prepare a simple recipe with adult supervision.
4. Create a Nature Journal — Biology, writing, visual arts. Observe plants, birds, or seasonal changes outdoors.
5. Take a STEM Challenge — Engineering, testing, iteration. Build a paper or cardboard bridge to hold coins.
6. Travel Around the World — Geography, culture, research. Choose a country and explore its maps, food, and traditions.
7. Host a Family Book Club — Literacy, discussion, empathy. Read an age-appropriate book and share reactions.
8. Open a Pretend Store — Money, math, communication. Set prices and practice buying and selling with play money.
9. Create an Art Studio — Art, design, self-expression. Explore collage, drawing, paint, or sculpture.
10. Complete a Service Project — Civic engagement, planning, kindness. Choose a safe, age-appropriate way to help your community.

Safety & accessibility

Provide adult supervision for heat, sharp tools, chemicals, outdoor activities, and small items. Use food-safe ingredients and check allergies. Offer drawing, speaking, typing, or writing as alternative ways to respond.

Teacher / Parent Guide: Differentiation

1. Start a Mini Garden (Science, observation, responsibility)

Ages 3–5: Draw the plant and name its parts.
Ages 6–12: Measure height and graph growth each week.
Ages 13–18: Compare two growing conditions; control other variables.

2. Explore Kitchen Science (Chemistry, predictions, evidence)

Ages 3–5: Describe bubbles using sensory words.
Ages 6–12: Predict and record what changes when quantities vary.
Ages 13–18: Design repeated trials and explain the gas-producing reaction.

3. Learn Through Cooking (Fractions, nutrition, geography)

Ages 3–5: Count and sort ingredients.
Ages 6–12: Double or halve ingredient quantities.
Ages 13–18: Cost ingredients and trace their agricultural origins.

4. Create a Nature Journal (Biology, writing, visual arts)

Ages 3–5: Draw three things you notice.
Ages 6–12: Label specimens and compare habitats.
Ages 13–18: Create a field guide with sources and dates.

5. Take a STEM Challenge (Engineering, testing, iteration)

Ages 3–5: Build and test with assistance.
Ages 6–12: Record maximum load and redesign.
Ages 13–18: Compare designs using load-to-material ratios.

6. Travel Around the World (Geography, culture, research)

Ages 3–5: Find the country on a map and draw its flag.
Ages 6–12: Write a postcard from a landmark.
Ages 13–18: Compare historical and contemporary perspectives using sources.

7. Host a Family Book Club (Literacy, discussion, empathy)

Ages 3–5: Retell a favorite scene in pictures.
Ages 6–12: Support opinions with details from the text.
Ages 13–18: Discuss theme, narrator, and evidence.

8. Open a Pretend Store (Money, math, communication)

Ages 3–5: Match coins or count objects.
Ages 6–12: Calculate totals and change.
Ages 13–18: Build a budget including expenses and profit.

9. Create an Art Studio (Art, design, self-expression)

Ages 3–5: Experiment with shapes and textures.
Ages 6–12: Explain choices of color and composition.
Ages 13–18: Curate an exhibit and write artist statements.

10. Complete a Service Project (Civic engagement, planning, kindness)

Ages 3–5: Make thank-you cards.
Ages 6–12: Plan materials and steps with family.
Ages 13–18: Identify a need, plan a response, and assess impact.

Weekly Homeschool Activity Planner

Family / learner: _____ Week of: _____

Day	Activity / learning goal	Materials / notes
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		

One thing we are excited to explore:

Worksheet 1: Science Discovery Log

Experiment: _____ Date: _____

Our question

My prediction

Materials and steps

What I observed

What I learned / what I would change

Stretch challenge: Identify a variable to change and one to keep the same.

Worksheet 2: Nature Observation Journal

Location: _____ Date / weather: _____

What I see, hear, smell, or feel

Sketch a plant, animal, or natural pattern

Three details I noticed

A question I want to investigate

Stretch challenge: Record a species name and how you verified it.

Worksheet 3: Build, Test, Improve

Design challenge: _____

My idea / sketch

Materials I will use

Test results (weight, time, distance, or other measure)

One improvement and why

Stretch challenge: Test at least two designs and compare results.

Worksheet 4: Reading & Creative Writing

Book / story: _____ Author: _____

My favorite character or scene

What happened? Give two important details

What would I change or add to the story?

Draw or write an alternate ending

Worksheet 5: Cooking, Math & Budgeting

Recipe / pretend-store project: _____

Ingredient / item	Quantity	Estimated cost

Total cost

How could I double or halve a quantity?

Where did one ingredient or product come from?

Worksheet 6: World Explorer Passport

Country: _____ Continent: _____

Map / flag sketch

Three facts I discovered

A food, celebration, or tradition to explore

My sources / questions

Worksheet 7: Community & Art Project Reflection

Project title: _____ Date: _____

What did I make or do?

Who might benefit or enjoy it?

What was challenging?

What am I proud of?

What would I do next time?

Family Learning Reflection

Week of: _____ Learner: _____

My favorite activity and why

Something new I learned

A question I still have

Something I want to try next week

Family celebration: Share a drawing, demonstration, photo, short talk, or journal entry.