# STEM Activities

**All Ages**

<table>
<thead>
<tr>
<th>Day</th>
<th>Topic</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>Sled Project</td>
<td>4</td>
</tr>
<tr>
<td>Day 2</td>
<td>Dog Shelter Project</td>
<td>5</td>
</tr>
<tr>
<td>Day 3</td>
<td>Rainforest Project</td>
<td>6</td>
</tr>
<tr>
<td>Day 4</td>
<td>Puzzle Project</td>
<td>7</td>
</tr>
<tr>
<td>Day 5</td>
<td>Picture Frame Project</td>
<td>8</td>
</tr>
</tbody>
</table>

Use this packet of activities to help children practice their STEM skills.

For video lessons and additional resources, visit [hand2mind.com/home-learning](http://hand2mind.com/home-learning)
What is a Makerspace?

A makerspace is an innovation space filled with materials designed to facilitate and encourage creative thinking. Young learners bring their design ideas to life through real-life, do-it-yourself building tasks.

In a makerspace, children must select their own building materials, allowing them to have a truly open-ended, creative, problem-solving experience. See below for a list of suggested items to use.

- Glue
- Paper
- Scissors
- Play-Doh
- Building bricks
- Markers
- Paint
- Paper towel rolls
- Paper cups
- Paper plates
- Paper bowls
- Straws
- Ribbon
- Coffee stirrers
- Craft sticks
- Cotton swabs
- Wool
- Egg carton
- Tape
- Pipe cleaners
- Sponges
- Boxes from the recycling bin

What will my children learn through makerspace activities?

There are tons of benefits to makerspace activities! Here are a few of the things that children will learn:

- Empowers student curiosity and creativity
- Fosters independent problem-solving
- Builds confidence as children persevere through mistakes
- Provides the opportunity to innovate
Questions to ask your child while they are creating

Remind children that the design process is never complete! Ask children questions such as,

- How can I improve my design?
- Can I add another feature to my design?
- Can I rebuild this with another material?

Reflecting is a critical part of the design process. Ask children questions such as,

- What could I have done better?
- What can I do differently next time?
- What did I learn during this activity?

Encourage children if they get stuck during a design. As Thomas Edison once said, “I have not failed. I’ve just found 10,000 ways that won’t work.”

Makerspace Activities

Each of the below activities will take children anywhere from 10–30 minutes. Children should start by identifying which materials to use for their design. There are no right or wrong answers during makerspace—this is a time to explore, create and design!
Day 1
Design and build a miniature sled.

Any materials can be used in a makerspace! Which items in your house might work well to build a miniature sled?

Tip
Before building your sled, think about what kinds of materials slide easily.

Think Bigger
Build a ramp for your sled to go down. Then rework your sled so it slides very slowly down the ramp.
Day 2

Design and build a shelter that will keep a dog cool on a hot day.

Tip

Think about what types of building materials would provide shade to protect a dog from the sun.

Think Bigger

Rework your shelter to keep a dog warm on a cold day, too.
Day 3
Create a diorama, or model, of the rainforest.

Tip
Before you start building, research the types of plants and animals that are found in the rainforest.

Think Bigger
Add a camouflaged animal to your diorama.
Day 4
Design and make a puzzle.

Tip
Before you make your puzzle, practice drawing your puzzle picture on a sheet of paper.

Think Bigger
Create a more difficult puzzle with more pieces.
Make a 3-dimensional puzzle.
Day 5
Make a decorative picture frame that you can put on your refrigerator.

Tip
Think about what will keep the picture inside the frame and how the frame will stick to the refrigerator.

Think Bigger
Add a stand to your frame so that it stands up on its own on a shelf.