

# Mason Bee Lesson and Activity for Preschool-5th Grades

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**Summary:** Introduce pollinators with a focus on mason bees. Use the mason bee relay game to reinforce the concept that mason bees pollinate to gather food for their offspring.

**Lesson Length:** 45 minutes

## Materials:

- Four 8-10 foot long sheets of butcher paper with 7-10 flowers drawn or pasted on each.
- Paper muffin pan liners (need same number as total number of flowers drawn onto sheets).
- Tempera paint powder, ideally in different colors.
- Cotton balls (=fuzzy bee bodies)
- Clay (=mud)
- Rocks or beans (=eggs)
- Printed images of bees, nest cavities, pollinator fact sheets
- Long skinny trays or gutters or other holding device (like a pvc pipe cut lengthwise) to simulate the nest tubes.
- *Optional 1:* mason bee nest box and trays, hollow plant stems, preserved mason bee specimens, pollen balls, mason bee cocoons, or any other mason bee supplies, purchased or collected.
- *Optional 2:* black construction paper and black pipe cleaners, staples and/or tape for making mason bee antennae headbands

## Set Up:

Tape the four butcher paper sheets down to the floor parallel to each other. Each large flower drawn on the sheets will have a muffin liner taped to its center with a couple tablespoons of powdered tempera paint in it. At one end of the flower sheet, students will line up for the relay. At the other end, place a table with a gutter for each sheet of butcher paper. The gutter represents a nesting cavity or tunnel. Mark lines on the gutter where each mud wall should be built. Place piles of clay and "eggs" so that students in all teams can easily reach them. Once a student has lain the pollen ball, placed the egg on the pollen ball, and built the wall, they fly back and tap the next student on their team. The race can either be timed (how many each time finishes in a set amount of time) or be a race for completion: that team that completely fills their nest tunnel (gutter) first is the winner.

Teach the introductory part of the lesson before breaking the group into teams and bringing them to the staging area for the relay.

## Mason Bee Lesson Plan for preschool

1. Introduce ourselves
2. Today we are here to explore the amazing world of pollination. **Who knows about pollination or can name some animals that are pollinators? What is important about pollinators?** (they make honey, they pollinate) What does pollinate mean? It means that they move pollen from flower to flower and that is what makes the flowers turn into things we can eat like fruit and nuts. Who can name some fruit you like to eat? (show examples– almonds, tomatoes, apples, (refer to list I bring)
3. Today we are going to talk about bees. **Can you name any kinds of bees?** (honey bees, bumble bees) That's right, those are bees but there are other bees too. Today we will learn about mason bees. They are gentle bees that don't sting and they don't make honey, but they visit all kinds of flowers and help trees make lots of fruit. Here is a picture of a mason bee. What do you notice about it? How does it look? (black/blue, fuzzy)
4. **The fuzziness is really important. Why do you think it's important?** (all the pollen sticks to it) Mason bees are really good at pollinating the flowers they visit because they are messy! They get pollen all over their bodies and some of it falls off as they fly around and gets spread around from flower to flower. The reason they need pollen is because that is what their babies eat so that they can grow up. They bring the pollen back to their nests.
5. **What do you think their nest looks like?** They don't look like bird nests, they aren't hives. Mason bees lay their eggs in tunnels. (show photo) See in this photo, there is a pollen ball, and egg, and then a wall that the bee makes out of mud. Cool, huh?
6. Now you get to play a mason bee relay game. In this game, each of you is a mason bee. You have to visit all the flowers on your path and gather pollen from every flower. Gather the pollen on your fuzzy cotton ball body, then take it to the tunnel, place the pollen ball in the chamber, lay an egg on it, then build a mud wall. Once you do all those three steps, bring your wings back to the next bee waiting in line, give them the wings and then they get to build a nest chamber. Ok, so who can tell me what you need to do? Right.
7. Now, we will see how many nest chambers you can build before we blow the whistle. The bees are only doing this for a very short time, only a few weeks and they have to hurry!
8. Break students into four groups. Each group stands in line and is made aware of the path they will follow. Tunnels are at the end of the path, they take a clay chunk to build a wall, etc. Once they have created a complete nest chamber they fly back to the next person in line..
9. Count how many egg chambers were created and discuss process.
10. Then sit on carpet and Jerry will describe nest boxes. People want to help pollinators because their job is so important for the plants and for us. Show nest boxes and cocoons and bees, Then introduce Bee Buddy Bundles and they get to be scientists! Hand out bundles and instructions.
11. If we have time, read book (Mason Meets a Mason Bee) or make bee antennae head bands.

## Supplementary Talking Points (found on the internet)

*Without bees to pollinate fruit trees, there would be no cherry pie.*

*Without bees to pollinate vegetable gardens, there'd be no tomatoes.*

*Without bees to pollinate almond trees, there'd be no almond butter.*

The list is so long that without bees to pollinate your food, more than 1/3 of what you eat and drink would be gone.

**Problem:** Most farmers depend on a single type of bee to pollinate our food and that bee, the honey bee, is struggling. Honey bees and local farmers need your help.

**Solutions:** There are 4,000 types of native bees in North America whose only job is to pollinate fruits, vegetables and nuts. Join the pollinator movement today! You can release a few native bees in your garden, raise gentle bees in your backyard or support someone else who is raising bees.

## What's cool about native bees is that they're super pollinators:

- They don't make honey, they just pollinate things.
- It takes just 400 mason bees to pollinate 100 fruit trees. It takes about 30,000 honey bees to do the same job.
- They gentle-natured and only sting in self-defense, so they're safe around children and pets,
- They're easy to keep in your garden. You don't need a hive or fancy equipment, just a "bee house" that you hang like a bird feeder.







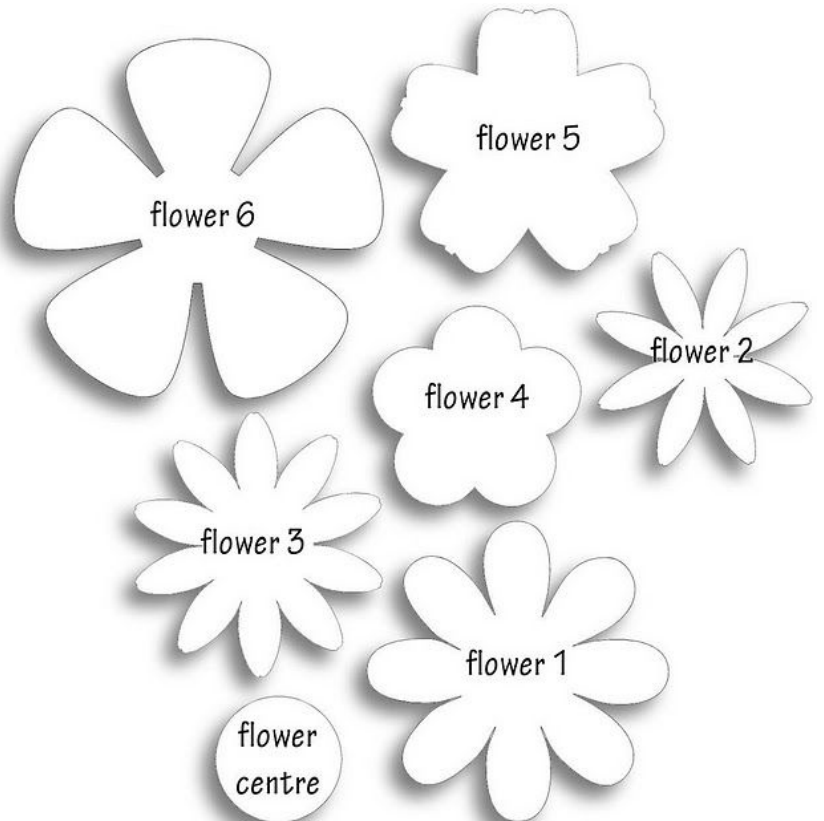
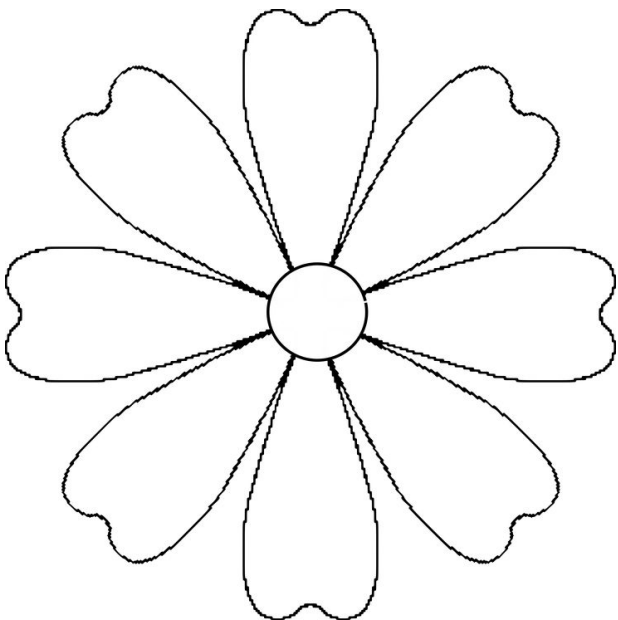
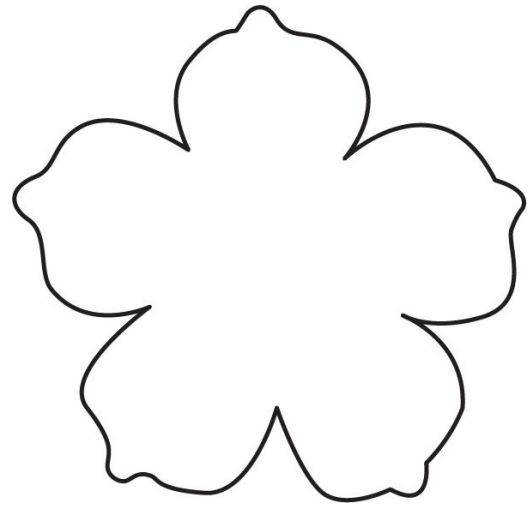
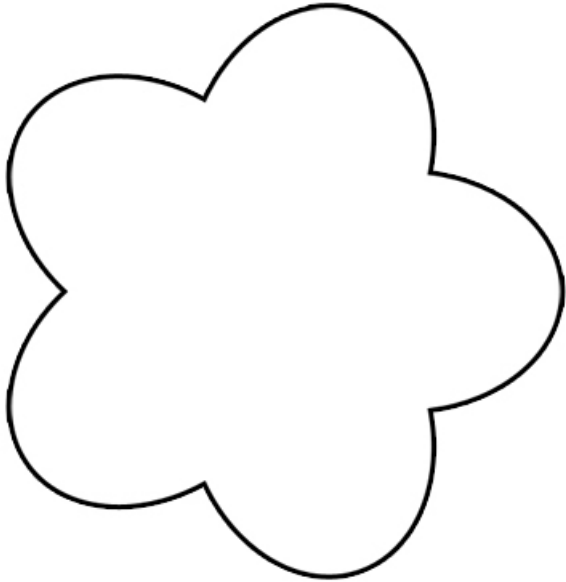
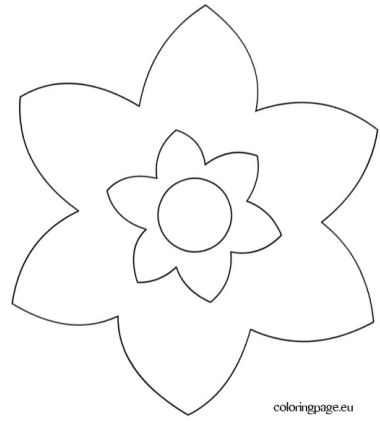
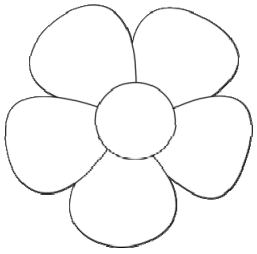
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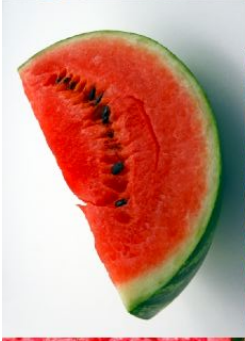
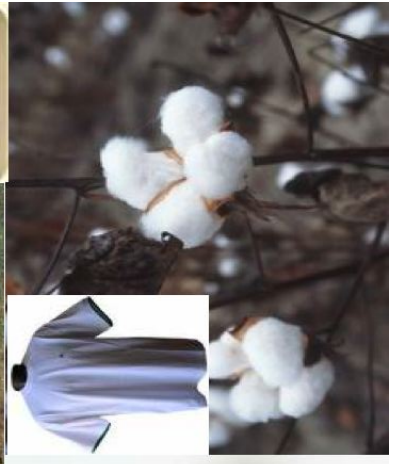
BEES ARE RESPONSIBLE FOR  
1 OUT OF 3 BITES OF FOOD



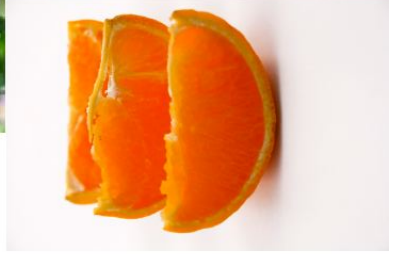
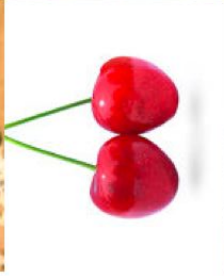
Help secure our food supply by  
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# Crops Pollinated by Honey Bees







**400-500 mason bees  
produce around  
18 tons of apples**

**which takes  
30,000 honey bees  
to do the same.**





Image courtesy of Crown Bees

NATIVE BEES AND HONEYBEES POLLINATE MORE FOOD WHEN THEY WORK TOGETHER.



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