Marble Empire Learning Activity #6:
Doughnuts and Brownies

Summary:

In this activity, children will learn the basics of fractions using Marble Empire pieces.

Reference Standards:

Common Core Standards:

2.GA.3

Learning Goals:

1. Learn the terms **equal, whole, half, third,** and **quarter**.
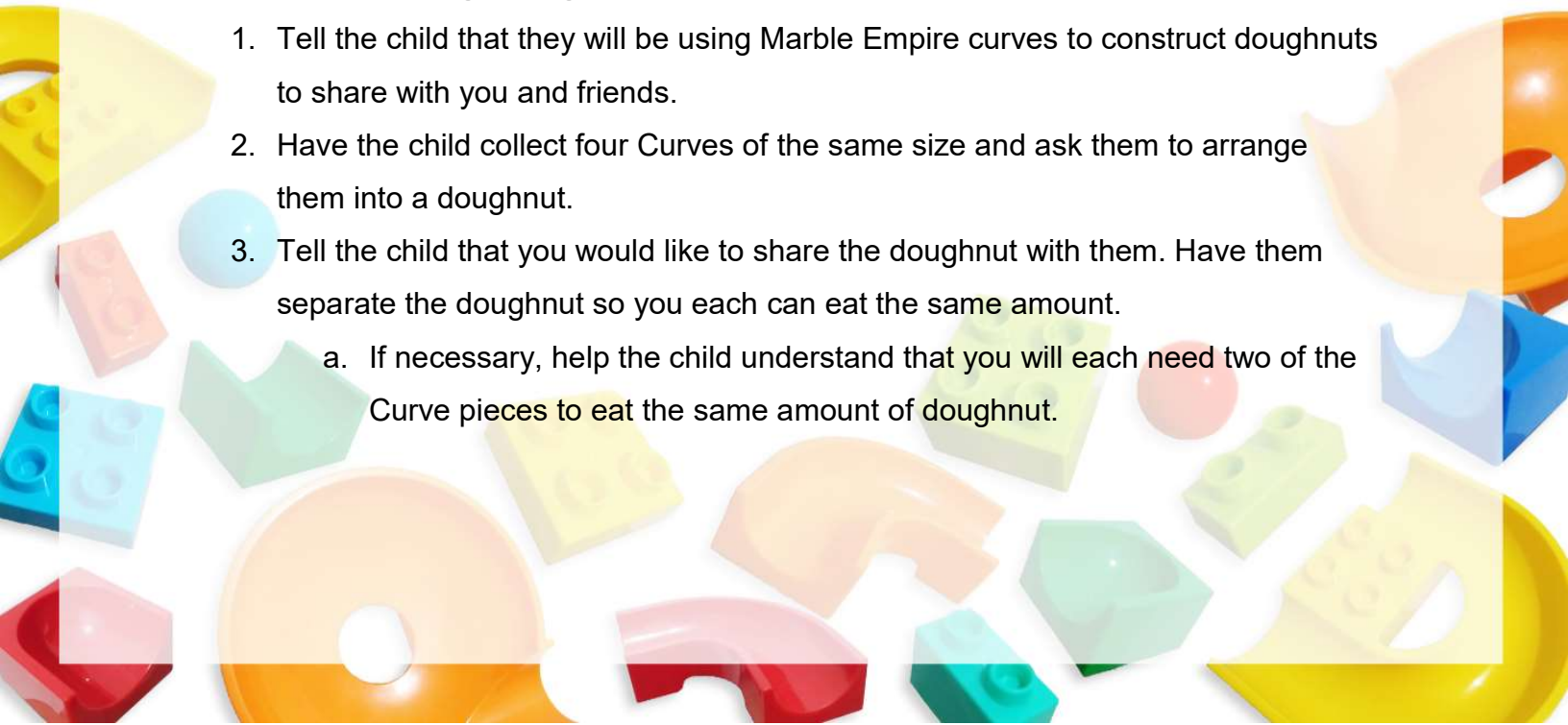2. Arrange objects to represent simple fractions.

Materials and Setup:

Materials they will need:

1. Marble Empire blocks
2. Marble Empire curves

Part One: Making Doughnuts

1. Tell the child that they will be using Marble Empire curves to construct doughnuts to share with you and friends.
2. Have the child collect four Curves of the same size and ask them to arrange them into a doughnut.
3. Tell the child that you would like to share the doughnut with them. Have them separate the doughnut so you each can eat the same amount.
   a. If necessary, help the child understand that you will each need two of the Curve pieces to eat the same amount of doughnut.

4. Tell the child that you each have **half** of the doughnut. Since you each have a half, your two pieces of the doughnut are **equal**. Together, you still have a **whole** doughnut.

5. Then tell the child you each have another friend that would like to share the doughnut with you. How can they divide the doughnut so all four of you can still eat the same amount?
   a. If necessary, help the child understand that all four people will need one of the Curve pieces to eat the same amount of doughnut.

6. Tell the child that you each now have **a fourth** of the doughnut. Since you each have a fourth, your four pieces of the doughnut are **equal**. If **four people** each have a fourth, together they have a **whole** doughnut.

Part Two: Making Brownies

1. Now, children will use the Square and Rectangular Blocks to construct and divide brownies.

2. To begin, ask the child to use Rectangular Blocks to create one Square Block.

3. Ask them how many Rectangular Blocks it takes to make one Square Block.

   a. They should be able to see that one Rectangular Block equals **half** of a Square Block.

4. Tell the child that they will be creating brownies using the Rectangular Blocks. Each person eating the brownie would like to eat one Rectangular Block.

5. To begin, have them create a brownie for just two people.

6. Next, tell them that three people would like to share a brownie and that they would like to have equal pieces. Have them put the correct number of Rectangular Blocks together to create one brownie large enough for three people. How many Rectangular Blocks are needed?

   a. In this case, each Rectangular Block is **one-third** of the **whole** brownie.

7. Repeat #5 with four people.

   a. In this case, each Rectangular Block is **one-fourth** of the **whole** brownie.

Assessment

1. Ensure that the child can describe how many halves, thirds, and fourths it takes to create one whole.