

# OUT OF THIS WORLD



## MATH FACTS

Name \_\_\_\_\_

Date \_\_\_\_\_

### CCSS Standards

Add and subtract within 20 using *mental math*.

**CCSS.MATH.CONTENT.2.OA.B.2 (2nd Grade)**

### Materials Needed

- Square sheet of paper

[Printer Paper to Origami Square Tutorial Video](#)

- Pencil
- Basket
- Whiteboards
- Dry Erase Marker

### I Can

“I can use mental math fact strategies to help me solve addition and subtraction problems.”

### Objectives

Students will be able to use math fact strategies of automaticity in adding and subtracting within 20.

### Introduction

Today we will create out of this world origami planets to practice math facts! We will play a game to see which team can solve their math facts the fastest.



# Directions:

## Graphic Examples

## Teacher Direction

1



### Show students a picture of kids in a race.

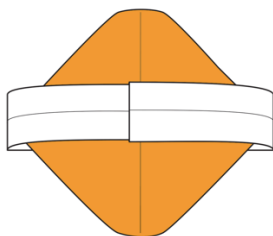
Ask students:



“Think about a time you were in a race. What helped you to do your best?”  
Have students record their answers on their worksheet Q1.

Hand each student a square sheet of origami paper.

2



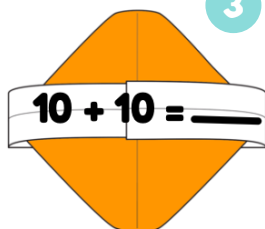
Depending on student level show the students folding directions to do on their own or go step-by-step to help students create their origami ringed planet.

Video [here](#)

PDF [here](#)

Have students who finish early draw a picture of their ringed planet on their worksheets Q2.

3



Once everyone has finished their origami ringed planet, students will write an addition or subtraction problem within 20 on the ring.

Tell students:



Time to think of an addition or subtraction problem within 20. Write only the equation, not the answer.

Show students an example (see below).

Collect each planet and put them into a basket.

Examples:

$$10 + 10 \quad 20 - 3$$

$$12 + 8 \quad 17 - 10$$

$$11 + 9 \quad 5 - 1$$

$$3 + 5 \quad 10 - 7$$

Teacher choice  
teacher's may  
choose to give  
students pre-made  
problems, or let  
them come up  
with their own.



### **Game Time!**

Separate students into two teams. Each team will need one whiteboard and dry erase marker.

Have each team get into a line.

### **How to Play:**

1. Each student in line will come to the front of the room and play against the person on the other team in the front of the line.
2. A student or teacher will grab 1 planet from the basket.
3. Using mental math, students will try to be the first to solve the problem. If students need help they can phone a team member to come up and help them.
4. The first to solve the problem gets a point for their team.
5. Students keep playing until all planets are solved or each student gets a turn.





6

## Closure:

Have students think about a problem they or a friend solved.



Ask students:

“What strategy was most helpful to you when trying to solve your math fact quickly?”

Allow students to come to the board to show what they did in their heads.

**Have students write or draw on the back of their paper about 1 problem they solved and how.**

