

## **The Benchmark of One Half: Where does 5 go?**

### **Lesson Goal:**

Find the middle on a number line and that will help students find other intervals and related numbers.

### **Concepts:**

- Equality
- Magnitude
- Sequencing
- Number knowledge
- Reasoning

### **Materials:**

- Number line with 0 and 10 and no intervals.
- clothes peg
- bus or car

### **Activation:** Whole Group

Show number line with 0 and 10 and no intervals.

*"The class is going on a field trip to the zoo but there is a problem. When the bus arrives it does not have enough gas to get us all the way to the zoo. Luckily, there is a gas station halfway to the zoo. We will need to stop there and get gas. I'm wondering if you can tell me when you think the bus is halfway."*

Begin moving the bus.

*"Tell me when to stop."*

When a student says "stop". Put clothes peg on: Does anyone agree? Does anyone disagree?

How do you know this is or is not halfway? How can we tell for sure that this is half way?

(possibility of folding number line to find halfway)

### **Lesson:** independent

Students are given a sheet with two number lines of the same length on it, both 0-10 (with or without intervals)

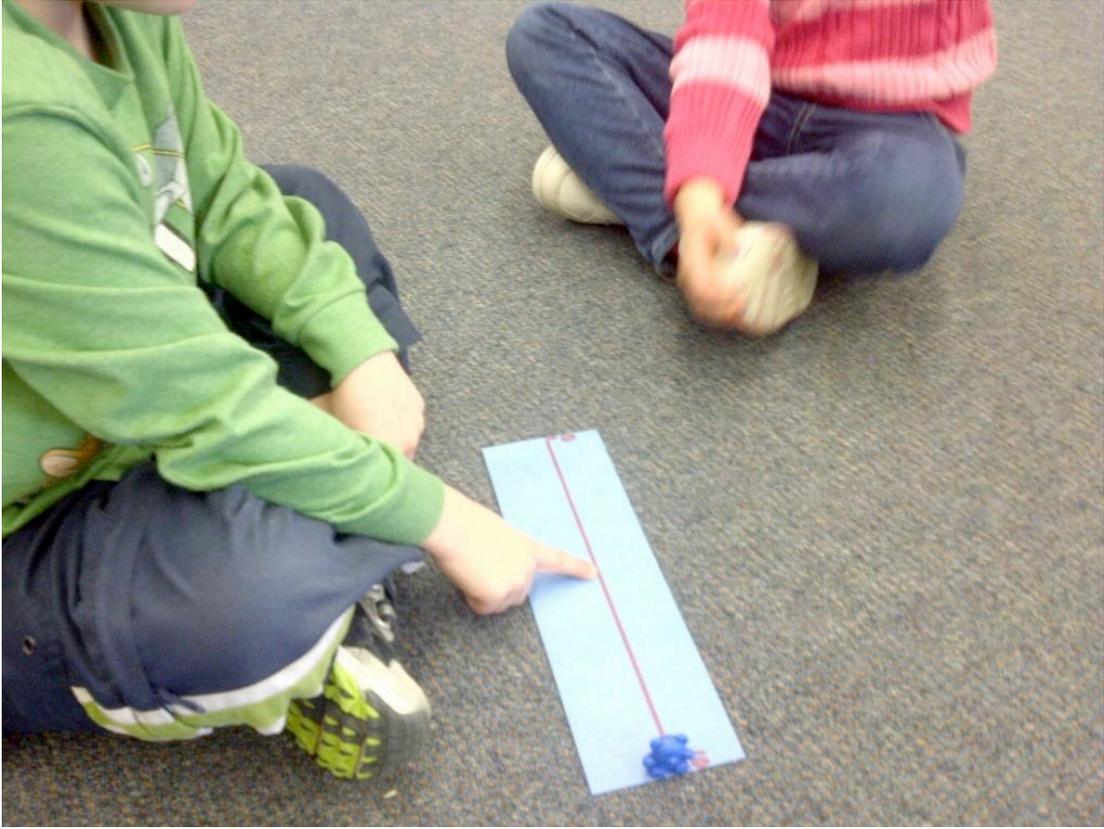
Students are asked to use a marker or highlighter to show on the first number line how far the bus had to travel to get to the gas station.

On the second number line students are asked to show how far they think the bus would have got if it did not stop for gas. (should be further than halfway but not all the way to the zoo).

Students are asked to explain how they decided where to stop for their second number line.

### **Key Questions:**

- How do you know this is half way?
- How can we tell for sure that this is half way?
- Show me more than half way: How do you know your second line is more than halfway?
- How did you decide how far the bus would go without getting more gas?
- About how far do you think your second line is? (6, 7, 8, 9)



Five-year olds place their fingers on the half-way mark: “5 goes in the middle between 0 and 10”.

