Break-Ground:

What could it represent?

Two young mathematicians discuss whether integrals are defined properly.

Check out this dialogue between two calculus students (based on a true story):

Devyn: Riley, I like integrals.

Riley: I feel so fancy when I make an integral sign.

Devyn: I know! An integral computes the signed area between a curve $y = f(x)$ and the x-axis. But why *signed* area? Maybe we should just compute plain old area.

Riley: Makes sense to me!

Deyvn: Unless... maybe there are other applications where "signed" area makes more sense.

One really great way to think about integrals is that they "accumulate rates."

Problem 1 *Write down as many examples of "rates" and "accumulated rates" as you can. For example:*

5 *miles per hour is a rate, and* 5 *miles is then an accumulated rate.*

Free Response:

Learning outcomes: Understand the relationship between position, velocity and acceleration.