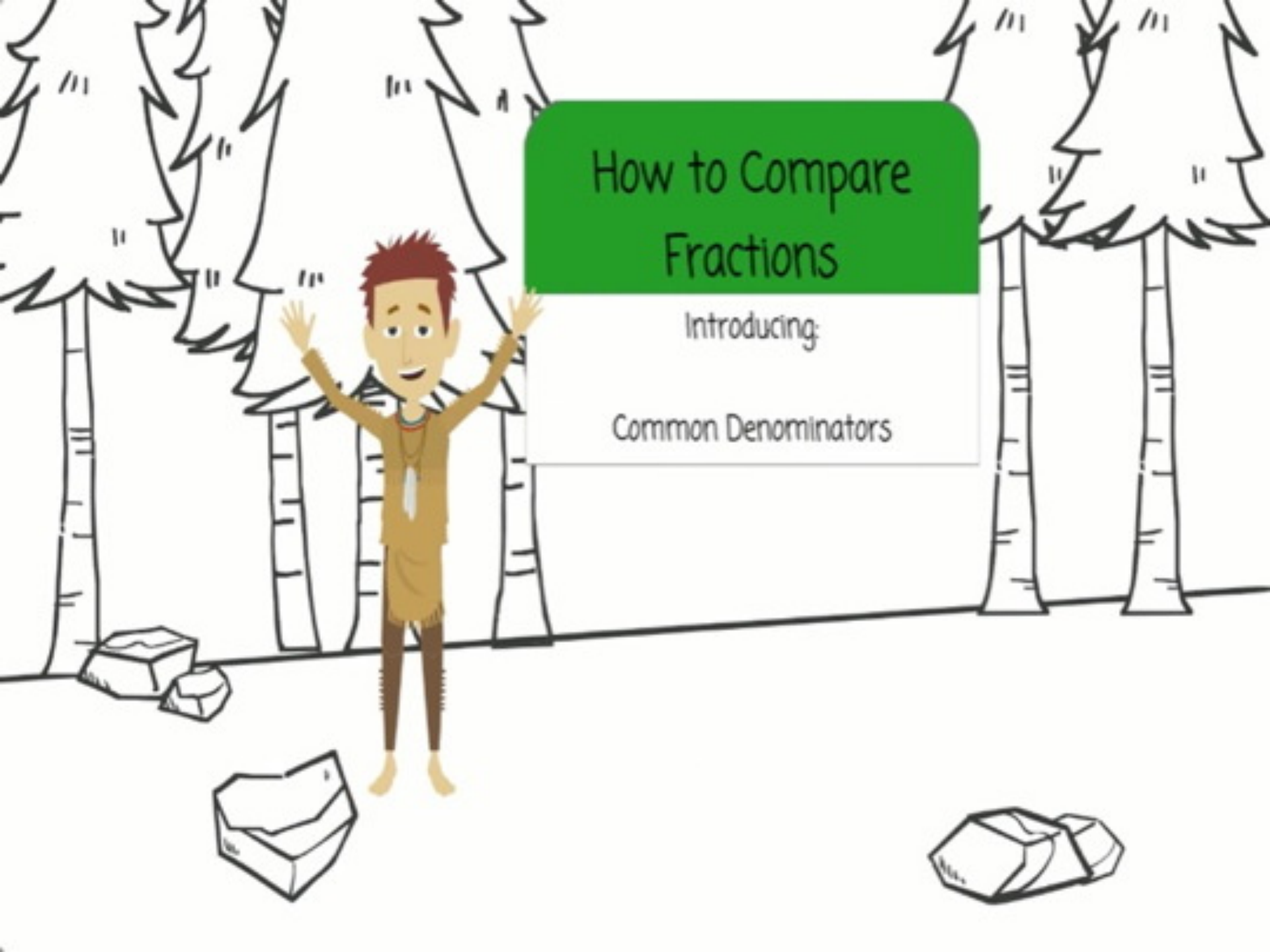
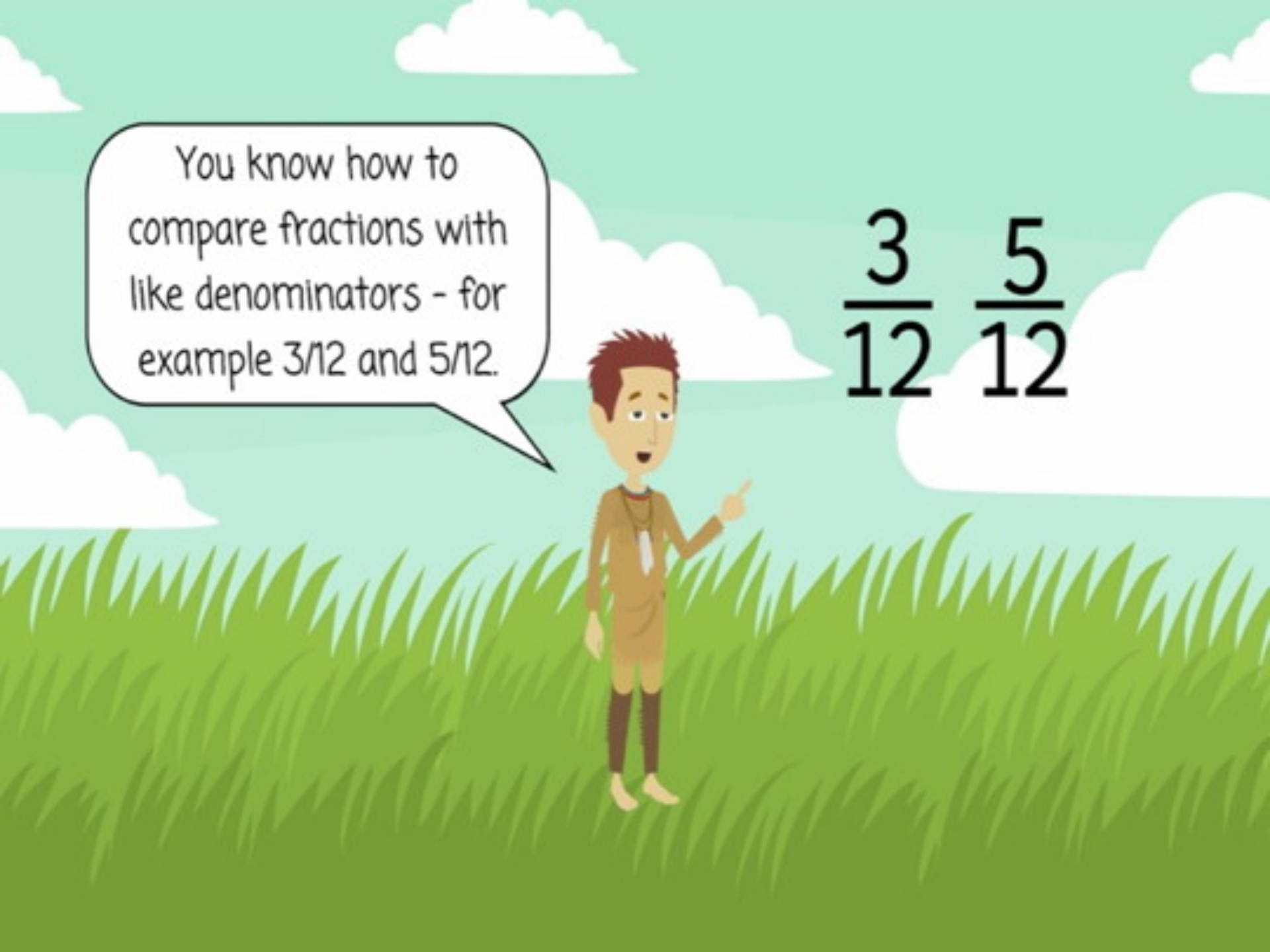
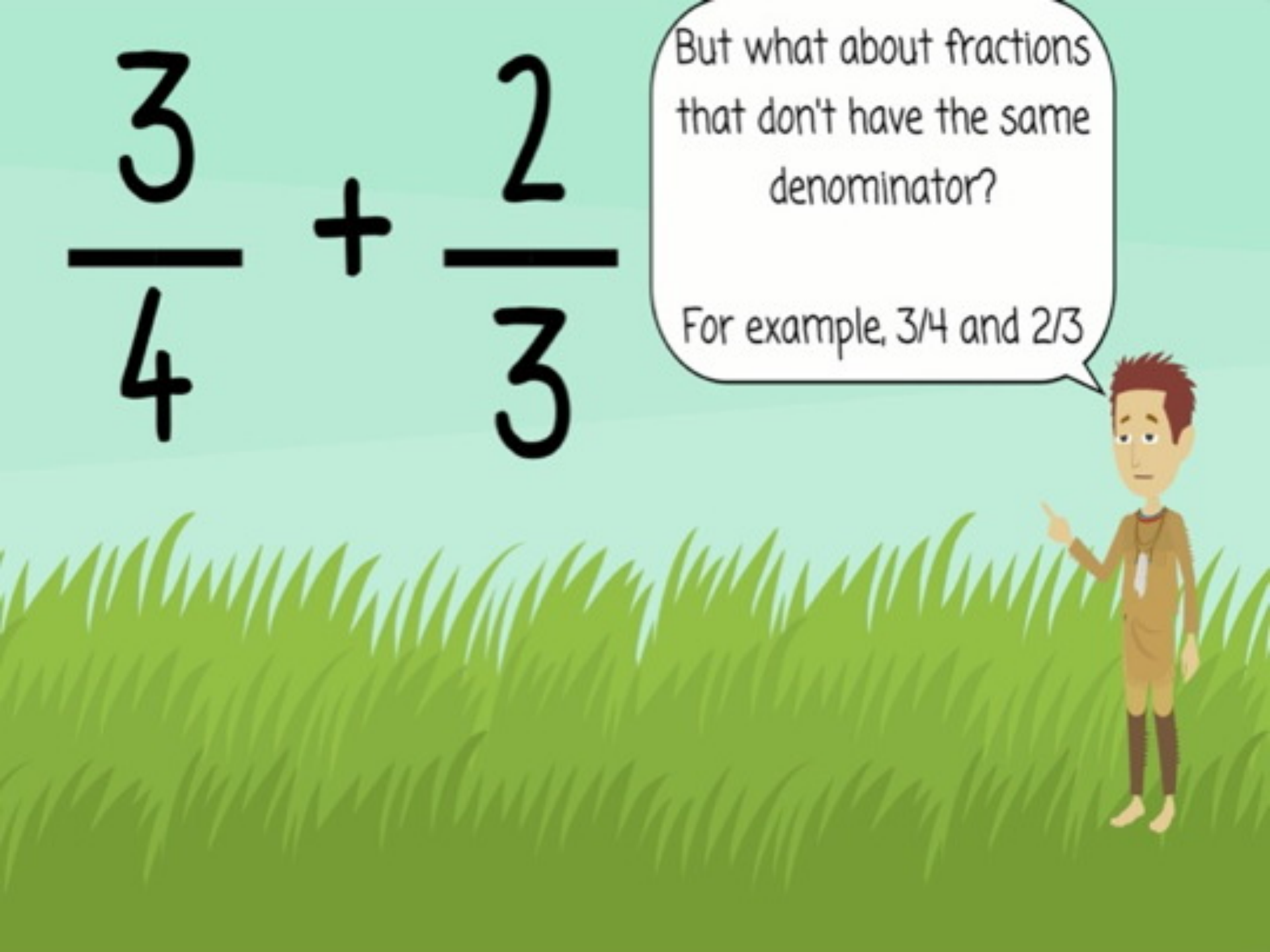

How to Compare Fractions
Introducing:
Common Denominators


You know how to compare fractions with like denominators - for example 3/12 and 5/12.
3/12 5/12

$$\frac{3}{4} + \frac{2}{3}$$



$\frac{3}{4}$

$\frac{2}{3}$

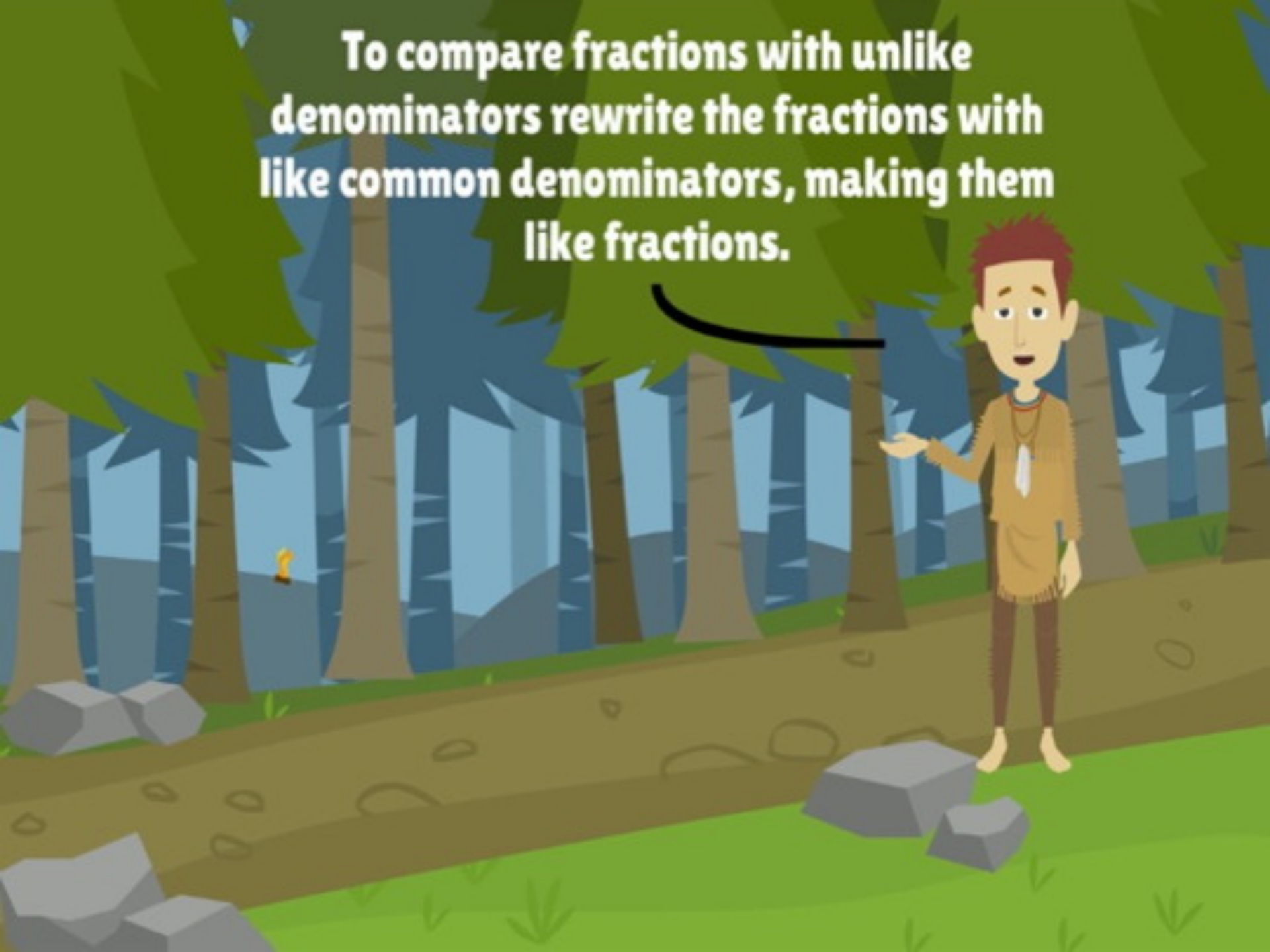
Now here is what 3/4 and 2/3 look like.

As you can see, the picture shows that 3/4 is larger than 2/3.


But what if you don't have a picture?


Or what if you have different denominators?


How do you compare the two?


To compare fractions with unlike denominators rewrite the fractions with like common denominators, making them like fractions.


Here is what
that means.

$\frac{3}{4}$

$\frac{2}{3}$

Let's look at the pictures of 3/4 and 2/3 again.

$\frac{9}{12}$

$\frac{8}{12}$

We can compare fractions with like denominators.

$\frac{9}{12}$

$\frac{8}{12}$

How do we get those numbers?

$\frac{3}{4}$

$\frac{2}{3}$

Now here is what 3/4 and 2/3 look like.

As you can see, the picture shows that 3/4 is larger than 2/3.

$\frac{3}{4}$

$\frac{2}{3}$

Does 3 divide evenly into 8?

No. So we move onto the next number and try again.

$8 / 3 =$

$\frac{3}{4}$

$\frac{2}{3}$

The first way we multiply the larger denominator, that is 4, by 2 to get 8

$X2=8$

$\frac{3}{4}$

$\frac{2}{3}$

Since 2 didn't work let's try 3.

$4 \times 3 = 12$

$\frac{3}{4}$

$\frac{2}{3}$

Does 3 divide evenly into 12? Yes.

$12 / 3 = 4$

$\frac{3}{4}$

Does 3 divide evenly into 12? Yes.

$\frac{2}{3}$

12 / 3 = 4

$\frac{3}{4}$

$\frac{2}{3}$

So 12 is the common denominator for 3/4 and 2/3

12 / 3 = 4

$\frac{3}{4}$

$\frac{2}{3}$

Let's write the fractions 3/4 and 2/3 with a denominator of 12.

$$\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$$

If we take 3/4, multiply the numerator and denominator by 3, we get 9/12.

$\frac{9}{12}$

And if we take 2/3 and multiply the numerator and denominator by 4, we get 8/12.

$\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$

$\frac{9}{12}$

$\frac{8}{12}$

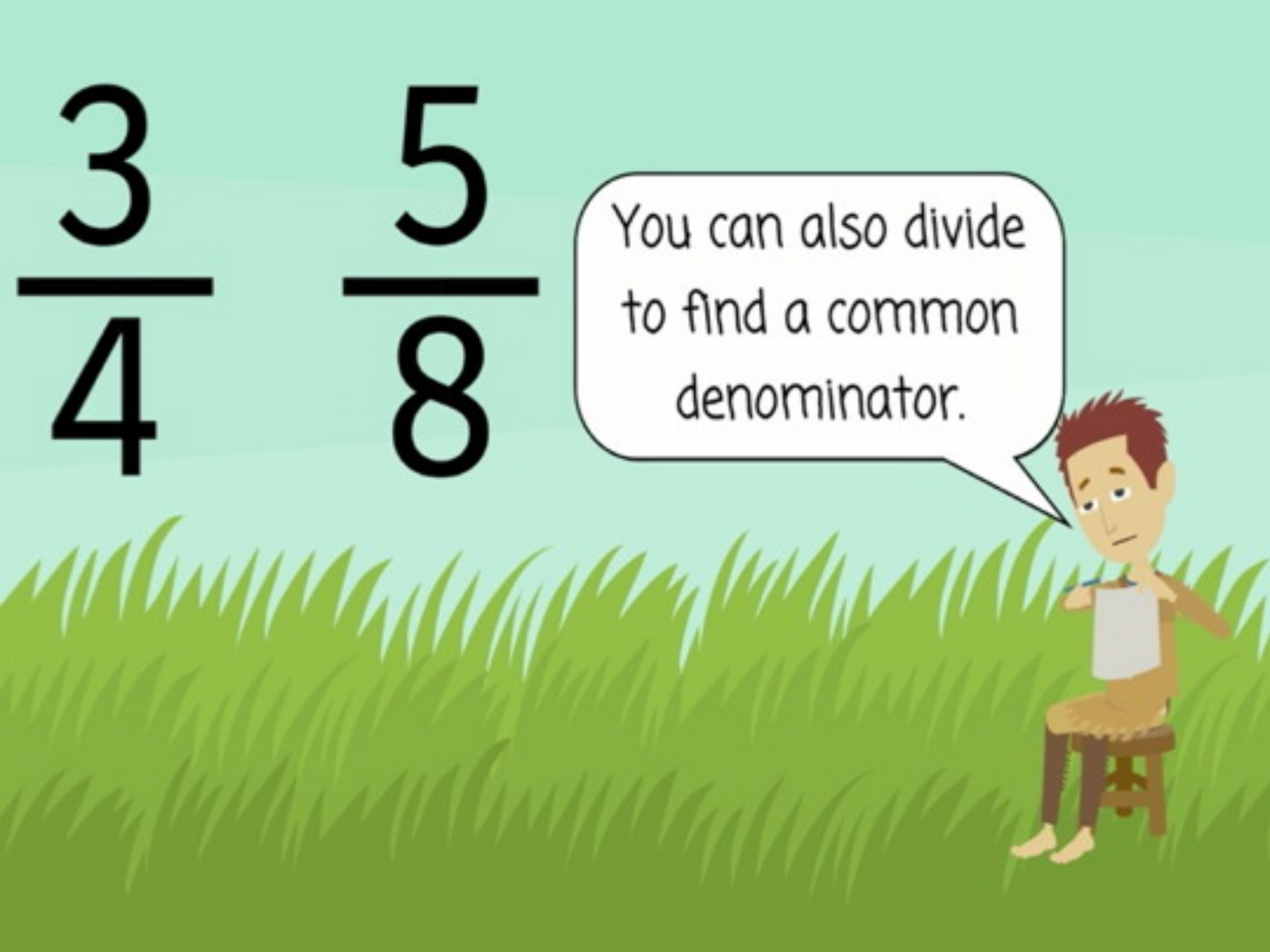
9/12 and 8/12 are now like fractions so all we have to do is compare the numerators.

$\frac{9}{12}$

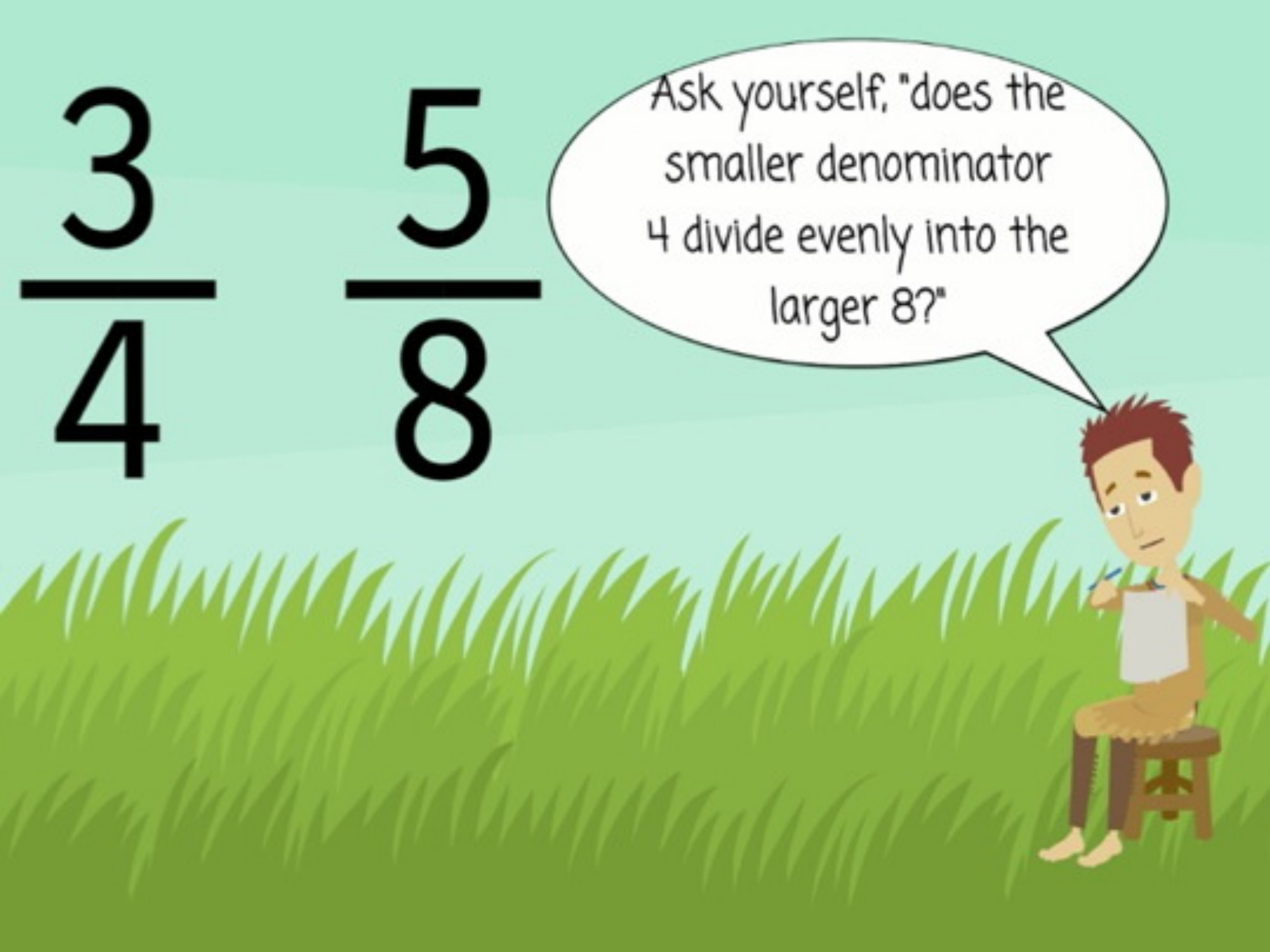
$\frac{8}{12}$

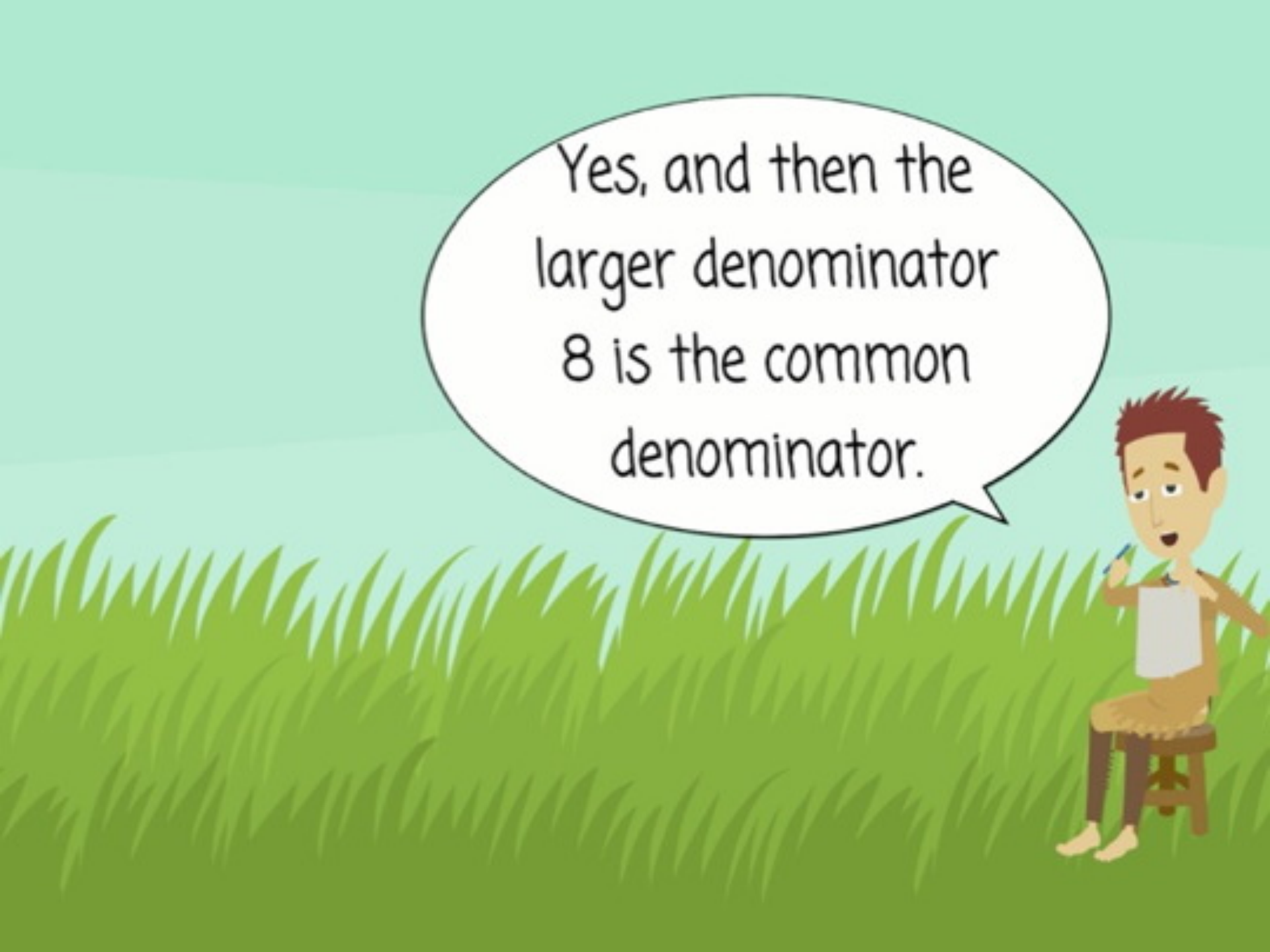
Since 9 is greater than 8, the fraction 9/12 is greater than 8/12.

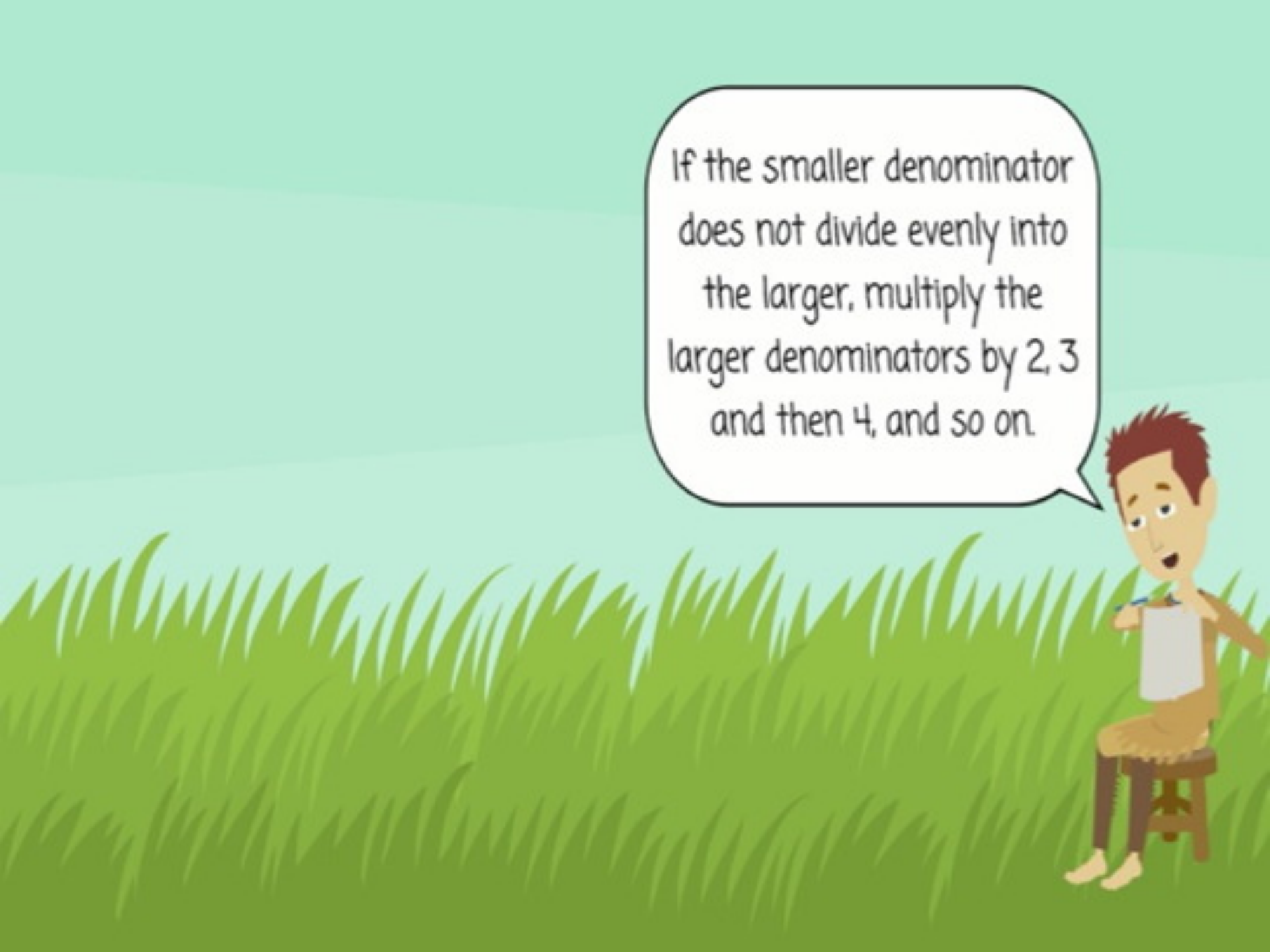
$\frac{3}{4}$ $\frac{5}{8}$



$\frac{3}{4}$ $\frac{5}{8}$




Yes, and then the larger denominator 8 is the common denominator.


If the smaller denominator does not divide evenly into the larger, multiply the larger denominators by 2, 3 and then 4, and so on.


Each time check for division by the smaller denominator.