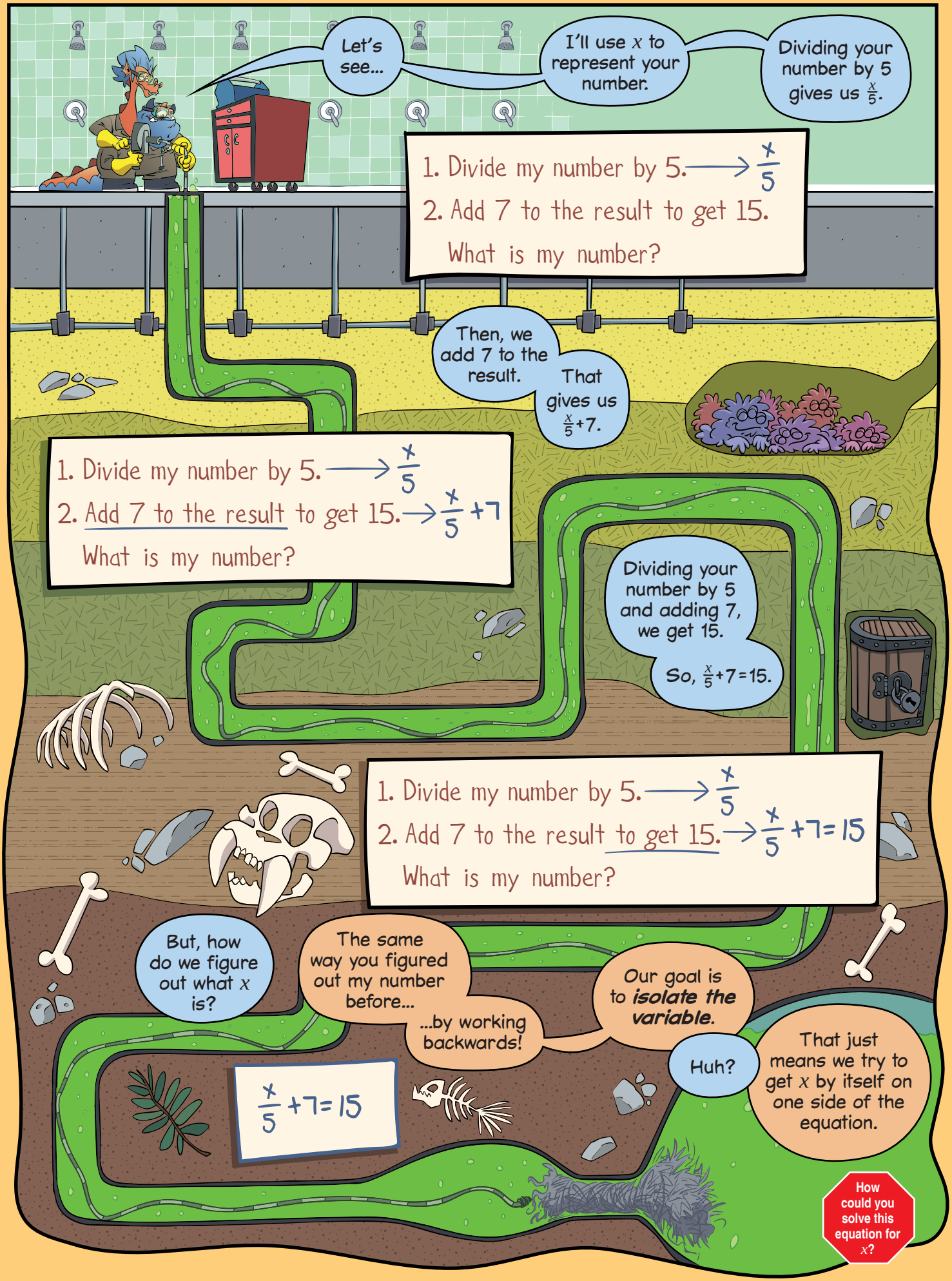
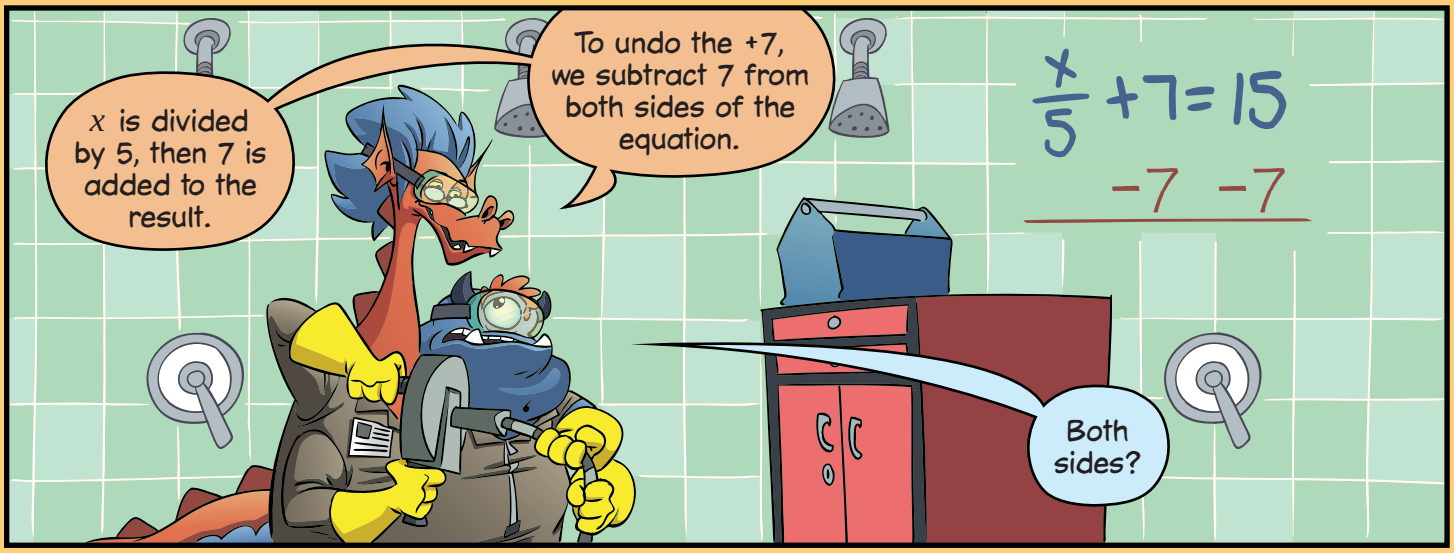
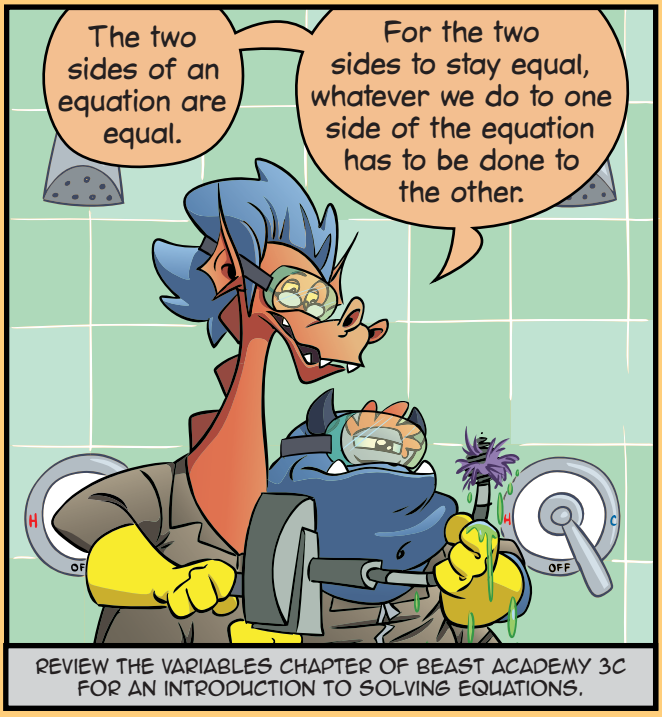

Try this.
I am thinking of a number.
If I divide my number by 5, then add 7 to the result, I get 15.
What is my number?
1. Divide my number by 5.
2. Add 7 to the result to get 15.
What is my number?
I can work backwards to undo those two steps.
Try it.
2. Add 7 to the result to get 15.
□+7=15
15−7=8
To find the number that you added 7 to to get 15, we subtract 7 from 15. 15−7=8.
Squish Squish Squish
1. Divide my number by 5.
□÷5=8
That means that when you divided your number by 5, you got 8.
Squish Squish Squish
□÷5=8
8×5=40
So, we can multiply 8 by 5 to find your number!
8×5 =40.
Perfect! You figured out my number.
That's how math beasts solve equations... by undoing operations.*
Really?
Yep.
I'll show you. Start by turning these sentences into an equation.
1. Divide my number by 5.
2. Add 7 to the result to get 15.
What is my number?
Write an equation. Use x to represent the unknown number.
*MATH OPERATIONS ARE THE THINGS WE DO TO NUMBERS, LIKE ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION.


Let's see...
I'll use x to represent your number.
Dividing your number by 5 gives us $\frac{x}{5}$.
1. Divide my number by 5. $\longrightarrow \frac{x}{5}$
2. Add 7 to the result to get 15.
What is my number?
Then, we add 7 to the result.
That gives us $\frac{x}{5}+7$.
1. Divide my number by 5. $\longrightarrow \frac{x}{5}$
2. Add 7 to the result to get 15. $\longrightarrow \frac{x}{5}+7$
What is my number?
Dividing your number by 5 and adding 7, we get 15.
So, $\frac{x}{5}+7=15$.
1. Divide my number by 5. $\longrightarrow \frac{x}{5}$
2. Add 7 to the result to get 15. $\longrightarrow \frac{x}{5}+7=15$
What is my number?
But, how do we figure out what x is?
The same way you figured out my number before...
...by working backwards!
Our goal is to ***isolate the variable***.
Huh?
That just means we try to get x by itself on one side of the equation.
$\frac{x}{5}+7=15$
How could you solve this equation for x?





REVIEW THE VARIABLES CHAPTER OF BEAST ACADEMY 3C FOR AN INTRODUCTION TO SOLVING EQUATIONS.