

## The Function Machine Activity

Imagine you are going shopping, and you have to pay a 12% sales tax on everything you buy.

For each price, you want to know the tax you would pay.

For a **\$50 item, 12% of \$50 is 6 dollars tax.**

For a **\$100 item, 12% of \$100 is \$12 tax.**

... **12% of \$150 is \$18 tax...** and so on...

This is an example of a **function**.

In this case, the amount of tax paid is a function of the price ... which is the same as saying "**the tax depends on the price**".

You can think of a function as an input-output machine.

A function is a relation that describes how each input corresponds to a single output.

So for each input (in this case the price), there is only one possible output (in this case the tax).

In a function, any input produces **only one** output.

### **Activity:**

Play with the input or price slider.

Watch how the function works.

It can only produce one output for each input.

Adjust the slider so that the input is \$240.

What is the output?