



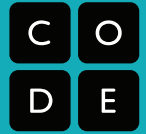
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# Songwriting

Using Lyrics to Explain Functions and Procedures



One of the most magnificent structures in the computer science world is the function. Functions (sometimes called procedures) are mini programs that you can use over and over inside of your bigger program.

A fantastic way to compare functions to something we see in our everyday lives is to look at songs. Songs often have certain groups of lyrics that repeat over and over. We call that a chorus.

## Directions:

- 1) Divide into groups of 4, 5, or 6.
  - 2) Give each group several copies of the Songwriting Worksheet
  - 3) Play a short song for the class that contains a clear chorus that does not change from verse to verse.
  - 4) Challenge the class to identify (and write down) the chorus.
  - 5) Compare results from each group. Did everyone get the same thing?
  - 6) Try the activity again, but this time with a song that changes during each repetition of the chorus. Good examples are: Old MacDonald, Baby Bumblebee, or The Hokey Pokey
- \* Can the students identify a chorus when some words change?
  - \* How might they use the same idea of calling a chorus when the chorus is different from verse to verse?
  - \* These changing words and phrases are called “parameters” and you can pass them into the chorus like this: chorus(cow, moo)
  - \* Try it with a few songs until your class gets it!

### New Words!

## Function

Say it with me: **Func-shun**

*A piece of code that you can  
call over and over again.*

## Parameter

Say it with me: **Pa-ram-eh-ter**

*An extra piece of information that you pass to  
the function to customize it for a specific need*

If we pass Old MacDonald’s animal sound as a **parameter** to the chorus, then we can have different sounding verses using just one chorus **function**!



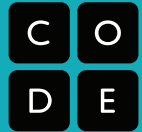
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# Songwriting Worksheet Example

Using Lyrics to Explain Functions and Procedures



Song Name: *Old MacDonald*

Chorus:

*Old MacDonald had a farm  
e-i-e-i-o  
And on that farm he had a P1  
e-i-e-i-o  
With a P2 here and a P2 there  
Here a P2, there a P2  
Everywhere a P2, P2*

Parameter  
Examples:

*Animal Name*  
(P1)

*Sound*  
(P2)

(P3)

Song:

*Chorus(Cow, Moo)  
Chorus(Pig, Oink)  
Chorus(Horse, Neeeeigh)  
Old MacDonald had a farm  
eeeeeeee-iiiiiiii  
eeeeeeee-iiiiiiii  
ohhhhhhhhhhhhhhh!*



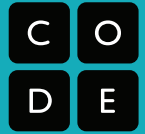
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# Songwriting Worksheet

Using Lyrics to Explain Functions and Procedures



Song Name: \_\_\_\_\_

Chorus:

Parameter  
Examples:

\_\_\_\_\_  
(P1)

\_\_\_\_\_  
(P2)

\_\_\_\_\_  
(P3)

Song: