



## Lesson 2 - Coding Tour - Art, Games, and More

*Prep: Research any coding languages you want to discuss in more detail.*

*You can also review the Engineering Blogs from the previous session to guide the Intro activity.*

### Learning objectives

1. Understand how the Kano computer OS works
2. Gain an understanding of the different uses of code
3. Be able to use code to make basic creations

### Lesson: Coding Tour - Art, Games, and More

Time: 1 hr 15 min

**Intro:** Recap last lesson. Describe something that was exciting, and one thing you learned.

20 min

Get into pairs and discuss the questions:

- What are 3 things people use computers to do?
- What are some skills you need when using a computer?

Unpack what it means to use code. [List out](#) a few coding languages. **[Optional]** You can show a few on the screen. Scratch is on the kit, and the Make Art app uses CoffeeScript. Make Light uses Python.

Ask how code differs from regular languages, and stress that the syntax is not the same (sentences don't always begin with uppercase letters or end with a period).

Bonus: If kids ask why there are different languages, a good answer:

*For the same reason there are hammers, screwdrivers, crowbars, and a host of other tools: not every language is perfect for every task. Some languages are targeted at specific problem domains: R is particularly good for statistical analysis, C is particularly good for writing operating system kernels, Haskell is particularly good for math-heavy or financial computations,*

*Also, for the same reason that shirts come in different colors: some people just like the "style" of one language over another.*

*And, of course, a lot of programmers find it fun to invent a new language, just to see what happens, or perhaps because they have some knowledge about languages and want to try out some ideas.*

<p><b>Get excited!</b> You can show <a href="#">this video</a> on how Pixar animators use code.</p>	
<p><b>Code Art!</b> Students to power on their Kanos and log into their profiles. Start with Make Art basic challenges. Kids can code a flag. Show them how they can “hack” challenges by changing sizes or colors. Have them move through the Basic challenges,</p>	20 min
<p><b>Code Games!</b> Move to <b>snake</b>. Learners to explore making Kano snake faster, more colorful and better with code.</p>	20 min
<p>Learners move to <b>Pong</b>, watch the video, and start to play the game.</p>	
<p><b>Reflect:</b> In their Engineering Blogs, learners:</p> <ul style="list-style-type: none"> <li>• Describe their their favorite activity of the 3</li> <li>• Describe their least favorite activity of the 3</li> <li>• Describe 1 thing they'd want to create with code</li> </ul>	10 min
<p><b>Kano cleanup</b></p>	5 min