

ACTIVITY

Introduction to Pair Programming

Overview for Teachers

Students will pair up and experiment with the two roles used for pair programming, while playing through CodeCombat levels.

A great time to introduce Pair Programming is during an early challenging level like Haunted Kithmaze in the Introduction to Computer Science course. You can also suggest Pair Programming during later levels where there may be a larger mastery gap -- allow a student who has a firm grasp of the concept to be the Navigator.

What you need

- A few CodeCombat course levels which have not been completed yet, which can be used for the pair programming activity
- One workstation (computer, keyboard, mouse)
- One student to be the Driver
- One student to be the Navigator

Overview for Students

Pair programming is an exercise that real-life engineers use to collaborate on code together. One person is the driver, who controls the keyboard/mouse, and the other person is the navigator, who observes and plans. Pair programming is great because it teaches the value of communication while allowing two brains to work on the same

problem at the same time. It also reduces bugs, encourages communication and listening skills, and reinforces existing concept mastery by allowing students to fill in each others' knowledge gaps.

We are going to pair up and try out pair programming, and then discuss as a class afterwards.

Directions for Students

1. Pair up with another student, one of you will start as the driver and one as the navigator. The navigator should not touch the keyboard/mouse, and the driver should communicate what they are doing.
2. Every 15 minutes, switch roles.
3. Remember to practice clear communication, patience and the spirit of collaboration.

Discussion Questions

- Was it easier to be a Driver or a Navigator? Why?
- What was challenging about pair programming?
- What was useful about pair programming?
- When would it be beneficial to pair program with a partner?

Additional Resources

NCWIT: Pair Programming Activities (<https://www.ncwit.org/resources/pair-programming-box-power-collaborative-learning>)