Explore, Code, and Learn!

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Coding is using step-by-step commands to tell a computer what to do!

Why?
- Practice logic
- Problem-solve
- Collaborate/communicate
- Learn to fail and persevere
- THINK!
Coding with Students?

Start with block coding.

studio.code.org
Coding with Students?

Start with logic and simple commands.

- Daisy the Dinosaur
- Cargo Bot
- The Foos
- Hopscotch
- Scratch Jr.
- Kodable
Coding with Students?

Apply what they have learned to authentic situations with hands-on resources!

Tickle App
Coding with Students?

Apply what they have learned to authentic situations with hands-on resources!

Tickle App
Dash and Dot

www.makewonder.com
Dash and Dot
Dash Can Draw! (Math and Art)

Use Lego connectors to attach drawing tools.
Program dash to draw a circle.

Dash and Dot
Dash Travels! (Social Studies)

My 1st grade GT students are learning about different countries around the world. Before digging into that research, I wanted to make sure they understood the difference between countries and continents, and had a general understanding of their locations. We have a giant map of the world on our wall, but I thought Dash and Dot might be able to help us by taking their own virtual trip around the globe. I ordered this vinyl map for the floor from Amazon.

This teacher used a large vinyl map and coded Dash to visit each country.

https://engagetheirminds.com/tag/dash-and-dot/
Dash and Dot
Dash Reads! (ELA)

K students drive Dash to the correct sight word.

http://thekindergartenguy.blogspot.com/2015/02/dash-dot-rule-my-classroom-my.html
Sphero or Ollie
Paint with Sphero! (Art)

Put a nubbie cover on Sphero and drive it through paint for your own modern art.

https://medium.com/sphero-sprk/steam-carnival-code-explore-create-dad79e0bb935#laszpt7ia
Sphero or Ollie

Bridge Challenge
(Science and Math)

Can your bridge hold a spherobot?
Vary the materials.
Vary the number of robots.

https://engagetheirminds.com/2015/04/14/sphero-bridge-building/
Sphero or Ollie

Changing Colors!
(Science and Math)

Can you program Ollie to change to a different color—Every 2 seconds? Every 5 seconds? Using primary colors?
Rolling Spider Drone

Tickle

Free Flight

Tynker
Rolling Spider Drone

Points of View (ELA)

Take a picture from the drone. Write about the image from the drone’s point of view.
Rolling Spider Drone

Supply and Demand (Social Studies)

Provide a scenario where teams need to pick up and deliver different supplies from one spot to another to meet demand within a given time constraint.

Rolling Spider Drone
Flight Skills (Math)

Challenge teams to create a code that flies the drone over an obstacle and lands in an exact spot. Who can do it in the fewest moves? In the least amount of time? With the most accuracy?

Picture from: http://stager.tv/blog/tag-tickle-app
Ozobots

Follow color-based codes on lines that you draw.
Ozobot Bit

Use Block coding with OzoBlockly.
Ozobots
Ozobot City (Social Studies and Art)

Students create a city (with important community resources) for the Ozobots to live in or visit.

https://artisaneducation.com/category/work-is-play/
Print the Ozobot Cloud Maze from ozobot.com. Students can label the outputs with names, numbers or other info and collect data on the number of exits the Ozobots make.
Ozobots

Ozobot Characters (ELA)

Students retell a story with the Ozobot(s) as the character(s). The path sets the timeline and scene of the story.

https://twitter.com/erinmcnamara20
Coding with Students?

So what do you think now?
Questions?
Challenge!

See which team can complete the task first:

Dash:
Program Dash to:
- Travel in a square
- Then spin 360 degrees
- Then say “yippe”

Drone:
Program Drone to:
- Start in a designated area
- Fly up and flip
- Land in a designated area

Ollie:
Program Ollie to:
- Change color 4 times while traveling in any direction
- Ollie cannot hit anything

Ozobot:
Have an Ozobot race using the Ozobot code cards.
Each team can choose 12 cards for their track.