Lesson 16: Need for Speed!

Powerful Ideas of Computer Science	Control Structures, Modularity, Representation, Design Process
Powerful Ideas of Literacy	Writing Process, Phonological Awareness
PTD	Content Creation, Choices of Conduct
Palette of Virtues	Patience
Children will be able to…	● Use the Set Speed Block in ScratchJr. ● Use the Go to Start Block in ScratchJr.
Vocabulary	● Slow: moving in a way that takes more time ● Fast: moving in a way that takes less time ● Return: to come back to where you started
Teacher Preparation	● Read lesson plan. ● Print Lesson 16 Check for Understanding or pull up the Lesson 16 Check for Understanding Slides.

Warm Up

- **Fast Forward!** *(Suggested Time: 5 minutes)*
    - Have children clap at different speeds (**fast**, **slow**). Then, have the children try to say the tongue twister, "she sells seashells by the seashore" both fast and slow.

Opening Tech Circle

- **Racing Rules** *(Suggested Time: 5 minutes)*
    - Discuss with your children the rules and elements of a race**.**
        - What are the core elements of a race (starting point, race distance, etc.)?

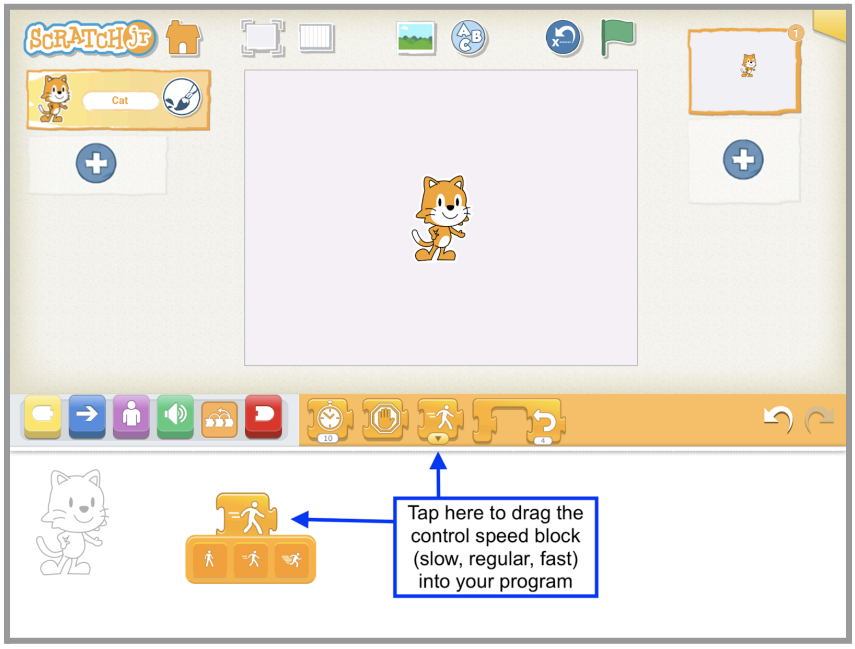
ScratchJr Time

Structure Challenge:

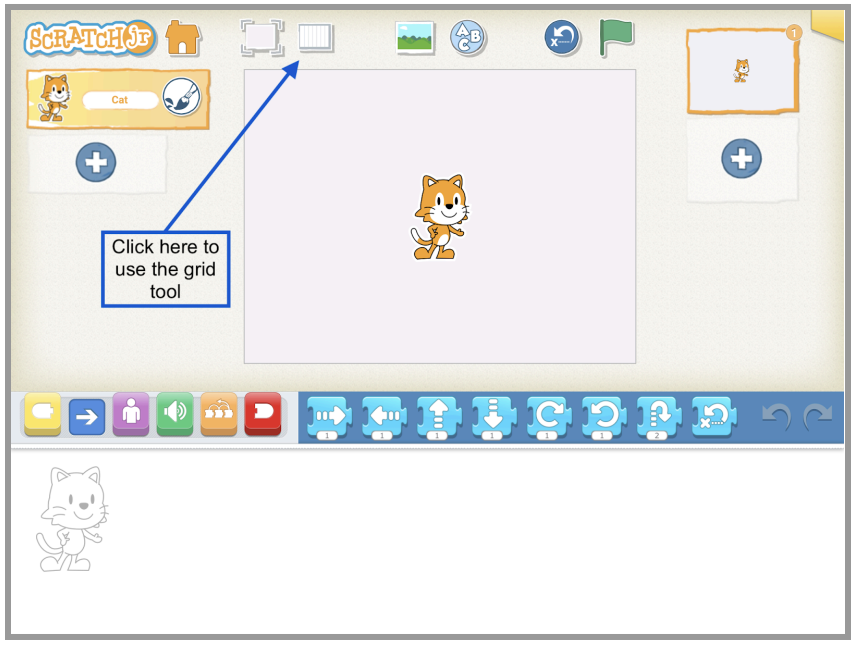
- **Preparing Our Race** *(Suggested Time: 10 minutes)*
    1. Introduce the Set Speed Block.
    2. Using the Set Speed Block, characters in ScratchJr can be made to move at different speeds (fast, regular, slow, also called "run, walk, crawl"). You can introduce the Set Speed Block and demonstrate how to use it on the ScratchJr

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application.



3. Review how to use the Grid tool.

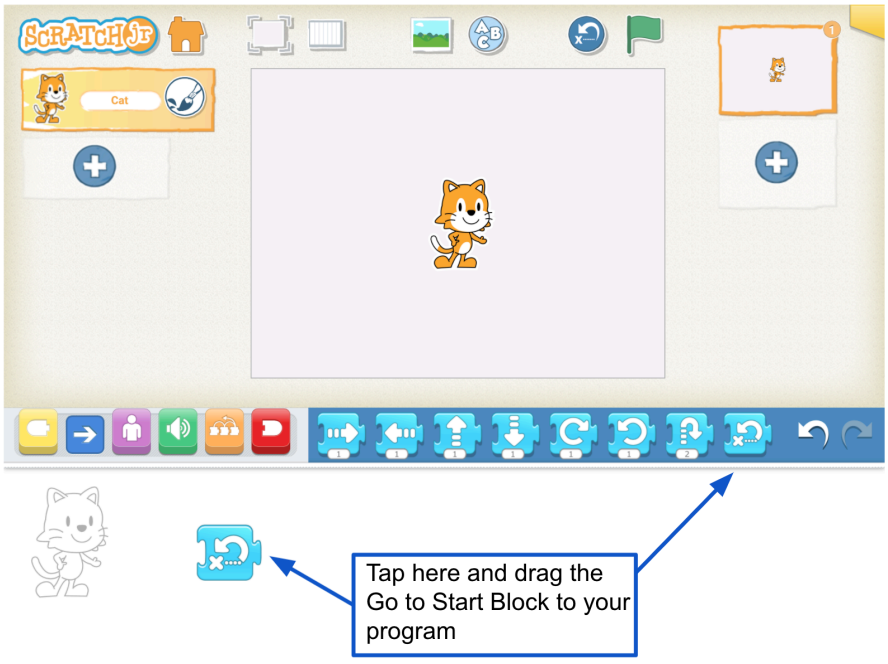


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4. To remove the Grid tool, tap on the same icon again.



5. Introduce the Go to Start Block. This block will be helpful for children as their racers will need to **return** to the starting point after the race.



Lesson 16 Check for Understanding: Before starting a project, check your children's understanding of the new concepts they've just learned. Read each question to the children and

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have the children respond with a thumbs up for “yes” or a thumbs down for “no.” Stop and re-explain concepts as needed.

Expressive Explorations:

- **It’s a Race - ScratchJr** *(Suggested Time: 15 minutes)*
    - Children should use the Grid tool to make sure all characters are starting at the same spot. Review the rules of a race:
        - To be fair - All racers start on the same spot and travel the same distance to the finish line.
        - Racers should return to start using the Go to Start Block when they finish the race.



- Ask children to program more than one character each (two or three). Then, in groups of three ask them to put the devices together to have a big relay race.
    - Who wins the race?
    - If you switch the order of the devices, what happens?
    - Which part of the race was the most fun?

Closing Tech Circle

- **Project Share** *(Suggested Time: 10 minutes)*

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- Children share their projects with the class.
  - Children can guess which character they think will win the race, count out loud how many children think each character will win!
  - Also encourage children to show their peers their code, compliment each other's projects, and ask each other questions.

Opportunities for Differentiation

- Extra Challenge
  - In groups of three, ask students to program a relay race.

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