Sphero SPRK TIES Playground Handout

**Sphero is controlled by iOS & Android Devices**

1. **Draw&Drive** - great for beginners & intro to Sphero, perfect for K12 learners: letters numbers, obstacle & n activities
2. **Tickle** - block coding (like Scratch)-great for K-5th grade!
3. **Lightning LAB**: driving, drag & drop OVAL coding, built-in tricks
4. **MarcoLab** - more advanced, itemized drag & drop coding scripts
5. **OrbBasic** - (most advanced) authentic character based programming-textual & numerical type (type: heading, speed, roll type)

Other Sphero Apps to try:

1. SpheroCam - take pics/video of Sphero during lessons, share
2. Gaming: Sphero, ColorGrab, Chromo, Exile
3. Augmented reality games: Sharky Beaver

**Sphero accessories:**

1. **Chariot** (built-in lego extension)
2. **Nubby** & **Turbo** cover (traction, speed)
3. **Terrain Park** (ramp and rails challenge)

**Logistical Challenges:**

- Users can “see all active spheros” on iPad during bluetooth pairing.
  
  **Tips to Help:**
  - assign Sphero groups to areas
  - assign Sphero colors to groups
  - write Sphero’s name on Sphero’s bottom with permanent marker

- WiFi strength- can lose connection, frequent repairing bluetooth

- Bluetooth connection range of up to 50ft

- Battery cycle life of 1hr of constant play, takes 2-3+ hrs to fully charge
  - Tickle app is only app to show battery life

- Typical 50 min lesson kids use Spheros for ~ 30 mins of total constant play so have to charge after 2-3 periods depending on type of use (lots of driving uses lots of power, methodical programming takes less power).

- Firmware updates prompts (use LAB app).
**At end of lesson ave student “disconnect and forget device” Sphero in bluetooth of Settings app on iPad.**

**Coding Theory into practice:**
- Standards alignment [http://www.sphero.com/education/funding](http://www.sphero.com/education/funding)
- **SPRK curriculum**
- **SPRK aligned to Standards**
- **SPRK assessments** for students
- **ISTE standards**- all 6 areas

**Education Focus:**
- **Teamwork building** when problem solving (emphasis on TRIAL & ERROR), logical & critical thinking skills
- **Experiential programming:** interactive HANDS ON coding (kids interact with coding results in real life)
- Authentic, instant gratification of visual, real life rewards
- Student start to create their own guiding ?’s and coding inquiries
  - “What would happen if we changed the _, “Time it at 60% vs 50% speed”, “What happens if I change this command”, etc.
- Teachers and students can create & keep building learner focused lessons K-12+ with different apps & educational accessories.
- After School Class: “Sphero Leaders” student become peer leaders

**Lesson Plan & Project Ideas:**
5th gr: Parts of a cell, Bocce Sphero Ball game, create terrain park
4th gr: Sphero Molecules - solid, liquid, gas interactions
3rd gr: Planets: Sphero solar system, art (paint with nubby)
2nd gr: Push and Pull of Force, friction of nubby & turbo covers
1st gr: Maze & Chariot Challenge, design & travel in “Sphero City”
Kindergarten: Maze challenge & “Sphero City”, draw&drive letters/numbers
**Art:** Painting with Spheros!
Sphero Sports:
  - Student designed [Obstacle course](http://www.sphero.com/education/funding)
  - [Swimming](http://www.sphero.com/education/funding)
  - [Golf & Croquet](http://www.sphero.com/education/funding)

**Online Lesson Resources:**
- [Sphero SPRK site](http://www.sphero.com/education/funding)
- [Cedar Park Sphero vid](http://www.sphero.com/education/funding)