

# Pasco STEM Initiatives

## Mobile Labs

## School-Wide Programs

Dash

<https://www.makewonder.com>

Circuit Scribe

<http://www.electroninks.com>

zSpace

<http://zspace.com>

Cublets

<http://www.modrobotics.com>

Lego WeDo

[https://education.lego.com/en-us/elementary/shop/products?product\\_lines=WeDo2](https://education.lego.com/en-us/elementary/shop/products?product_lines=WeDo2)

Moss Robotics

<http://www.modrobotics.com>

## Pilot Programs

Osmo

<https://www.playosmo.com/en/>

3d Printing

<http://www.makerbot.com>

Rigamajig

<http://www.rigamajig.com>

Mixed Device 1:1

## What's Next

Coding

(Sphero, Ollie, Ozbot, Parrot, Dash)

Breakout Box EDU

<http://www.breakoutedu.com>

Nearpod VR

<https://www.nearpod.com/nearpod-vr>



## OSMO PILOT K-2

PILOT CLASSROOM MATERIALS: 12 OSMO'S AND 12 IPADS

**How does designing learning experiences with an innovative technology, *OSMO*, foster academic, creative, and social/emotional learning?**

In our PLC's we plan for and respond to these questions when designing learning experiences:	How can we personalize the learning process using innovative technologies?
<ul style="list-style-type: none"> <li>• What do I want my students need to learn?</li> <li>• How do I know when they have learned it?</li> <li>• How do I respond when my students don't know it?</li> <li>• How do I respond when my students already have learned it?</li> </ul>	<ul style="list-style-type: none"> <li>• How does OSMO help support academic, creative, and social/emotional learning for my students?</li> <li>• How does feedback from OSMO support data driven decisions when designing personalized learning experiences for students who haven't learned it or already have learned it?</li> </ul>

### Targeted Outcomes of the Pilot:

1. Design and implement purpose driven learning opportunities (high impact instruction) using an innovative technology, *OSMO*.
2. Explore the relationship between student usage of *OSMO* and the academic, creative, and social/emotional learning outcomes (data driven decisions).
3. Foster collaboration and problem solving opportunities among students to foster the social/emotional skills needed for college, career, and life readiness.



### **Learning from a Felt Need**

Students are presented with meaningful, higher-order activities that create the context for learning and build a “felt need” to learn the lower-order skills.

### **High Academic Standards**

All students are expected to achieve at high levels utilizing the teacher, peers, and other resources to meet with success.

### **Focus on Higher-Order, Open-Ended Problem-Solving**

Problem-solving activities are the focus of the learning environment, setting a context within which to learn lower-order skills.

### **Student Responsibility for Learning**

Students take responsibility for setting goals, scheduling time, utilizing resources, and making other decisions.

### **Connected Learning**

Students see learning as being connected, both across the disciplines and to their lives.

## **The Ten Principles of a *Learner-Active, Technology-Infused Classroom***

### **Working Well Collaboratively**

Students engage in collaborative problem-solving on open-ended problems with peers, working independently on subtasks.

### **Individual Learning Path**

Teachers differentiate instruction to meet the needs of each individual learner.

### **High Social Capital**

Students have strong, consistent relationships with adults in school; parents are involved as partners in the learning process.

### **Technology Infusion**

Technology is used as a tool and a resource to support learning, and not seen as a goal unto itself.

### **Global Citizenship**

Students understand their role as contributors to a global society and make strides to contribute to the betterment of their world.

# SMILE

## STEM Mobile Integrated Learning Experience | Title I Programs



### What is SMILE?

The STEM Mobile Integrated Learning Experience (SMILE) is a Title I Program that provides relevant learning opportunities for students to strengthen the 21st century skills needed to be college, career, and life ready.

SMILE labs consist of resources and tools to provide students an interactive experience to develop the skills needed to be problem finders, problem solvers, and innovative thinkers. This year the SMILE curriculum and resources will focus on developing “failing forward” mindsets in our students and the need to refine thinking through active student engagement while teachers take on the role as a partner in learning, rather than the leader.

Each grade level band has a different focus (right) that engages students in the Mathematical Practices and the Science and Engineering Practices in a relevant way. Title I classrooms are eligible to participate in the SMILE program for check out.

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### Learning Experiences

#### Grades K-2: Coding w/ Curiosity

Being metacognitive is a skill to be developed early on and continue to foster. *Coding with Curiosity* will provide students an opportunity to grow the “failing forward” mindset and develop deeper understanding when thinking about their learning and the role mistakes play in the process. Students will develop computational thinking skills as they learn to code and gather evidence of their coding outcomes to program “Dash” (a robot).

#### Grades 3-5: Systems Thinking w/ Circuit Scribe

Understanding how things interact in a system to achieve a desired outcome leads to application and deeper understanding of the world around us. Students will explore systems around them and understand how they affect their daily lives thus leading them to the design of their own system using conductive ink.

#### Grades 6-8: Design Thinking w/ Arduino

Students not only need to be problem solvers, but they need to be problem finders. Through developing an understanding of design students will expand their application of systems thinking to design and develop a solution to a problem they have self-identified to solve using Arduino.

#### Grades 9-12: Virtual Reality: zSpace

Real world application is key to fostering deep understanding and making connections to schema already developed. Through the use of zSpace students will have the opportunity to engage in a variety of virtual reality experiences tied to standards to create authentic learning opportunities.



CRITICAL THINKING



COMMUNICATION



COLLABORATION



CREATIVITY