



**Agenda Item 1
September 2, 2015**

DATE: August 24, 2015
TO: Children and Families Commission of Orange County
FROM: Christina Altmayer, Executive Director 
SUBJECT: STEM Programs
ACTION: Receive report on early STEM (Science, Technology, Engineering & Mathematics) programs

SUMMARY:

The Children and Families Commission of Orange County, in partnership with the Samuelli Foundation, are the founding members of the OC STEM Initiative that began in 2011. The Commission entered a three-year partnership to implement a strategic plan to strengthen STEM (science, technology, engineering, and mathematics) education in Orange County and develop funding partnerships to support the implementation of the strategic plan. The Commission renewed the partnership in 2014 for an additional three-years. This item is a report on the OC STEM Initiative accomplishments, and current and planned programs.

DISCUSSION:

Early STEM is specifically identified as a programmatic initiative in the Commission’s Strategic Plan in reaching the early learning goal. Research confirms that early math is a better predictor of school readiness than literacy. Dr. Greg Duncan’s research, UCI School of Education, has focused on the value of focusing on early math skills for long-term school success and high school graduation.

In addition to the Commission and the Samuelli Foundation, the OC STEM Initiative members include 15 business foundations, educational organizations, and content experts (Attachment 1) that are committed to improving science, technology, engineering, and mathematics education. The Commission Executive Director is a member of the OC STEM Initiative Executive Committee and chairs the Professional Development Committee.

The overarching goals are to ensure that students are college and career ready in the STEM fields, and to educate a skilled and continuous workforce to meet the scientific and technological needs of the employer base in Orange County. The OC STEM Initiative focuses on the full continuum of learning from preschool through college. Last year, an Executive Director was hired to expand the scope, services, and membership of the OC STEM Initiative. Currently, the early STEM programs include: the Early Childhood STEM Symposium, STEM Ecosystem Institute, and the Lead STEM Practitioner Program. Each program is described below.

Early Childhood STEM Symposium

THINK Together implements the Commission’s early literacy and math programs. In 2014 and 2015, THINK Together partnered with the Children’s Center at CalTech for the Early Childhood

STEM Conference. Over 500 early educators participated in the three-day conference in Costa Mesa for professional development and training in the area of early math and STEM education. The 2016 conference will be held in Pasadena followed by a one-day symposium in Orange County. The OC STEM Initiative, in partnership with the Commission, THINK Together, and the Orange County Department of Education, is leading the planning effort to provide expanded training for Orange County early educators. A STEM Mentorship program has also been developed to provide on-going training and support to early childhood educators throughout the year.

OC STEM Ecosystem Institute

Eight school districts and the Orange County Department of Education were selected through an application process to participate as the first cohort in the OC STEM Ecosystem Institute, an 18-month leadership institute that began in March 2015. The early childhood educators participate as team members representing the important foundation of early STEM education. The Commission is providing in-kind early learning expertise to develop curriculum and provide mentoring to the teams. An additional \$10,000 is recommended for Fiscal Year 2016/17 to specifically support the second OC STEM Ecosystem Institute and the continued priority on the participation of the early learning educators in leadership development.

The following are the goals of the OC STEM Ecosystem Institute:

- Develop leadership teams that represent early learning, science informal institutes, and K-12 education and that can build and sustain a viable STEM learning ecosystem in their context.
- Increase the effectiveness of each STEM learning ecosystem to deliver quality STEM opportunities for all students at all levels of continuum.
- Increase the effectiveness of each STEM learning ecosystem to set policies and practices that support articulated STEM programs.
- Provide learning opportunities for each unique member of the ecosystem and for all members as a collaborative group that can be replicated in their context.

Lead STEM Practitioner

The OC STEM Initiative, in partnership with the Orange County Department of Education, manages the Lead STEM Practitioner (LSP). A representative from each school district and early education participate in STEM-related trainings and have access an intranet site that houses STEM lesson plans, activities and social networking functionality. The LSP is the conduit for STEM information within the school district and early learning community to help increase the awareness of STEM. The inclusion of a Lead STEM Practitioner representing early learning supports the foundational importance of early STEM education.

STRATEGIC PLAN & FISCAL SUMMARY:

The proposed action has been specifically reviewed in relation to the Commission's Strategic Plan and is consistent with the Early Learning goal. The addition of \$10,000 for the OC STEM Initiative, for a total funding amount of \$35,000, will be included in the proposed budget for Fiscal Year 2016/17. The Commission previously approved a \$25,000 allocation for Fiscal Year 2016/17 in February 2014.

PRIOR COMMISSION ACTIONS:

- April 2015 – Executive Officer’s Report: OC STEM Learning Ecosystem Institute
- February 2014 - Adopted resolution authorizing agreements or amendments to agreements with designated organizations to provide Early Learning Countywide Programs.
- July 2011 – Adopted resolution authorizing agreement for services related to the Orange County STEM (Science, Technology, Engineering, and Mathematics) Initiative from July 1, 2011 through June 30, 2014 in an amount not to exceed \$250,000.

RECOMMENDED ACTIONS:

1. Receive the report on early STEM (Science, Technology, Engineering, and Mathematics) Programs.
2. Authorize an additional \$10,000 for FY 2016/17 to fund the OC STEM Ecosystem Institute for a total annual amount of \$35,000.

ATTACHMENT:

1. OC STEM Initiative Members

Contact: Kelly Pijl

Members



OC STEM
INITIATIVE

-  Allergan Foundation
-  Brandman University
-  Broadcom Foundation
-  Boeing Company
-  Cotsen Foundation
-  Children and Families Commission of OC
-  Edwards Lifesciences
-  JP Morgan Chase Bank
-  Kay Family Foundation
-  Kaiser Permanente
-  OCTANe
-  Orange County United Way
-  PBS SoCal
-  Samueli Foundation
-  Tiger Woods Learning Center/ Foundation
-  Time Warner Cable
-  UC Irvine Henry Samueli School of Engineering