

Washington STEM Initiative:

Preparing Every Student for Success



Our Vision:

STEM Vital to Success in 21st Century Knowledge Economy

Residents, communities and Washington benefit from strong science, technology, engineering and math (STEM) education:

- Every student ready for college and work
- Pipeline of innovators who create opportunity
- Better quality of life
- State more economically competitive

How This Work Got Started

The catalysts for this effort are:

The **Washington Roundtable**, a nonprofit, 501(c)6 public policy organization comprised of chief executives representing major private sector employers throughout Washington state



WASHINGTON
ROUNDTABLE

And **Partnership for Learning**, an independent 501(c)3 organization founded in 1994 to build public awareness, involvement, and support for vital education improvements.



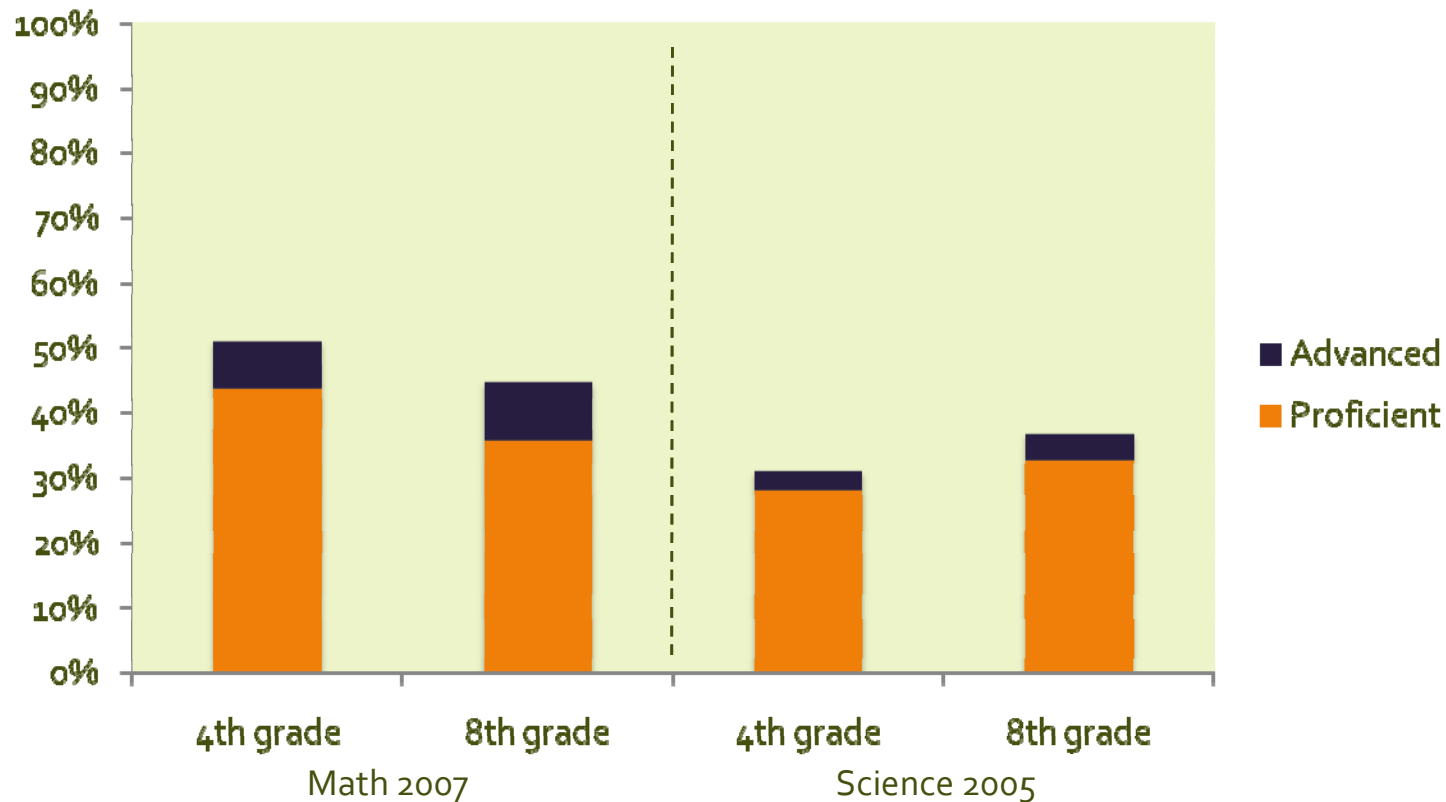
Who Has Been Engaged

- Partnership for Learning and the Washington Roundtable have and continue to engage numerous individuals across the state in the design of the Washington STEM Initiative and Center.
- Leaders and representatives from **the K-12, higher education, science, business, industry and ethnic communities** have all offered ideas and feedback on the Initiative.
- In the months leading up to the Center's launch, Initiative staff will continue outreach throughout the state.

Our Challenge:

Too Few Students Have the Necessary Math and Science Skills

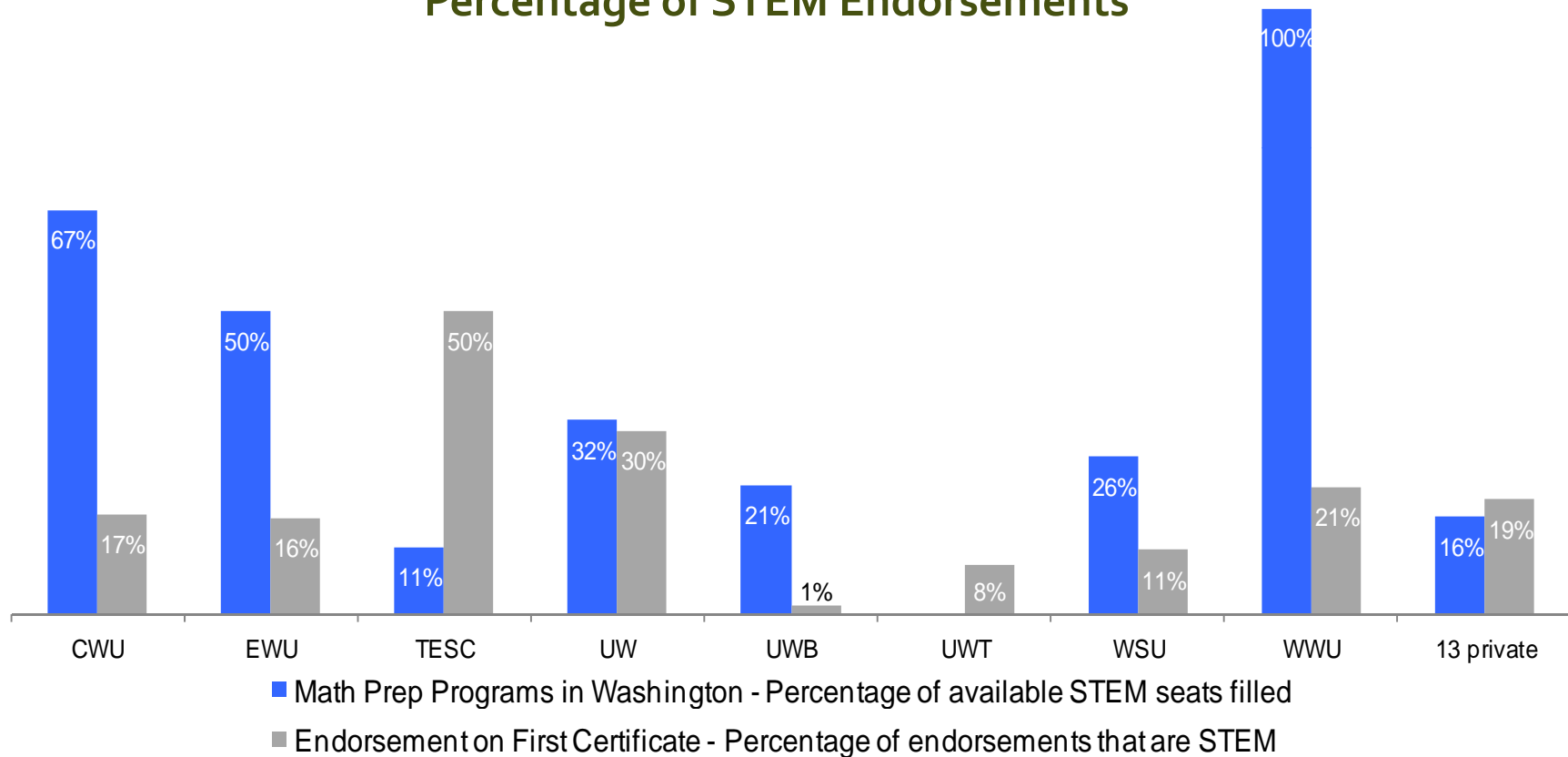
NAEP Performance on Math and Science in Washington



Our Challenge:

Preparation programs are not producing enough STEM teachers

Washington Preparation STEM Capacity and Percentage of STEM Endorsements

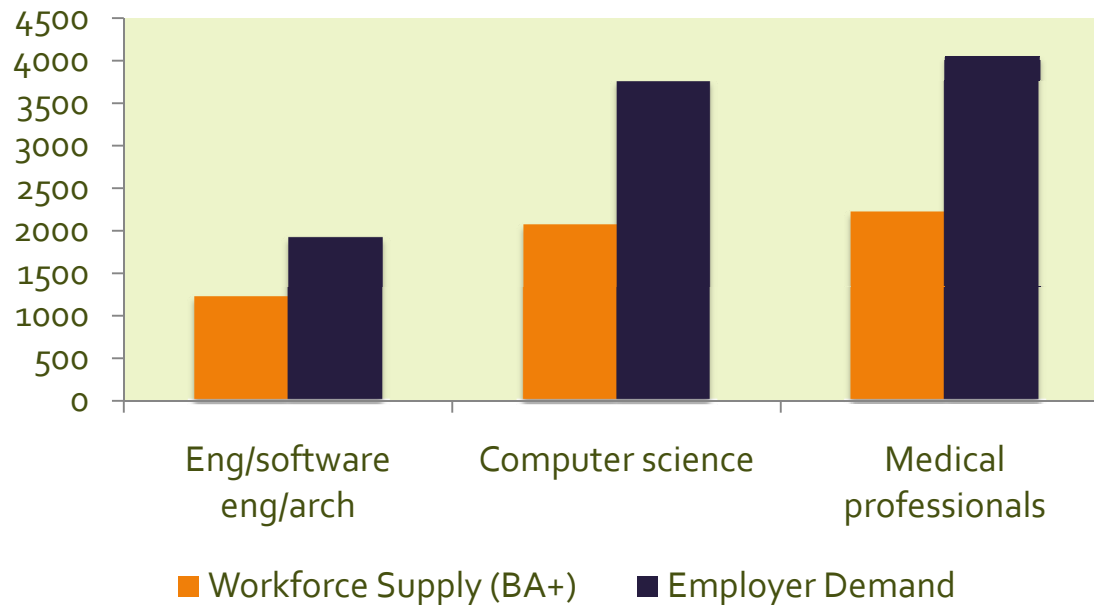


Data not available for UWT math prep programs in Washington.

Source: "Ensuring and Adequate Supply of Well-Qualified Math& Science Teachers," Professional Educator Standards Board (2008).

Our Challenge: Demand Outpacing Supply for STEM Workers in WA

**Graduates with BA or Higher (2006) vs.
Expected Job Openings (2009-2014)**



Current degree production meets only:

- 67% of the expected annual job openings from 2009 to 2014 in engineering;
- 56% in computer science; and
- 65% in the medical profession.

(WTECB, SBCTC & HECB, 2008)

Our Challenge: Few Minorities are Earning STEM Degrees/Certificates

Degrees/Certificates Awarded in Washington in STEM-Related Fields by Race/Ethnicity, 2006–2007

	Certificate	Associate	Bachelor	Master	Doctoral
Asian	9%	7%	15%	8%	5%
Black	6%	3%	2%	2%	1%
Hispanic	6%	4%	3%	2%	1%
American Indian	1%	1%	1%	1%	0%

(Data collected from the Integrated Postsecondary Education Data System)

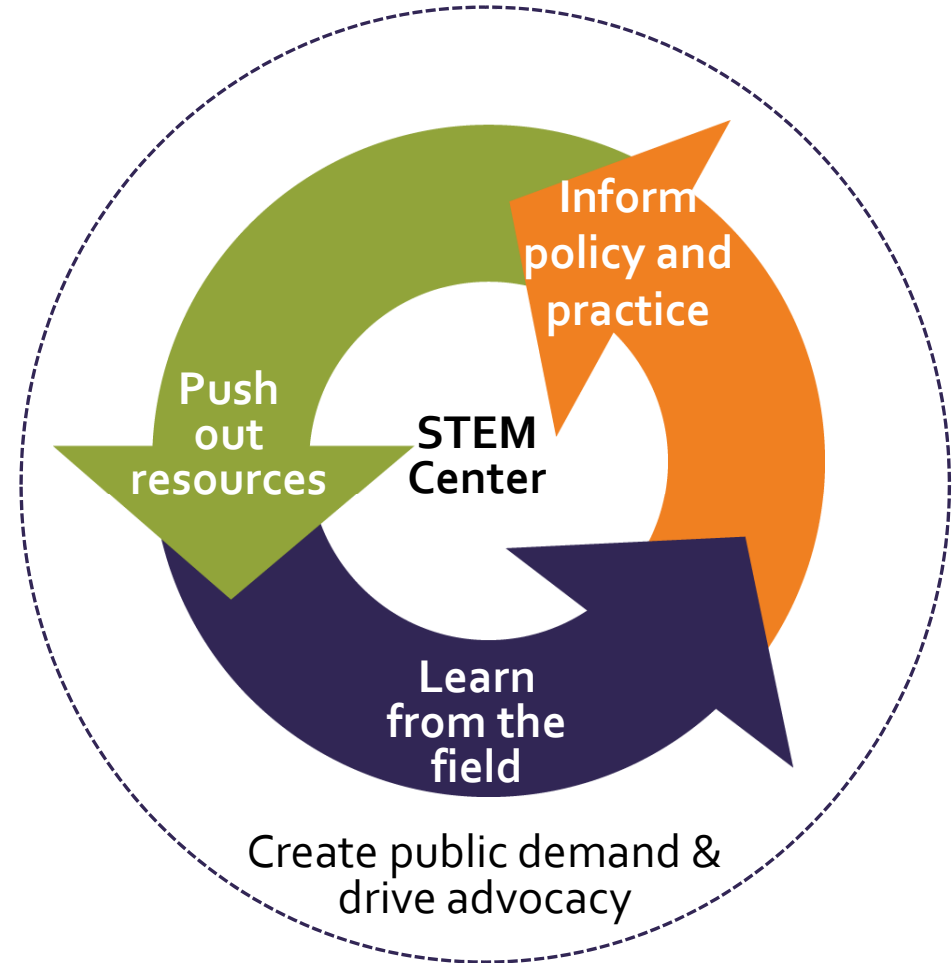
What We're Going To Do

- ⇒ **Accelerate** improvements in the K-12 education system
- ⇒ **Transform** the teaching profession
- ⇒ Create a network for **continuous-learning** and **improvement**
- ⇒ Focus intensely on **effectiveness** and results
- ⇒ **Dramatically increase** the number of high school students who **graduate ready to succeed** in STEM fields—either in college or the workplace

How We're Going To Do It

Establish a statewide 501c3 STEM Center with world-class talent and resources to:

- Focus and share resources to advance teacher effectiveness & innovation
- Learn from field, share and scale up successes
- Advocate for aligned policy changes
- Build public demand and political will for improvement

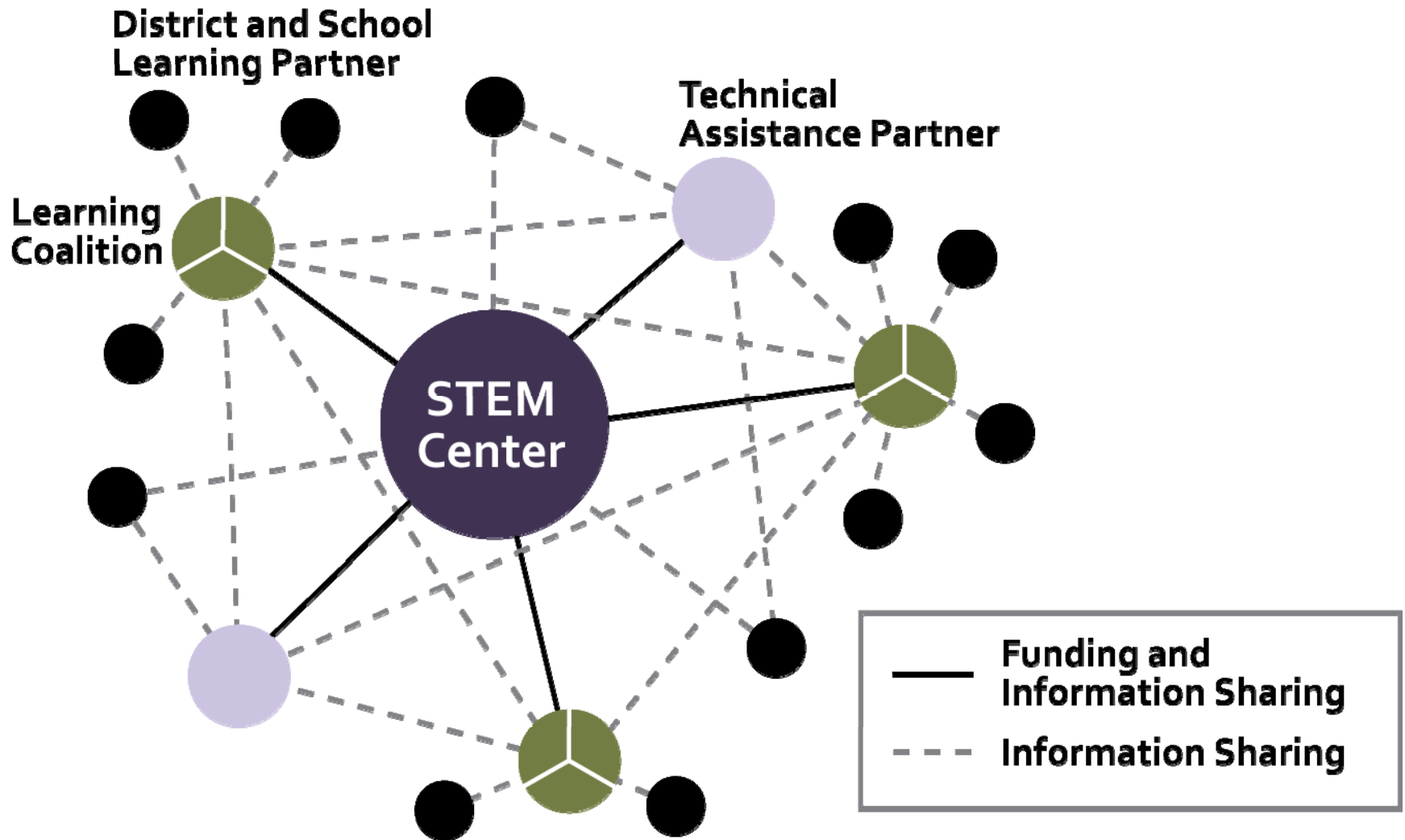


How it Will Work: STEM Center Priorities

To dramatically scale-up the development and dissemination of best practices in STEM instruction that benefit all students, the network will focus on three priority areas:

- Establishing a **common vision of effective STEM teaching and learning** based on research;
- Enacting **instructional programs that align with rigorous standards** to prepare students for college (two-year or four-year), work, and life; and
- Implementing **frequent, ongoing formative assessments** to monitor and diagnose student progress toward learning targets and routine summative assessments to assess proficiency.

How It Will Work: Creating a Network of Learning and Improvement



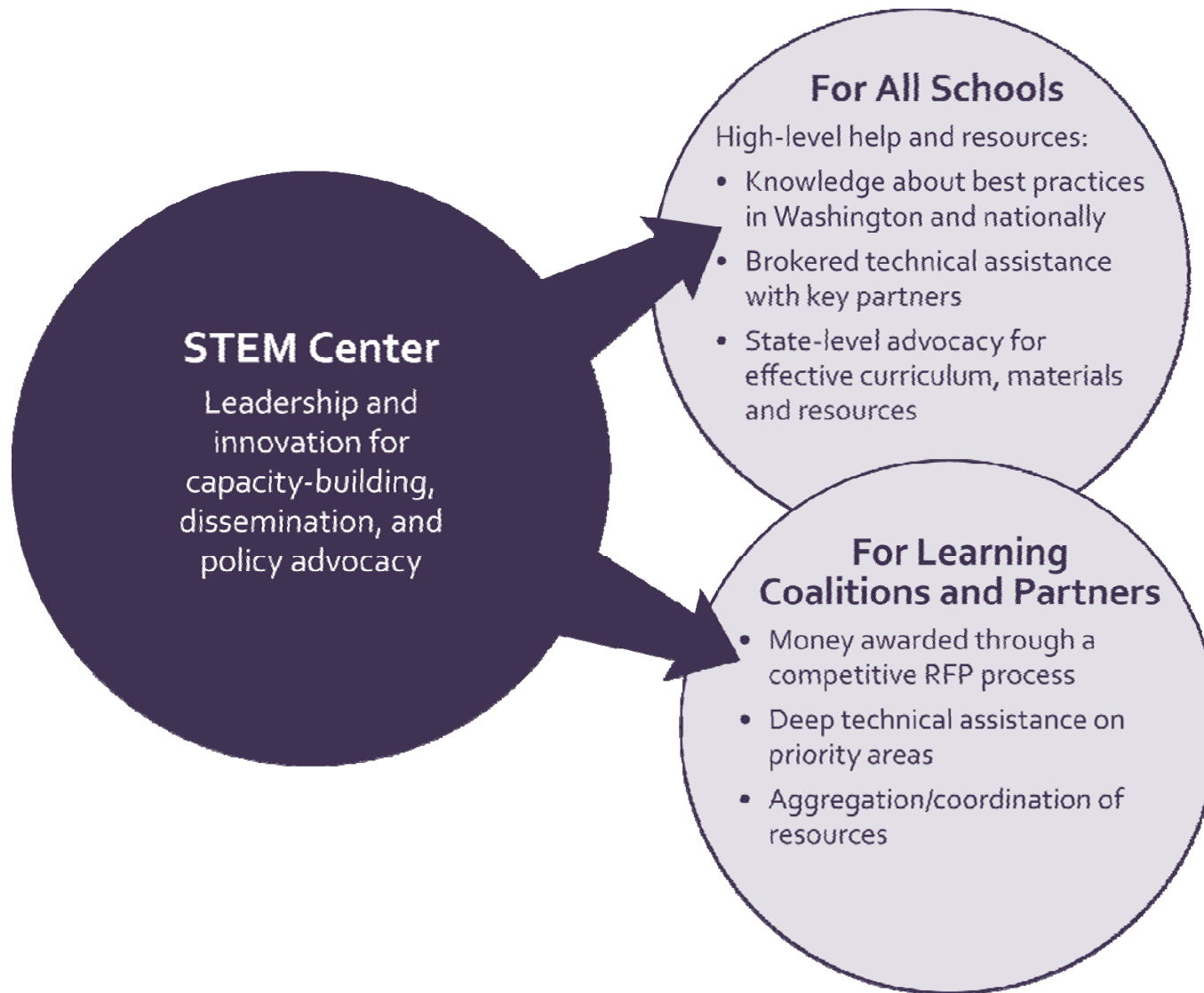
How it Will Work

Creating a Network of Learning and Improvement

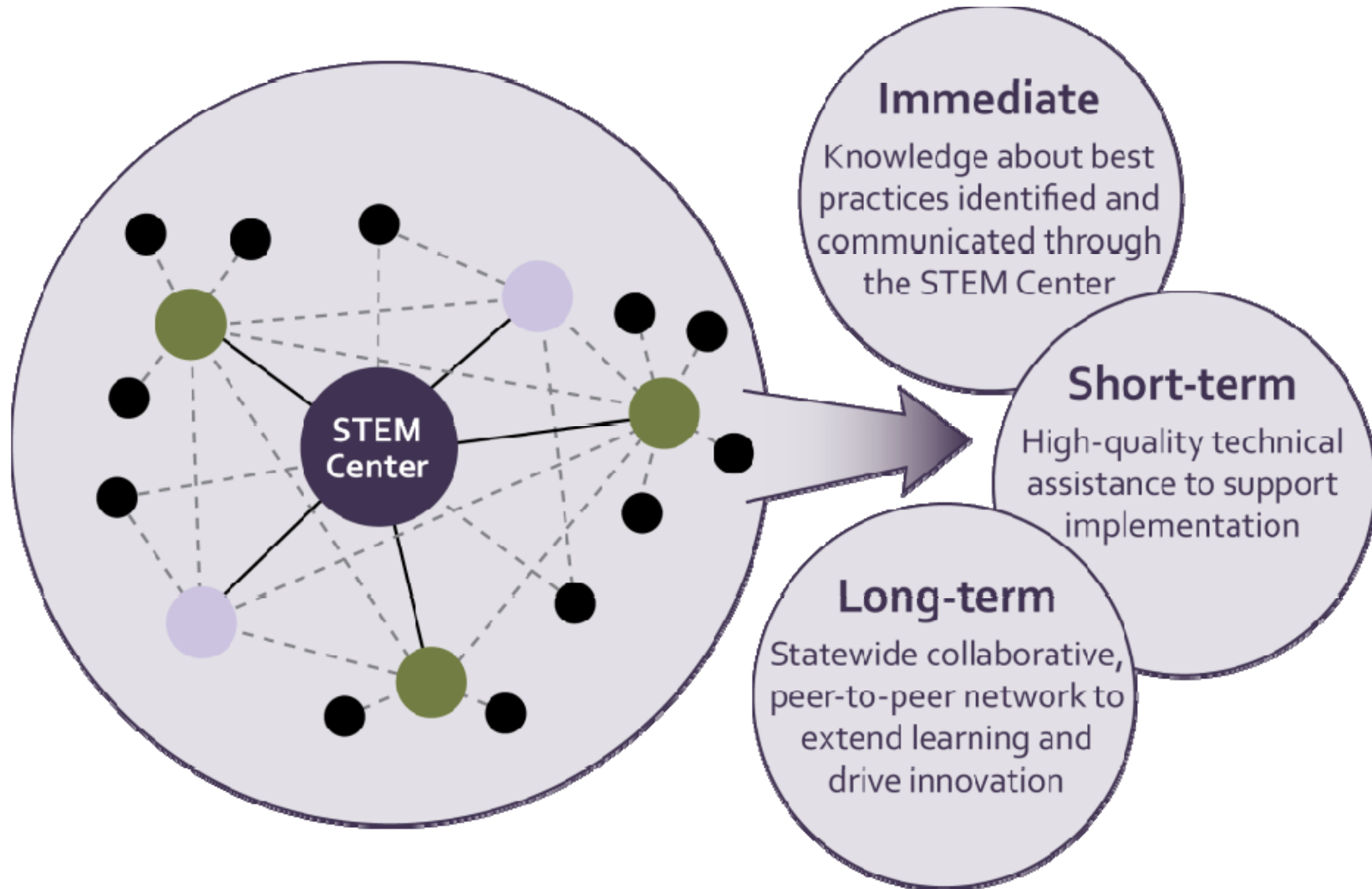
A statewide network to **identify, create, share** and scale-up effective practices:

- ⇒ **STEM Center:** World-class knowledge and leadership
- ⇒ **Technical Assistance Partners:** Supporting all schools and districts
- ⇒ **STEM Learning Coalitions:** Partnerships among K–12, higher education and business to foster collaborative learning and incubate ideas

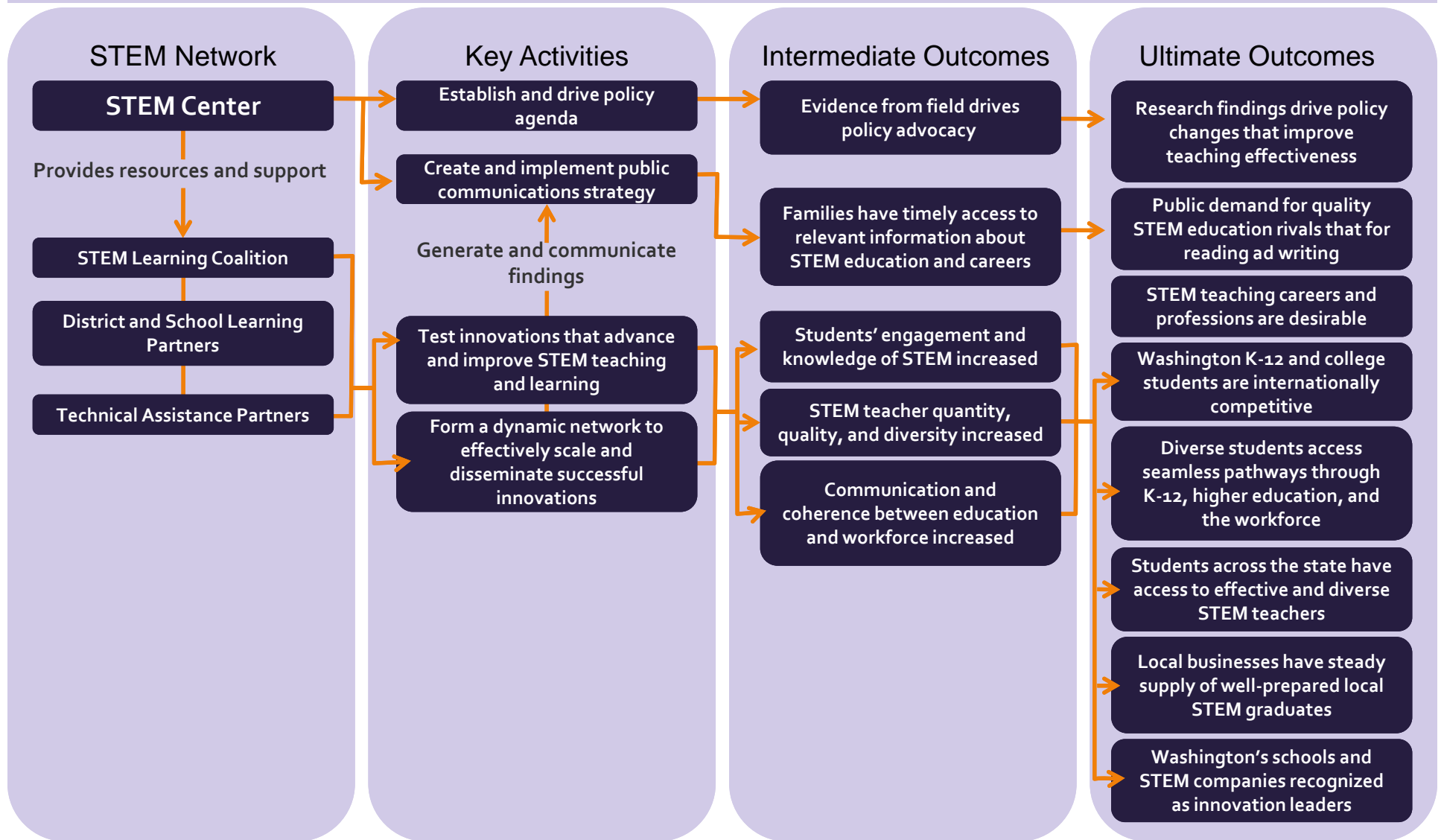
What the STEM Center Will Offer: Broad *and* Deep Support



Timeline of Benefits



Theory of Action: Activities to Impact



Next Steps

- Learn from regional focus groups and continued outreach
- Engage national experts in initiative design review
- Support Washington's Race to the Top fund strategy
- Launch STEM Center in 2010

Discussion Questions

Where in the network do you see yourself – as a contributor? A beneficiary? Both?

Describe what you imagine your relationship with the network might look like in terms of a typical day, week or month?

Discussion Questions

Who else in your community of peers or colleagues do you see contributing or benefitting from the network? How?

What value would a STEM Center and a supporting STEM Network add to your work, your community or your school?

Discussion Questions

What elements of a STEM Center or STEM Network already exist that should influence this Initiative ? How?

What advice would give you the leaders of the Initiative to ensure they overcome existing barriers and make the idea of a STEM network a reality?

Questions and Comments

Website

www.partnership4learning.org/stem

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