

STEM Teacher Data

Noyce Conference – April 24, 2012

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Massachusetts Department of
ELEMENTARY & SECONDARY
EDUCATION



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Types of Licenses & Routes

★ Preliminary

- ★ BA, Pass the appropriate MTEL tests

★ Initial

- ★ Above plus complete a state approved teacher preparation program

★ Professional

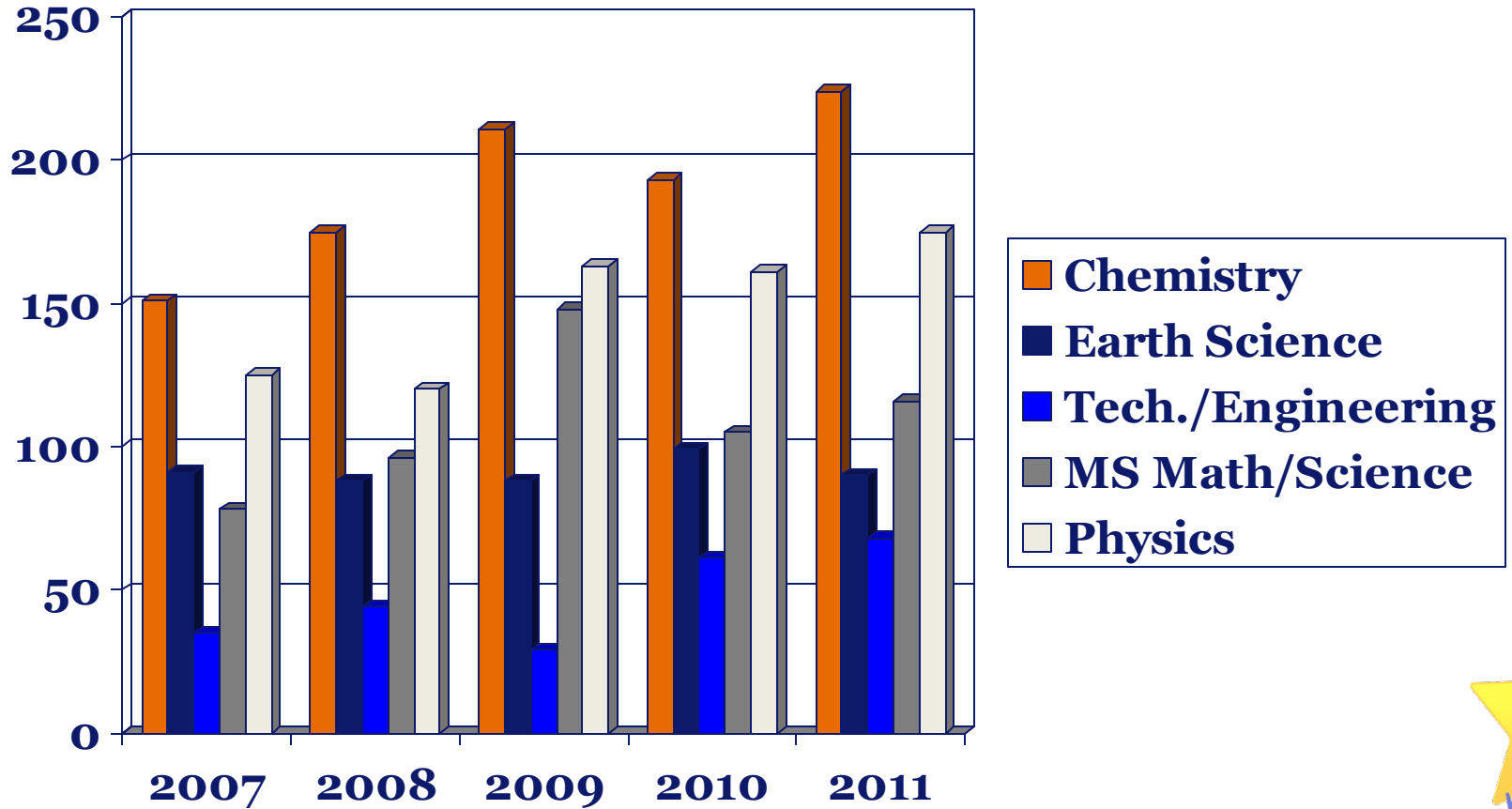
- ★ Initial, 3 years employment with induction & mentoring and many different “academic” options such as NBPTS (National Board) & master’s plus 12 graduate credits in content.

★ License Renewal

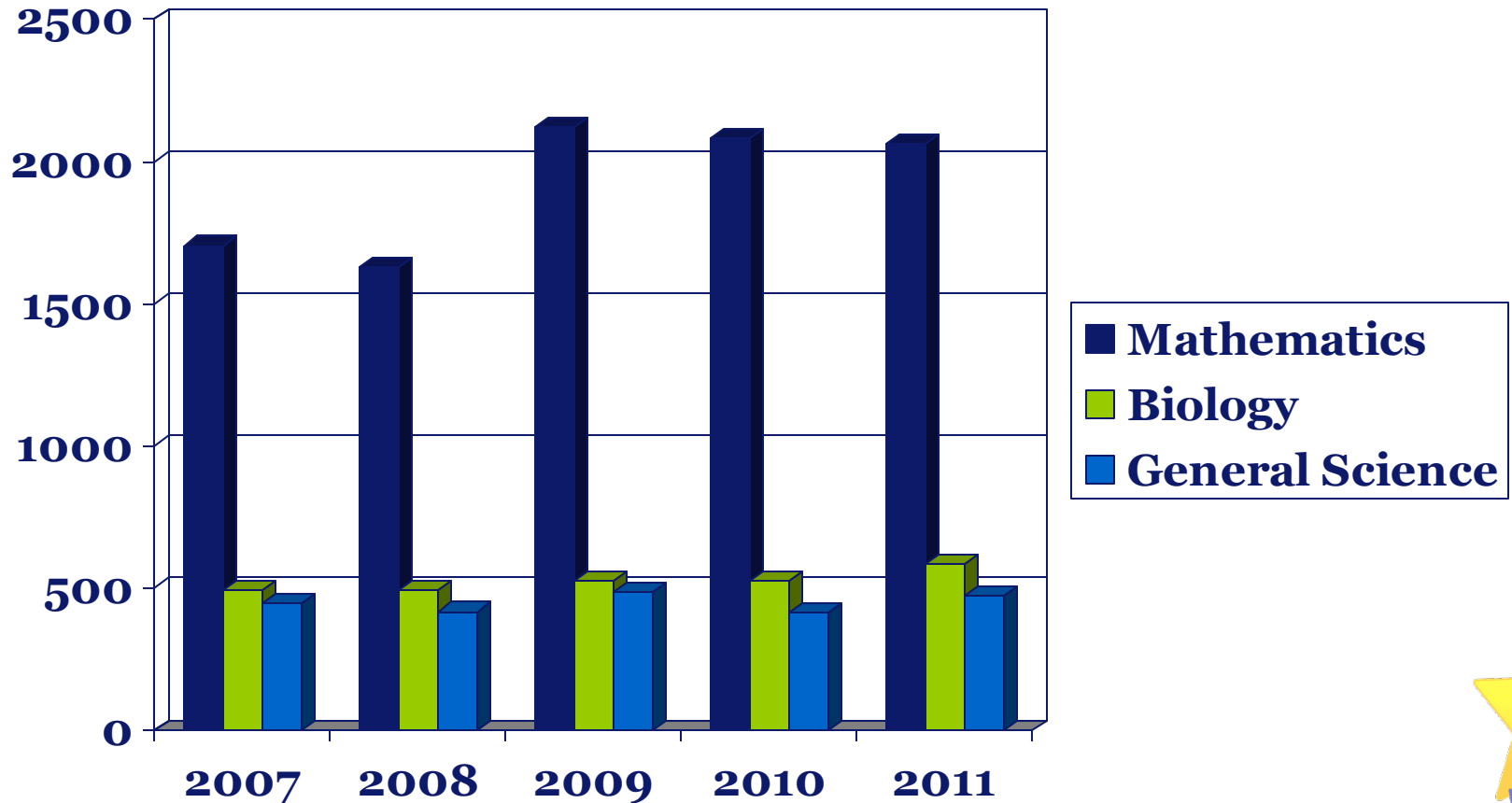
- ★ PDPs



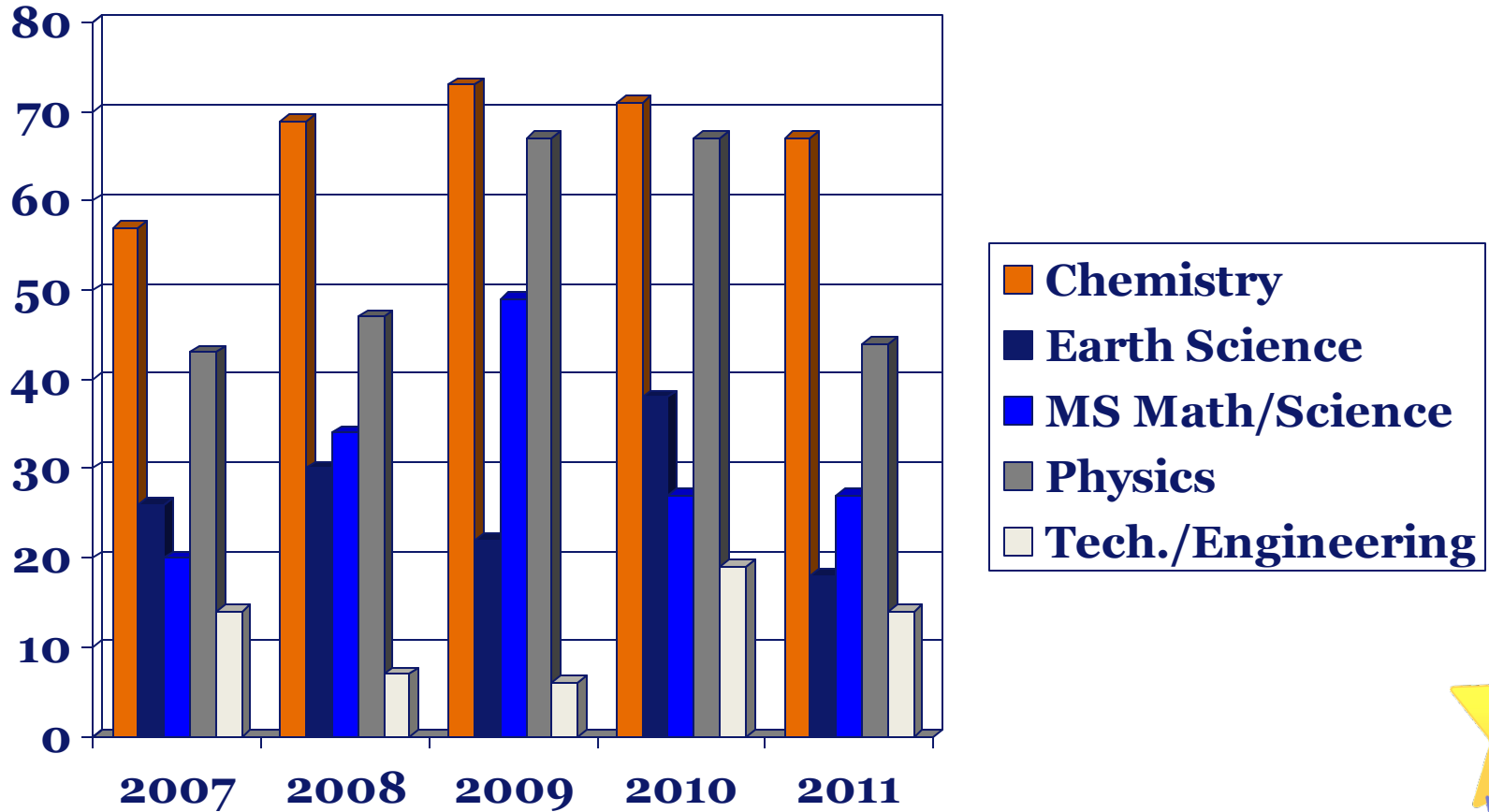
STEM Total Licenses Issued



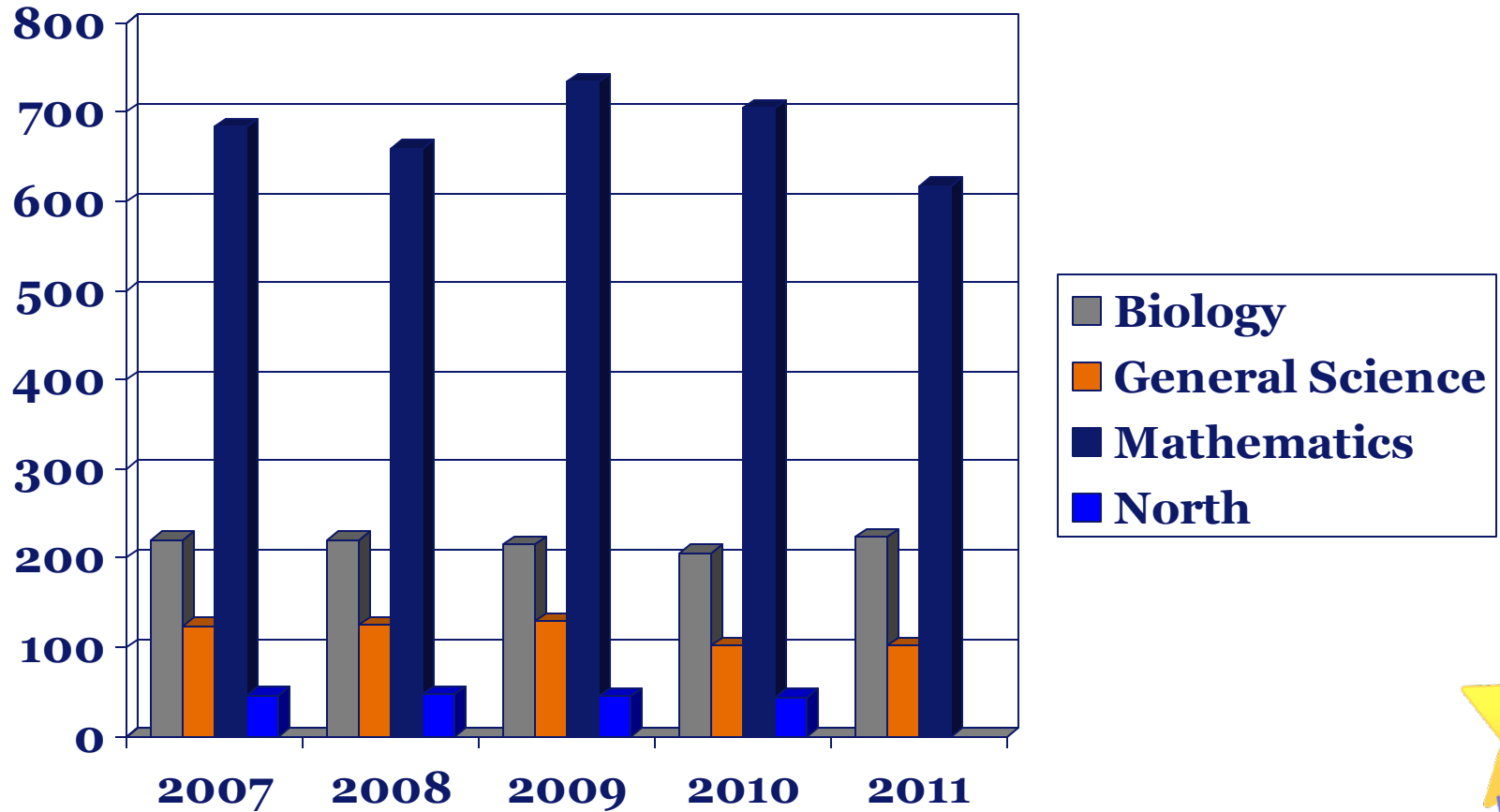
STEM Total Licenses Issued



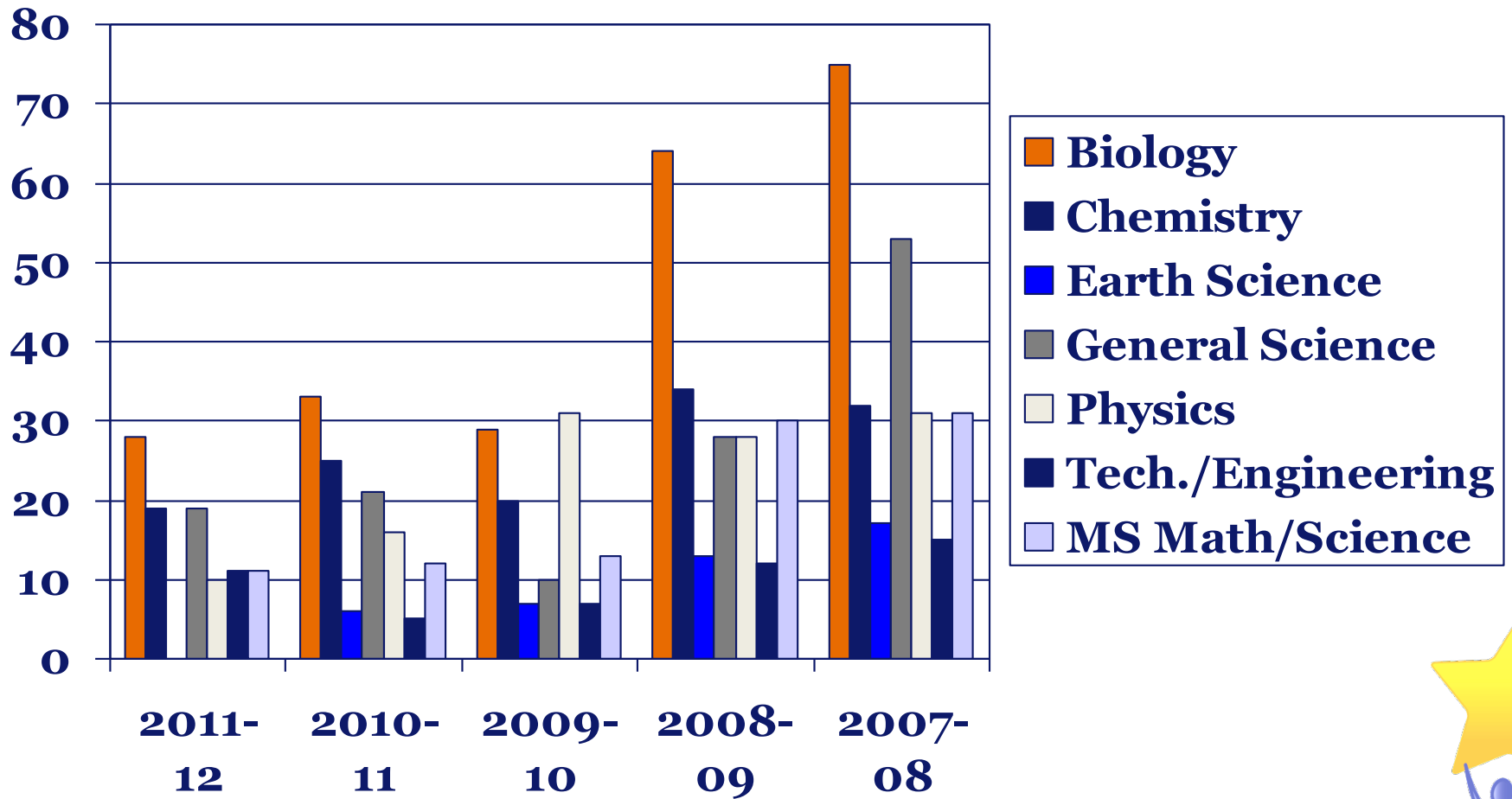
STEM 1st License Issued



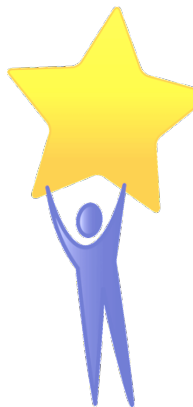
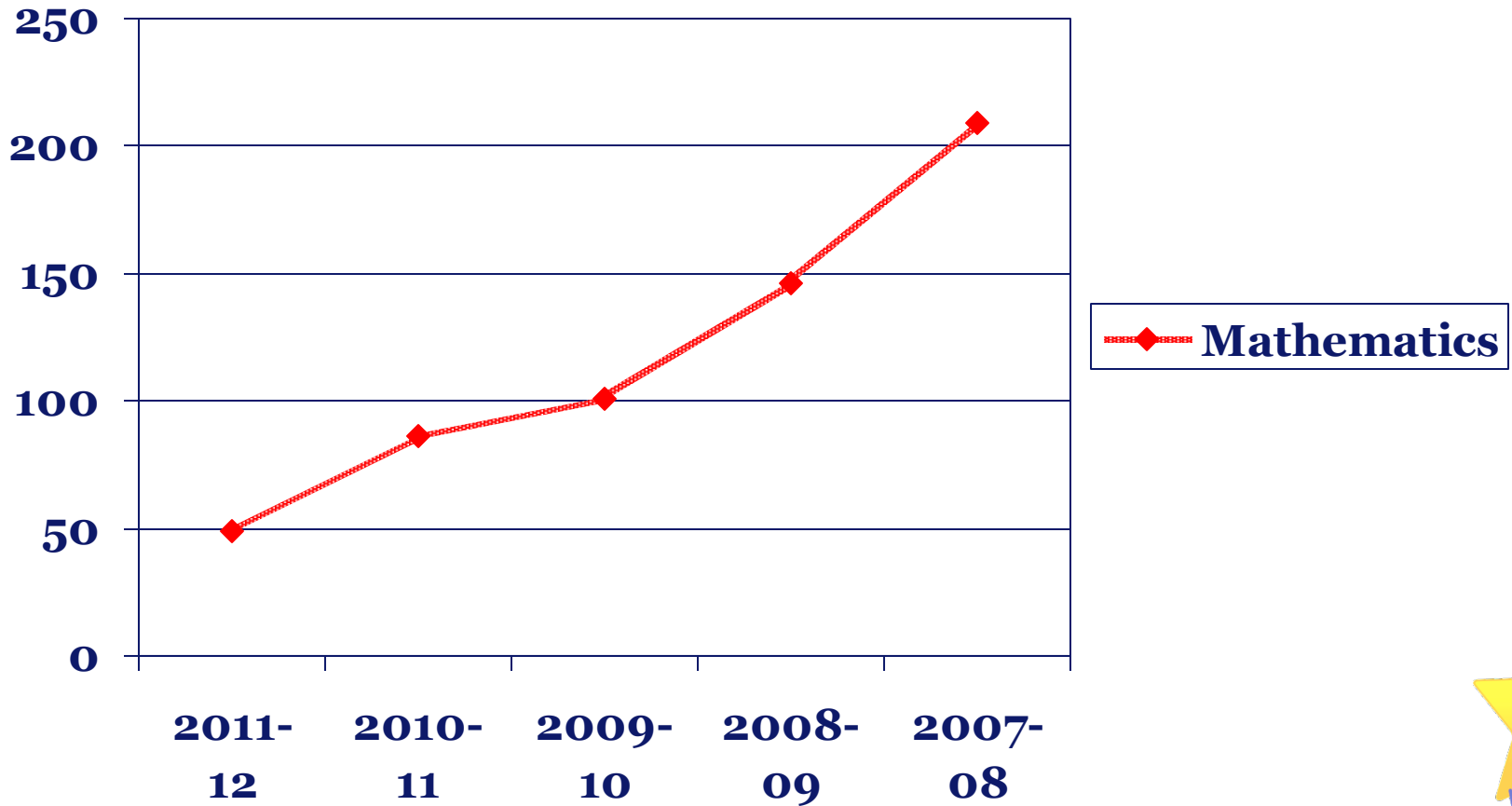
STEM 1st License Issued



STEM Waivers Issued



Math Waivers Issued



STEM Waivers by Region

2011-12

- ★ Mathematics

- ★ Fall River, Worcester, Holyoke, Haverhill

- ★ General Science

- ★ Boston, Waltham, Randolph, Lynn

2010-11

- ★ Mathematics

- ★ Springfield, Fall River, Brookline, Cambridge, Pittsfield, New Bedford, Lowell

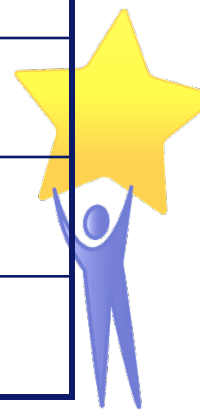
- ★ Chemistry

- ★ Fall River, New Bedford

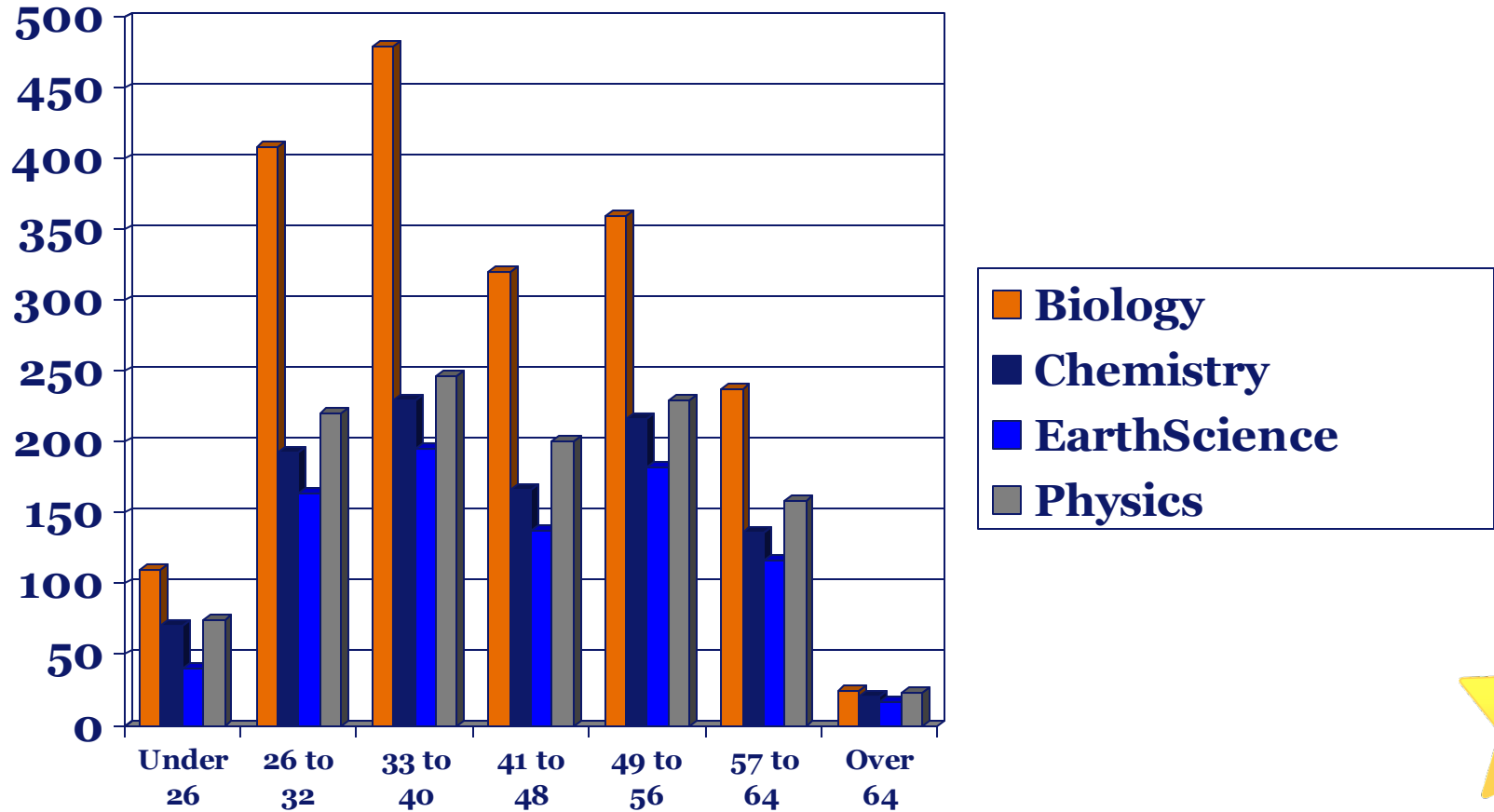


STEM Teachers by Race

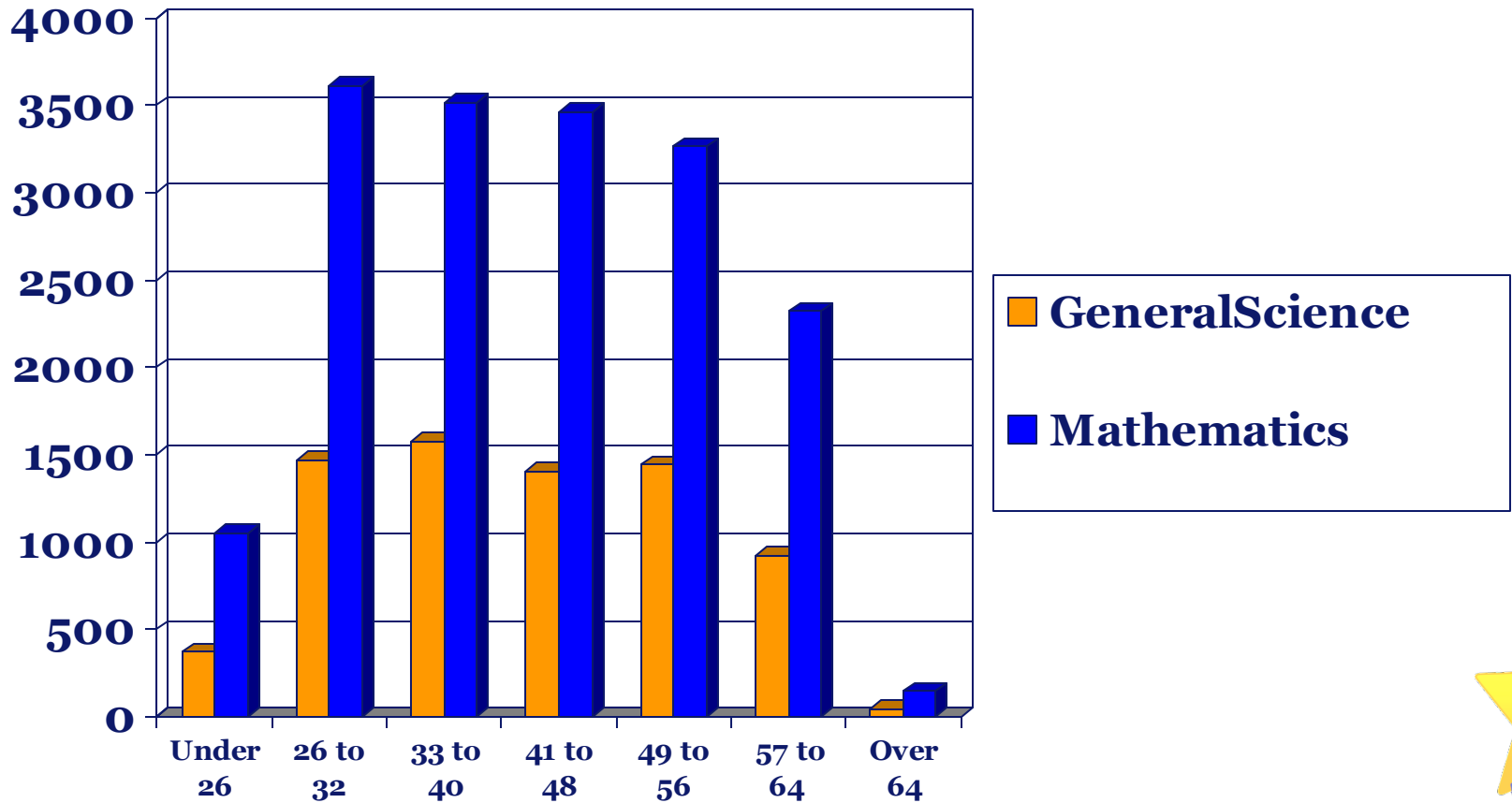
Subject	White	African American	Asian	Hispanic
Biology	93.4%	2.3%	1.7%	2.6%
Chemistry	91.3%	2.3%	3.9%	2.4%
Earth Science	95.4%	1.3%	1.4%	1.9%
General Science	94.5%	2.2%	1.2%	1.9%
Math	93.7%	2.5%	1.4%	2.3%
Physics	93%	2%	2.5%	2.3%
Technology/Engineering	93%	3.1%	1.1%	2.6%



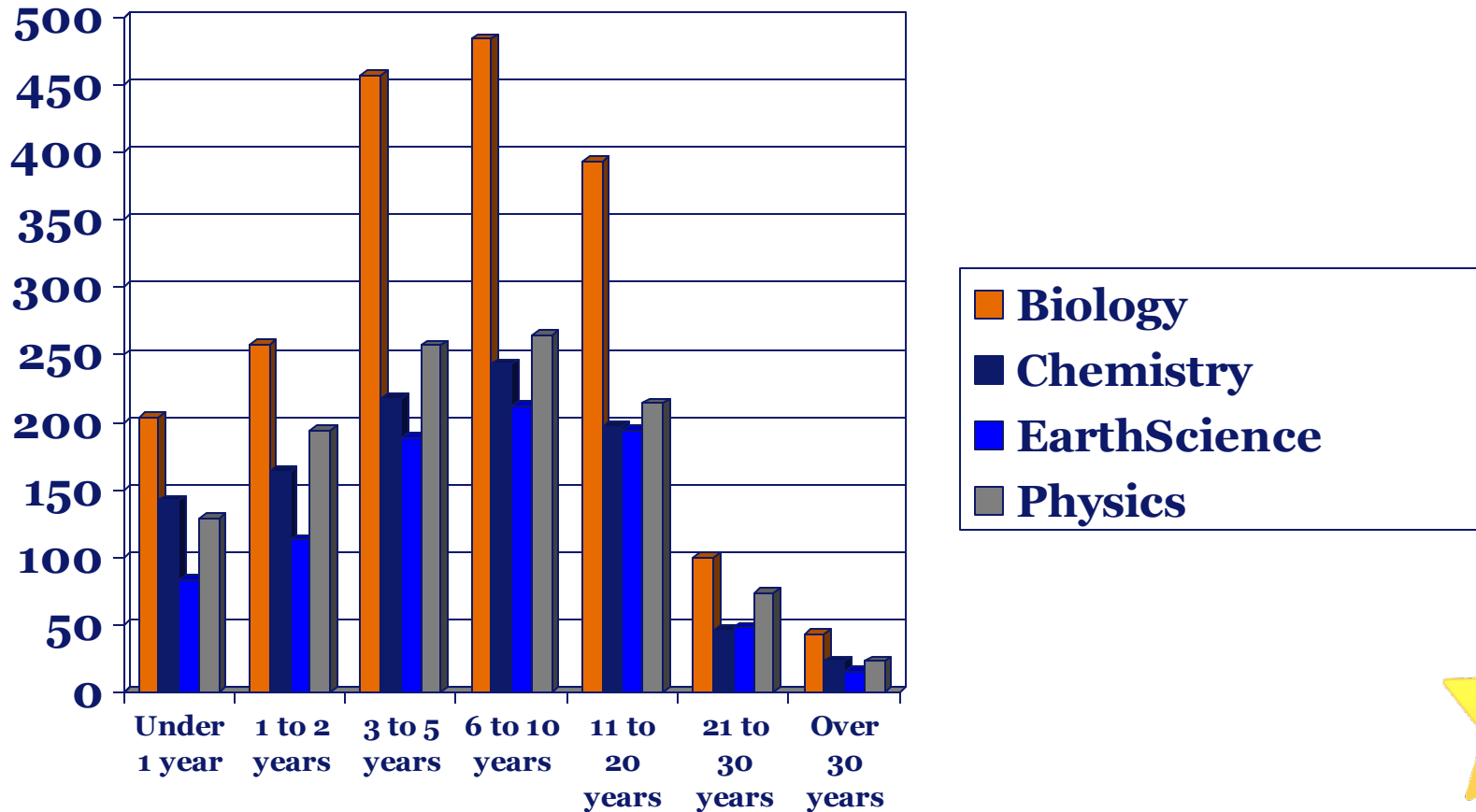
STEM Teachers by Age



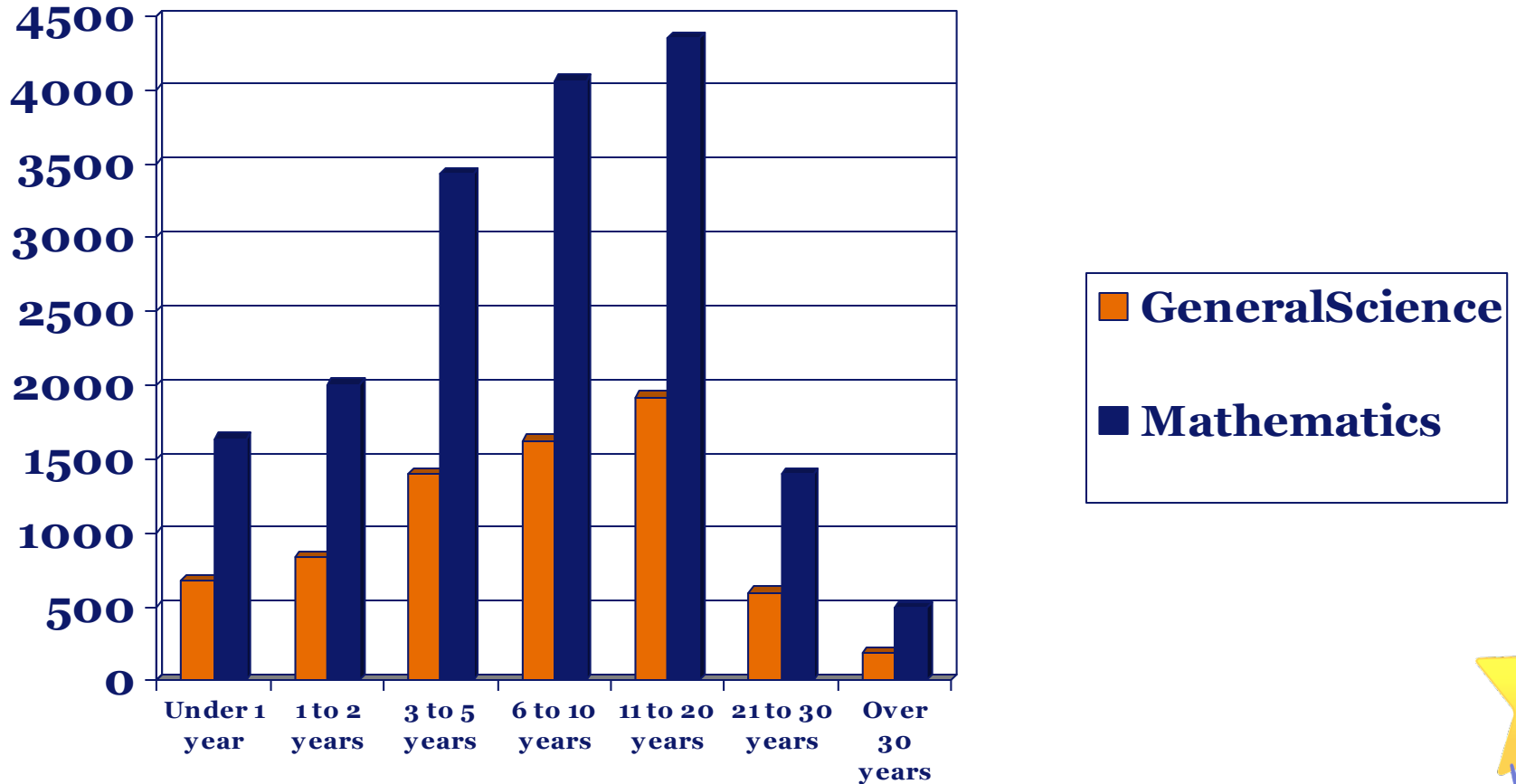
STEM Teachers by Age



STEM Teachers Length of Service



STEM Teachers Length of Service



New STEM Hires

Subject	New to EPIMS	New to District
Math	697	1433
Biology	104	181
Physics	66	116
Chemistry	66	129
Earth Science	34	73
General Science	282	593



2008-09 Teacher New Hires in EPIMS

Job Classifications	Total New Hires		New to EPIMS		New to District	
	Counts	%	Counts	%	Counts	%
ALL TEACHERS	6,012	100.0	3,889	100.0	2,123	100.0
Core- All Subjects	1,221	20.3	745	19.2	476	22.4
Special Education	1,100	18.3	645	16.6	447	21.1
English/Language Arts	621	10.3	431	11.1	190	8.9
Mathematics	574	9.5	360	9.3	214	10.1
Sciences	551	9.2	378	9.7	173	8.1
Foreign Language	391	6.5	259	6.7	132	6.2
Arts	364	6.1	259	6.7	105	4.9
History	256	4.3	192	4.9	64	3.0
Physical/Health/ and Safety Education	205	3.4	140	3.6	65	3.1
Social Studies/Social Sciences	122	2.0	93	2.4	29	1.4

*Miscellaneous courses have been omitted



2009-10 Teacher New Hires in EPIMS

Job Classifications	Total New Hires		New to EPIMS		New to District	
	Counts	%	Counts	%	Counts	%
ALL TEACHERS	4,388	100.0	2,595	100.0	1,793	100.0
Special Education	809	18.4	414	16.0	395	22.0
Core- All Subjects	774	17.6	402	15.5	372	20.7
English/Language Arts	471	10.7	290	11.2	181	10.1
Mathematics	444	10.1	280	10.8	164	9.1
Sciences	387	8.8	255	9.8	132	7.4
Arts	296	6.7	196	7.6	100	5.6
Foreign Language	273	6.2	174	6.7	99	5.5
Physical/Health/ and Safety Education	163	3.7	103	4.0	60	3.3
History	157	3.6	109	4.2	48	2.7
Social Studies/Social Sciences	82	1.9	52	2.0	30	1.7

**Miscellaneous courses have been omitted*



2010-11 Teacher New Hires in EPIMS

Job Classifications	Total New Hires		New to EPIMS		New to District	
	Counts	%	Counts	%	Counts	%
ALL TEACHERS	4,913	100.0	2,736	100.0	2,177	100.0
Core- All Subjects	836	17.0	422	15.4	414	19.0
Special Education	826	16.8	387	14.1	439	20.2
English/Language Arts	813	16.5	469	17.1	344	15.8
Mathematics	515	10.5	319	11.7	196	9.0
Sciences	432	8.8	273	10.0	159	7.3
Foreign Language	304	6.2	180	6.6	124	5.7
Arts	290	5.9	185	6.8	105	4.8
Physical/Health/ and Safety Education	188	3.8	114	4.2	74	3.4
History	164	3.3	92	3.4	72	3.3
Reading	120	2.4	59	2.2	61	2.8

**Miscellaneous courses have been omitted*



Long-term Substitutes

Top 5 Subjects/Disciplines

Subject	2007-08		2008-09		2009-10		2010-11	
	Count	Rank	Count	Rank	Count	Rank	Count	Rank
Core- All Subjects	183	1	229	1	198	1	129	1
Special Education	53	2	65	2	57	3	55	6
English/Language Arts	48	3	56	3	51	4	93	2
Mathematics	41	4	49	4	43	5	88	3
Sciences	41	5	40	5	60	2	86	4
History	-	-	-	-	-	-	61	5



RTTT & STEM Recruitment

- ★ UTeach in MA
- ★ Nationally, 90% of program completers go into teaching, 80% remain after 5 years
- ★ UMass Lowell selected as site
- ★ Prepare 250 STEM teachers over 4 years
- ★ \$1.6 Million to support program
- ★ “This program will help us attract highly qualified teachers who are passionate about STEM education and can help expose students to new skills that will prepare them for success” said Governor Patrick

