

## Appendix A: Research Questions by Data Sources

Research Question	Data Sources							
	Primary Data Collection					Secondary (Extant) Data		
	PIs	STEM Faculty	Principals	Noyce Recipients <sup>1</sup>	Interns	Demographic Data	Noyce Monitoring Data	Administrative data <sup>2</sup>
<b>1. What are the goals of Noyce awards and what activities do their teacher preparation programs use to recruit, select, prepare, and support Noyce recipients?</b>								
a. What are the goals and objectives of the Noyce awards?	✓							
b. What strategies do Noyce awardees use to <b>recruit and select</b> Noyce candidates?	✓	✓						
c. What activities do teacher preparation programs that have Noyce awards use to <b>prepare</b> Noyce recipients to teach in general, and to teach in high-need schools, in particular?	✓			✓				
d. What activities do teacher preparation programs that have Noyce awards use to <b>support</b> Noyce completers once they are teaching in high-need schools/districts?	✓	✓		✓				
e. What activities do teacher preparation programs that have Noyce awards use to introduce Noyce interns to teaching mathematics and science as a career option?	✓				✓			
<b>2. How do stakeholders perceive the Noyce award and Noyce recipients?</b>								
a. What effects do PIs and STEM faculty believe the Noyce award has had on recruitment of STEM teachers, in terms of quantity, quality, and diversity, the retention of those teachers? How do they perceive the burdens imposed by the Noyce award?	✓	✓						
b. What are school principals' perceptions of benefits and burdens imposed by the Noyce award for their K-12 schools?			✓					
c. How do school principals perceive the qualifications and teaching performance of Noyce recipients?			✓					
d. What are STEM departmental/faculty responsibilities for preparing K-12 mathematics and science teachers? What are STEM faculty/departments perceptions of the effects of the Noyce award on their departments?	✓	✓						
e. How do Noyce recipients perceive the preparation they received from their teacher preparation program in preparing them for teaching? When did Noyce recipients first become interested in teaching? What are the reasons Noyce recipients give for leaving the program or for teaching or not teaching in high-need districts?				✓	✓		✓	
<b>3. What are the characteristics of the schools in which Noyce recipients teach?</b>								
a. What are the demographic characteristics of schools/districts at which Noyce recipients teach?			✓			✓		
b. How do Noyce recipients perceive the climate of their schools?				✓				
c. What supports do Noyce recipients receive in their first few years of teaching?	✓			✓				
d. How do the schools in which Noyce recipients teach work with Noyce IHEs?	✓		✓					
<b>4. What are the relationships between the types of supports, activities, and training that Noyce recipients receive, the types of Noyce recipients, and the recipients' plans to go into and stay in teaching and leadership roles?</b>								
a. How are the <b>types of supports/ activities/ training</b> , financial incentives, school/district characteristics, or other personal experiences related to Noyce recipients' plans to enter and/or remain in teaching and leadership roles?				✓	✓	✓	✓	
<b>5. What is the impact of Noyce on teacher recruitment, retention, and teacher effectiveness?</b>								
a. How does the Noyce Program affect the number of STEM majors and professionals that are certified across IHEs?				✓		✓	✓	✓
b. How do Noyce recipients' entries into teaching (particularly in high-need districts and schools) compare to non-Noyce recipients' entries into teaching? What program, school, and district characteristics are associated with variation in entry rates?				✓		✓	✓	✓
c. How does the retention of Noyce recipients compare to the retention of non-Noyce recipients? What program, school, and district characteristics are associated with variation in retention rates?				✓		✓	✓	✓
d. How do the Noyce awards affect teacher effectiveness, as measured by certification tests and principal assessment?			✓				✓	✓
<sup>1</sup> Noyce recipient surveys will be administered to Noyce scholars, stipend recipients, and fellows. Noyce Interns will receive a separate survey.								
<sup>2</sup> State longitudinal teacher certification and employment data from a sample of states.								

