Figure 7.2 The Talent Aptitude Learning Progressions: STEM Aptitudes (Teacher Version)

STEM Talent Aptitudes	Emerging	Progressing	Advancing
1. Engagement in STEM Exhibits high interest in science, technology, engineering, or mathematics content; is enthusiastic, observant, and involved in STEM activities; is self-motivated to pursue STEM knowledge and skills.	Demonstrates some interest in STEM activities; completes the required STEM activities with external prompting.	Demonstrates interest in STEM through involvement in activities; is self-motivated to complete the required activities without external prompting.	Demonstrates high interest in and enthusiasm for STEM through active and focused involvement; initiates new tasks beyond requirements.
2. Investigation Uses a systematic approach to explore natural phenomenon; collects, examines, analyzes, and summarizes data; offers logical explanations; interprets and communicates findings.	Implements methods to explore natural phenomenon; uses prescribed procedures to collect, analyze, and summarize data.	Selects appropriate procedures to explore natural phenomenon and methods to collect, analyze, and summarize data to communicate findings.	Develops procedures to explore natural phenomenon and methods to collect, analyze, and summarize data; explains and interprets findings.
3. Problem Solving Identifies and frames problems; analyzes causes and effects to generate solutions; selects appropriate strategies and technologies; develops a plan of action; tests and verifies.	Solves problems with guidance and modeling of cause and effect; uses the tools and strategies provided to follow a plan of action.	Identifies problems and applies strategies to analyze causes and effects; selects appropriate tools and processes to find solutions.	Frames new problems and determines appropriate strategies, tools, and processes to generate verifiable solutions.
4. Spatial Reasoning Visualizes and interprets images; understands and remembers relationships among three-dimensional objects; mentally manipulates objects to solve problems.	Recognizes and remembers simple images; visualizes three-dimensional objects and identifies relationships.	Recognizes and remembers complex images; visualizes and manipulates three-dimensional objects to solve problems.	Mentally manipulates, constructs, and interprets relationships among three-dimensional objects to solve problems.
5. Mathematical Reasoning Perceives patterns and relationships; quickly and accurately applies mathematical knowledge to solve problems; selects appropriate strategies; analyzes and evaluates results; proposes alternate solutions.	Recognizes patterns and relationships from multiple examples; uses strategies to solve mathematical problems with modeling and practice.	Recognizes patterns and relationships after a few examples; selects strategies to accurately solve mathematical problems.	Readily perceives patterns and relationships; proposes, implements, and evaluates multiple strategies to accurately solve problems.