

# Strengths-Based TEACHING AND LEARNING in Mathematics



TEACHING  
TURNAROUNDS  
FOR GRADES K-6

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FOREWORD BY  
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# Thank you

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Please enjoy this complimentary excerpt from *Strengths-Based Teaching and Learning in Mathematics*. This resource gives teachers a strengths-based analysis template to record the strengths and challenges of any student or group.

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You can use this strengths-based analysis to record the strengths and challenges of any student or group of students on any task, looking at various components of students' performance. The following page offers an example of a real student analysis.

### STRENGTHS-BASED ANALYSIS

NAME \_\_\_\_\_

GRADE \_\_\_\_\_

| COMPONENT                               | EVIDENCE OF STRENGTHS | EVIDENCE OF CHALLENGES |
|---|-----------------------|------------------------|
| Mathematics concepts                    |                       |                        |
| Communication                           |                       |                        |
| Representation                          |                       |                        |
| Disposition toward mathematics          |                       |                        |
| Working memory                          |                       |                        |
| Attention                               |                       |                        |
| Socio-emotional                         |                       |                        |
| Organizational                          |                       |                        |
| Perseverance                            |                       |                        |
| Clarity of ideas                        |                       |                        |
| Ability to take a risk                  |                       |                        |
| Connections to other mathematical ideas |                       |                        |

Let's look at Marco, a student who has documented learning disabilities. The team, consisting of the mathematics teacher, paraeducator, and reading teacher, discussed Marco's strengths and challenges and recorded the following information.

### STRENGTHS-BASED ANALYSIS

NAME Marco

GRADE 4

| COMPONENT                      | EVIDENCE OF STRENGTHS  | EVIDENCE OF CHALLENGES   |
|--------------------------------|--|--|
| Mathematics concepts           | <p>Addition facts</p> <p>Knows most multiplication facts</p> <p>Uses "think addition" to subtract whenever possible.</p>   | <p>Struggles with multidigit subtraction with an internal zero. Fraction understanding including equal parts, comparing fractions, and ordering fractions.</p> <p>Overgeneralizes understanding from whole numbers to fractions. He said, "Eighths are always bigger than thirds because 8 is bigger than 3." When he then uses manipulatives to compare, he says, "But that doesn't make sense!" as he trusts his whole-number comparisons. He relies on rote understanding or rules when confronted with challenges to his conceptual understanding.</p> |
| Communication                  | <p>Enjoys talking with peers and adults.</p> <p>Seeks out adults to tell stories about weekend activities.</p>   | <p>When frustrated, will stop talking, sit back, and become unresponsive. It is critical to intervene or redirect before he gets to this point. Struggles to articulate needs.</p> <p>Sometimes struggles to listen to peers when he has an idea to share. Can lose the idea if he has to wait too long.</p>   |
| Representation                 | <p>Prefers to initiate problem solving with manipulatives, particularly regional models for fractions. Regularly uses the place value chart.</p> <p>Enjoys drawing and will often draw elaborate interpretations of the manipulatives.</p> | <p>Struggles to use the numberline (continuous model) for fractions.</p> <p>Sometimes struggles to select the appropriate manipulative to use for a given context.</p> <p>Can become too focused on drawing rather than the sketch's connections to other mathematical representations (i.e., equation).</p>   |
| Disposition toward mathematics | <p>Consistently responds positively to group tasks.</p> <p>Productively struggles well when other students are teaming with him.</p>   | <p>If unsure, will stop working on a task when working alone. Seeks teacher's early feedback before starting a task by asking, "Am I doing this right?"</p>  |
| Memory                         | <p>Remembers particular previous learning experiences that interest him such as the carnival task.</p>   | <p>Inconsistent working memory. Can lose track of ideas if they are not recorded. Remembers more toward the end of the week (Wednesday to Friday).</p>   |

continued >>

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| COMPONENT       | EVIDENCE OF STRENGTHS   | EVIDENCE OF CHALLENGES  |
|-----------------|---|---|
| Attention       | Attends to tasks that interest him and/or those that involve working with a partner or small group. Particularly attends well when working with Sammy and Jerome. | Rapidly loses attention when working solo, particularly when the task is routine. Can exhibit learned helplessness when he stops working and waits for teacher attention. |
| Socio-emotional | Prefers working with boys to girls but enjoys working with Soha. They are a good pair and complement each other well.   | In the afternoon, sometimes struggles to regulate emotions and will on occasion call out about his feelings.  |
| Organizational  | Often chooses large blank paper over lined paper. Likes using grid paper when recording equations.  | Uses space on a paper in nonconventional ways. Will often start at the bottom of the paper and work up.   |

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