# DATA ANALYSIS PROTOCOL

**Directions:** This tool helps guide district or school level teams through the four-step problem solving process (see [KyMTSS Implementation Guide](https://education.ky.gov/curriculum/standards/teachtools/Documents/KyMTSS_Implementation_Guide.pdf) pp 14-19). The process should look the same at each tier of prevention across all domains with district data, school data, grade level data, small groups or individual students. The questions in the second column help administrators or team leaders guide discussion and think systematically in each step of the problem-solving process. The discussion column is for notetaking and capturing key points as teams identify barriers, determine action steps, set goals for implementation and evaluate effectiveness.

**Possible Data Sources:** Universal screening, [Equity Dashboard,](https://kymtss.org/resources/resources-for-equitable-access-opportunity/kentuckys-equity-toolkit/equity-dashboard/) office referrals, suspensions, measures of academic achievement and growth, behavior screening, early warning systems, school climate surveys (staff, student, family), focus group data, etc.

## Four-Step Problem Solving Process

**Step 1: Problem Identification:** The first step in the decision-making process is to determine whether a problem exists and define it as precisely and explicitly as possible.

**TIP:** Represent data graphically. Teams can then compare current data to specific criteria, such as academic/nonacademic benchmarks, local or national norms, performance from previous years, implementation benchmarks, etc., as well as see trends and inequities in the data.

| **Data Sources Used** | **Guiding Questions** | **Observations/Discussion**  **Problem Statement(s) Identified**  \*When possible, focus on challenges that are actionable and have a high priority in the school or district |
| --- | --- | --- |
|  | What should all students know, understand and be able to do as a result of universal learning supports?  What do you see in the data?  What wonderings do you have about the data?  What are the celebrations in this data? What are the concerns in this data?  What percentage of students are meeting benchmark?  What percentage of students are not meeting benchmark?  How many students meet criteria for a Tier 2 or 3 evidence-based intervention?  Who is meeting expected benchmarks/expectations? Who is not meeting expected benchmarks/ expectations?  Equity Lens:  What percentage of student groups (race/ ethnicity, gender, special education, economically disadvantaged, EL, foster, gifted, homeless, migrant, and/or military connected) are meeting/not meeting benchmark compared to the entire student population?    Which student groups are at risk for over-representation in the following:   * Students with disabilities * Chronic Absenteeism * In School Suspension * Out of School Suspension   Which student groups are at risk for under-representation in the following:   * Gifted & Talented * Advanced Coursework * CTE Pathways * CTE Completion * Academic Benchmark   What might be other areas to explore? For example:   * Behavior referrals * Participation in PBIS rewards * School climate (physical/emotional safety)   **What exactly is the problem or discrepancy between the current performance and the expected performance or goal?** |  |

**Step 2: Problem Analysis:** After a problem or goal has been defined, it is necessary for teams to analyze the data with enough depth to develop hypotheses and identify potential barriers to successfully achieving the goal. This is where teams identify possible root causes that the school or district has the ability to act on and the influence to change.

Resource: [NIRN: Root Cause Analysis/5 Why Protocol](https://nirn.fpg.unc.edu/sites/nirn.fpg.unc.edu/files/imce/documents/RCA%20Resources_11.7.18_0.pdf)

**TIP**: Use the graphed data to generate hypotheses, or possible root causes, that are grounded in evidence. Careful data collection and analysis during this step will help develop solutions/interventions that are more directly linked to the problem.

| **Data Sources Used/ Needed** | **Guiding Questions**  **(start with the problem identified in Step 1)** | **Hypothesis/Discussion**  **\*possible causes should be supported by data** |
| --- | --- | --- |
|  | Why is the problem or discrepancy occurring?  What, if any, additional information/data is needed to generate possible causes?  What barriers exist that might prevent successful achievement of the goal? |  |

**Step 3: Planning and Implementation:** Once a reasonable set of root causes have been identified, the next step in the problem-solving process for teams is to investigate the research on evidence-based interventions and best practices, identify a solution and develop an action plan to address the identified area(s) of concern.

[Resources for Evidence-Based Instruction, Intervention and Supports – KyMTSS](https://kymtss.org/resources/resources-for-evidence-based-instruction-intervention-and-supports/)

[Resources for Equitable Access & Opportunity – KyMTSS](https://kymtss.org/resources/resources-for-equitable-access-opportunity/)

**TIP:** Action plans may include both short-term and long-term goals.

| **Resources, Research, Evidence-Based Practices Reviewed** | **Guiding Questions**  **(develop an action plan)** | **Discussion/ Solutions/Action Plan** |
| --- | --- | --- |
|  | What do we as a district/school need to know and be able to do to address the problem and/or equity issue?  What evidence-based practices will we will implement that support positive student outcomes to address the identified problem?  What goals need to be on our action plan to address the problem? What will this look like in the next 30-60-90 days, semester, year?  Are there policies, procedures or practices that need to be examined for equity around the identified problem?  Who is responsible for the action items?  How will we monitor outcomes?  What is the timeline for implementation?  What resources are needed to implement? (Think about funding, personnel, time and materials.) |  |

**Step 4: Evaluation:** The success of the plan is evaluated using data to determine whether the problem still exists. If so, the problem-solving steps will begin again applying new information gained from the process. During this step, teams look at the outcome data (graphed) and fidelity data to answer the questions below.

Resource: Graphing tools on [Resources for Data-Based Decision Making with a Comprehensive Screening and Assessment System – KyMTSS](https://kymtss.org/resources/resources-for-data-based-decision-making/)

**TIP:** Remember this is a continuous improvement cycle, and teams should continuously be monitoring and evaluating data to determine progress toward goals. When goals are met what are the next steps or priorities?

| **Data Sources Used** | **Guiding Questions** | **Discussion/Next Steps** |
| --- | --- | --- |
|  | How has the data improved?  How has the data changed?  What does the progress monitoring data show?  Are the things we are implementing changing the data in a positive way?  If not, was the plan implemented as designed?  How will the plan be adjusted or what will be our next steps/priorities? |  |