

Essential KPIs

for School Nutrition Success



I N S T I T U T E O F
child nutrition

APPLIED RESEARCH DIVISION • THE UNIVERSITY OF SOUTHERN MISSISSIPPI

CHAPTER 3



UTILIZING KEY PERFORMANCE INDICATORS

1. Benchmarking	4-5
a. Internal Benchmarking	
b. Industry Benchmarking	
c. Steps to Benchmarking	
2. Trend Analysis	6-8
3. Step-by-Step Calculations MEQS	9-10
4. Financial Statement	11
5. Communicating with Key Stakeholders	12
6. Developing Action Plans	13-14
7. GOALS & ACTION PLAN Form	15-19
8. STATEMENT OF ACTIVITIES Form	20-21



BENCHMARKING

Benchmarking is defined as comparing one's performance with a similar operation's or unit's performance to assist users in identifying best practices, and to identify areas to focus improvement efforts on.

There are two types of benchmarking applicable to school nutrition (SN) programs - internal and industry based.

Internal Benchmarking:

- Collecting and analyzing key performance indicator (KPI) data from a single school or schools within a district over time for comparison to itself for measuring school or district performance, and
- Collecting and analyzing KPI data from multiple units within the same organization (over time or for a specific time or period) for comparison to measure performance. (Example: Comparing the average daily participation [ADP] for all elementary schools in the same school district.)

Industry Benchmarking:

- Evaluating an SN program based on industry trends.
- The National Restaurant Association regularly collects and publishes KPI data for restaurants, such as food and labor cost percentages, and sales percentages from food and beverages.
- The *School Nutrition Operations Report* and the *School Nutrition Trends Report* are compiled annually by the School Nutrition Association. These reports provide some industry KPI benchmark information, specifically average daily participation.
- Some State agencies have benchmark data related to participation and costs/expenditures. Please check with your local State agency director to see what is available in your state.
- Other additional industry data sources include the Council of the Great City Schools Survey, some private companies (e.g., Forecast5 <http://forecastanalytics.com>) and United States Department of Agriculture (USDA) research studies.

Steps to benchmarking:

- Determine which KPIs to benchmark;
- Identify sources of data to calculate the KPIs;
- Collect, calculate and analyze KPI data over time, as needed. (Various ways to analyze KPI data include: week-to-week, month-to-month, year-to-year, school-to-school, district-to-district, grade-to-grade, etc.);
- Compare results to the benchmark;
- Communicate with relevant stakeholders;
- Take actions; and
- Consider offering incentives to a team or unit that achieves a benchmark goal(s).

REFERENCES

- Hwang, J. H. & Sneed, J. (2004). Benchmarking financial performance in school. *The Journal of Child Nutrition Management*. Retrieved from <http://docs.schoolnutrition.org/newsroom/jcnm/04spring/hwang/>
- Lambert, L. (2006). *Continuous quality improvement process tailored for the SN environment* (NFSMI R-95-05) University, MS: The University of Mississippi.
- Leibfried, K. H., & McNair, C. J. (1992). *Benchmarking: A tool for continuous improvement*. New York: HarperCollins Publishers, Inc.
- Nettles, M. F. & Rushing, K. (2012). *Data-driven decision making: Guide for school nutrition programs*. University, MS: National Food Service Management Institute.
- Spendolini, M. J. (1992). *The benchmarking book*. AMACOM, New York.



TREND ANALYSIS

Trend analysis is a comparison of results over several periods of time. Changes in results may be noted in absolute amounts or percentages. Trends may be used to assess historical data and to provide a basis for forecasting. Graphically representing trends helps to detect and understand changes (Gregoire, 2017, p. 411).

Figure 1 depicts meals per labor hour (MPLH) that have been tracked monthly for four schools in a district, and the district as a whole for a year. The graph indicates that School 3 has the lowest productivity level, while School 1 has the highest productivity level; this difference may be related to labor. If School 1 is understaffed and School 3 is overstaffed, this may easily be resolved by moving an employee from School 3 to School 1. The graph also suggests that productivity for the district gradually drops between August and December, then gradually increases between January and March, then declines again in April and May. It should be noted that many factors impact productivity. For example, snow days and days leading up to holidays and spring fever, which often occurs post-labor day, may trend lower participation.

Information gained from this graph can be used to evaluate the effectiveness of the school nutrition (SN) program for each school and the district as a whole. Some things to consider when comparing each school are the size of the school, the number of serving lines, the type of service provided, the scheduling of meal periods, the production systems, the skill level of employees, and the complexity of the menus. Another item for consideration is why productivity for the SN program for the district as a whole fluctuates throughout the school year. Once decisions have been made about data depicted on this graph, the graph can be used as a means to justify why changes are being made to stakeholders, such as SN staff, school administrators, and the school board.

Figure 1. Meals Per Labor Hour (Trend Analysis)

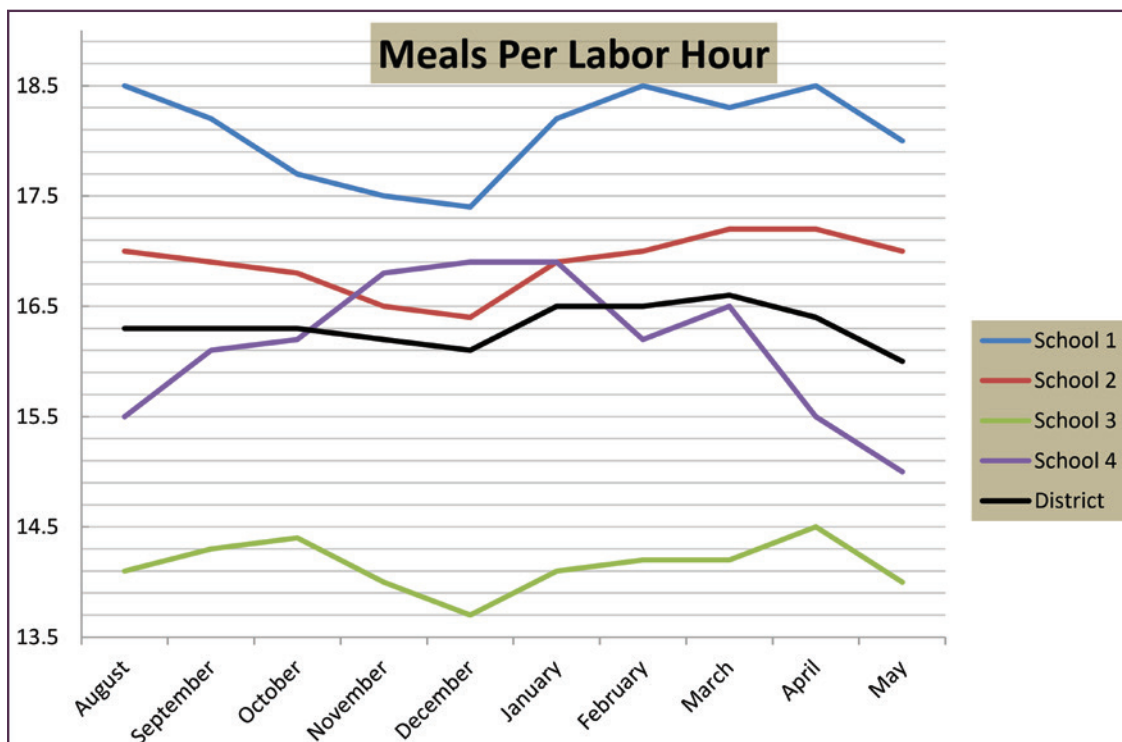
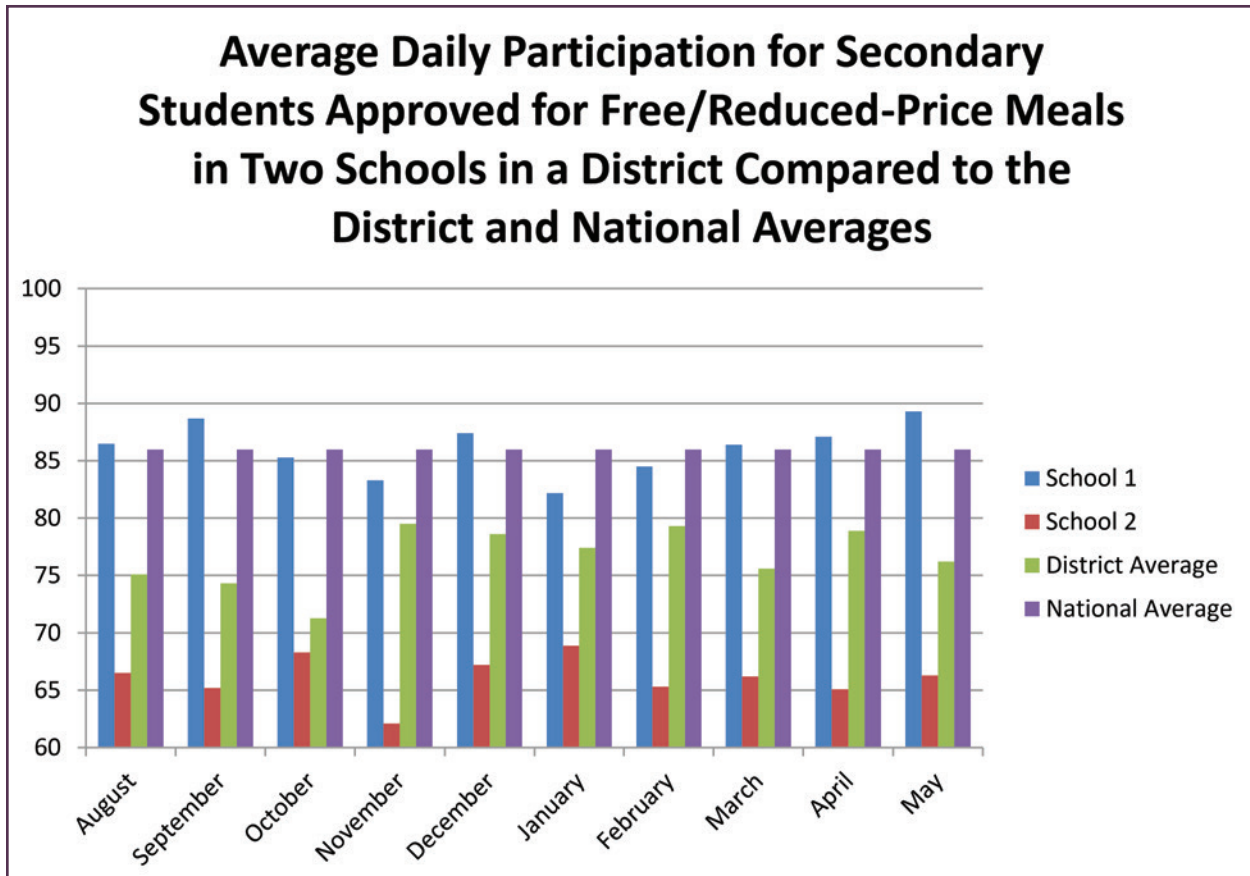


Figure 2 depicts the average daily participation (ADP) rate for secondary students approved for free and reduced priced meals. This was tracked monthly for two schools in a district, and the district as a whole, for a year compared to the national average for ADP for secondary students. The graph indicates School 2 consistently falls below the district and national average, while School 1 consistently rises above the district average and near the national average. The graph suggests there are opportunities to improve the participation of secondary students who have been approved for free and reduced priced meals in School 2, and participation in the district as a whole. Once decisions have been made about data depicted on this graph, the graph can be used as a means to justify how changes are being made to stakeholders, such as SN staff, school administrators, and the school board.

Figure 2. Average Daily Participation (ADP) for Secondary Schools (Trend Analysis)



REFERENCES

- Gregoire, M. B. (2017). *Foodservice organizations: A managerial and systems approach* (8th ed.). Boston, MA: Pearson
- Hwang, J. H. & Sneed, J. (2004). *Benchmarking financial performance in school*. *The Journal of Child Nutrition Management*. Retrieved from <http://docs.schoolnutrition.org/newsroom/jcnm/04spring/hwang/>
- Lambert, L. (2006) *Continuous quality improvement process tailored for the SN environment* (NFSMI R-95-05) University, MS: The University of Mississippi.
- Leibfried, K. H., & McNair, C.J. (1992). *Benchmarking: A tool for continuous improvement*. New York: HarperCollins Publishers, Inc.
- Nettles, M. F. & Rushing, K. (2012). *Data-driven decision making: Guide for school nutrition programs*. University, MS: National Food Service Management Institute.
- Spendolini, M. J. (1992). *The benchmarking book*. AMACON, New York.



Step-by-Step Calculations for Meal Equivalents (MEQS)

In school nutrition (SN) programs, the production of meals is the unit of measurement used to gauge the effectiveness and efficiency of an SN program. The student reimbursable lunch is the standard unit of measurement most often used. Converting operational data for all food sales, including student lunches, breakfasts, snacks, and nonprogram foods, to meal equivalents, allows the SN administrator to determine a cost-per-meal equivalent, and to evaluate productivity. Meal costs based on meal equivalents allow SN administrators to better benchmark financial performance, both internally and externally. Examples of meal equivalent conversion formulas and calculations are presented below.

LUNCH

All student reimbursable lunches, student reimbursable suppers, and full-paid adult lunches are counted as one meal equivalent. If a student purchases more than one lunch on a given day, the second lunch is considered non-reimbursable, and is reported as a nonprogram food sale. The category for reporting is determined by State agency requirements. Lunches eaten by SN employees at no charge are considered "in-kind" meals, and should not be counted as a meal equivalent.

BREAKFAST

The most common calculation for determining breakfast meal equivalents specifies that three breakfasts count as two meal equivalents. However, it is important to note that the meal equivalent ratio used for calculating breakfast meal equivalents varies from state to state, and SN administrators should check with their state agencies for guidance. Once a ratio is selected, it should remain consistent for the entire reporting period (year) for comparison and benchmarking purposes.

Using the financial management information systems formula, breakfast meal equivalents are calculated as follows:

$$\text{Meal equivalent} = \text{Number of breakfasts served} \times \text{Conversion factor } (2 \div 3 = .67)$$

Example: An SN program served 300 student reimbursable breakfasts and 58 adult non-reimbursable breakfasts on a given day. Using the formula that three breakfasts are equivalent to two lunches, three breakfasts count as two meal equivalents, or 236 meal equivalents.

$$\text{Number of breakfasts served} \times \text{Conversion factor} = \text{Meal equivalent}$$

$$358 \times 0.67 = 239.86, \text{ or } 240$$

AFTER-SCHOOL SNACKS

The National School Lunch Program (NSLP) snacks are served to children and youth in after-school care programs that are eligible for United States Department of Agriculture (USDA) reimbursement. While there are no current research studies to support the meal equivalency ratio, a survey of selected state agencies indicated most states use a 3-to-1 ratio of snacks to meal equivalent. Using this equivalency, snacks can be converted to meal equivalents as follows:

$$\text{Meal equivalent} = \text{Number of snacks served} \times \text{Conversion factor } (1 \div 3 = 0.33)$$



Example: An elementary school served 450 students reimbursable after-school snacks. Using the formula that three snacks are equivalent to one meal, the snacks served to students on this particular day were equivalent to 149 meal equivalents.

Number of snacks served x Conversion factor = Meal equivalent

$$450 \times 0.33 = 148.5, \text{ or } 149$$

NONPROGRAM FOOD SALES

Meal equivalent calculations for all other SN program categories are based on the annual federal reimbursement rate for a free lunch plus the entitlement USDA Foods value. The revenue from nonprogram food sales can be converted to meal equivalents as follows:

$$\text{Meal Equivalent} = \frac{\text{Nonprogram Sales Revenue}}{\text{Free Lunch Reimbursement} + \text{USDA Foods Value Per Meal}}$$

Example: Assume that an SN operation sold nonprogram food items on a given day that totaled \$234.00 in revenue. Using the formula above, we can convert the revenue from non-reimbursable food sales to the equivalent of 67 lunches.

$$\frac{\text{Nonprogram Sales Revenue}}{\text{Free Lunch Reimbursement} + \text{USDA Foods Value Per Meal}} = \frac{\$234.00}{\$3.25 + .2300 (\$3.4800)*}$$

Meal Equivalent = 67.24, or 67

*Based on reimbursement rates and USDA Foods value effective beginning July 1, 2017, for school year 2017-2018. Reimbursement rates should be updated annually.

The same formula would apply for other SN program events, such as catered meals or special school functions.

$$\text{Meal Equivalent} = \frac{\text{Catered Meal Sales Revenue}}{\text{Free Lunch Reimbursement} + \text{USDA Foods Value Per Meal}}$$

Example: An SN operation offers catering services to departments within the school system. During one month, the SN department catered three events with resulting sales of \$935.70. To determine the meal equivalents for catered sales, the SN administrator divided the catering sales total by the value of the federal reimbursement for free meals plus the USDA Foods value of the lunch. Using this calculation, the catering sales for that month converted to 281 lunch equivalents.

$$\frac{\text{Catered Meal Sales Revenue}}{\text{Free Lunch Reimbursement} + \text{USDA Foods Value Per Meal}} = \frac{\$935.70}{\$3.25 + .2300 (\$3.4800)*}$$

Meal Equivalent = 268.88, or 269

*Based on reimbursement rates and USDA Foods value effective beginning July 1, 2017, for school year 2017-2018. Reimbursement rates should be updated annually.

Institute of Child Nutrition. (2015). *ICN financial management information system* (2nd ed.). University, MS: Author.

Financial Statement

School Nutrition Program Ending _____ (Month) (Year)

Revenue Source	Current Month	Previous Month	YTD
Local Sources			
Student Meal Sales			
Adult Meal Sales			
Other Food Sales			
Interest			
State Sources			
Federal Sources (includes USDA Foods value)			
Miscellaneous			
Fund Transfer-In			
Total Revenue			
Expenditures	Current Month	Previous Month	YTD
Salaries and Wages			
Employee Benefits			
Purchased Services			
Purchased Services			
Purchased Food/USDA Foods			
Supplies			
Miscellaneous			
Capital Assets			
Indirect Costs			
Fund Transfer-Out			
Total Expenditures			
Net Excess/Deficit			

Notes:

(1) School Nutrition Program directors should modify the Statement of Activities to meet the local and State requirements.

(2) The dollar amounts shown in this statement are for a hypothetical school district and are illustrative only.

COMMUNICATING WITH KEY STAKEHOLDERS

- It is important to target the communication and tell the same story, or parts of it, in different ways to different groups. For example, when talking with school nutrition (SN) staff about meals per labor hour (MPLH), discuss the effect of labor on production. When presenting to the school board about MPLH, discuss the effect on finances and production.
- Demonstrate to administration and stakeholders how the SN program is being held accountable for results.
- Make the communication concise. Be sure to allow individuals to ask questions.
- Use facts and data to justify decisions and to present action plans for improvement.
- Present the data in easy-to-read charts or graphics and prepare short, jargon-free reports (i.e., use nonprogram food sales instead of à la carte sales).
- Consider working with the public relations/media department to issue a press release to the community, as appropriate, highlighting lessons learned and any action that will be taken to respond to stakeholders' issues and improve the SN program.
- Figures 1 and 2 in the Trend Analysis section provide examples of how results can be prepared graphically for making decisions and for presenting these decisions to key stakeholders.

REFERENCES

Nettles, M. F. & Rushing, K. (2012). *Data-driven decision making: Guide for school nutrition programs*. University, MS: National Food Service Management Institute.



DEVELOPING ACTION PLANS

Once the results of key performance indicator (KPI) data have been interpreted, the next steps are to propose action plans and to communicate the findings.

- Share the data with the people who need it most, and encourage these groups to engage in dialogues that will help them come to a deeper and shared understanding of the data.
- Prioritize the results, and weigh the relative merit of possible solutions. School nutrition (SN) programs must continue to look for new answers to old problems.
- Develop improvement goals that are “SMART” (Specific, Measurable, Achievable, Realistic, and Time-Bound).
 - **Specific** - Goals should be simplistically written and clearly define what you are going to do.
 - **Measurable** - Goals can be quantified to a determined amount of a specified unit; indicator of progress.
 - **Achievable** - Goals state what results can realistically be achieved, given available resources, but may stretch the team.
 - **Relevant** - Goals must be ones that you are willing and able to work on and must be based on current or forecasted needs.
 - **Time-Bound** - Goals should be linked to a timeframe that creates a practical sense of urgency.
- When creating an action plan, consider the following steps:
 - Outline the actions or steps that need to occur.
 - Identify the person(s) who will be responsible for implementing the steps.
 - List indicators of completion or progress.
 - Set a target date for achieving each step.
 - Specify the resources that will be required, such as staff, money, or materials.
- Another approach to formulating action plans is to focus on these questions:
 - What does the data tell us?
 - What does it not tell us?
 - What else would we need to know?
 - What are we doing well?
 - What needs for SN program improvement might arise from these data?
- See Appendix A for an action planning template and a sample action plan.
- Once the decision to act has been made and implemented, new data can be collected to assess the effectiveness of those actions, leading to a continuous cycle of collection, organization, and synthesis of data in support of decision making.

REFERENCES

- Institute of Child Nutrition. (2015). *Team up for school nutrition success*. University, MS: Author.
- Nettles, M. F. & Rushing, K. (2012). *Data-driven decision making: Guide for school nutrition programs*. University, MS: National Food Service Management Institute.



Developing SMART Goals and an Action Plan

You have completed all of the KPI calculations and have interpreted the data for each school. The next steps are to propose action plans and communicate the findings to the people it will affect. Encourage these people to talk about and ask questions that will help them to understand why the actions you plan to take are necessary.

- Prioritize the results, and weigh the relative merit of possible solutions. School nutrition (SN) programs must continue to look for new answers to old problems.
- Develop improvement goals that are “SMART” (Specific, Measurable, Achievable, Realistic, and Time-bound).
 - Specific – Goals should be simplistically written and clearly define what you are going to do.
 - Measurable – Goals can be quantified to a determined amount of a specified unit; indicator of progress.
 - Achievable – Goals state what results can realistically be achieved, given available resources but may stretch the team.
 - Relevant – Goals must be ones that you are willing and able to work on and must be based on current or forecasted needs.
 - Time-bound – Goals should be linked to a time frame that creates a practical sense of urgency.
- When creating an action plan, consider the following steps:
 - Outline the actions or steps that need to occur.
 - Identify the person(s) who will be responsible for implementing the steps.
 - List indicators of completion or progress.
 - Set a target date for achieving each step.
 - Specify the resources that will be required, such as staff, money, or materials.
- Another approach to formulating action plans is to focus on these questions:
 - What does the data tell us?
 - What does it not tell us?
 - What else would we need to know?
 - What are we doing well?
 - What needs for the SN program improvement might arise from this data?
 - SMART goals and an action plan template can be found on the next page.
- Once the decision to act has been made and implemented, new data can be collected to assess the effectiveness of those actions, leading to a continuous cycle of collection, organization, and synthesis of data in support of decision making.

GOAL & ACTION PLAN

Key Performance Indicators (KPI) Project

Digital Education 2022

GOAL #1 – KPI: _____

DOES THIS GOAL MEET THE SMART CRITERIA?		
	YES	NO
SPECIFIC		
MEASURABLE		
ACHIEVABLE		
REALISTIC		
TIME-BOUND		

ACTION PLAN/STEPS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

PERSON(S) RESPONSIBLE: _____

TIMELINE / TARGET DATE: _____

MEASURE OF SUCCESS: _____

RESOURCES REQUIRED (if any): _____

APPROVALS:

Superintendent

Child Nutrition Director

Date

Date

GOAL & ACTION PLAN

Key Performance Indicators (KPI) Project

Digital Education 2022

GOAL #2 – KPI: _____

DOES THIS GOAL MEET THE SMART CRITERIA?		
	YES	NO
SPECIFIC		
MEASURABLE		
ACHIEVABLE		
REALISTIC		
TIME-BOUND		

ACTION PLAN/STEPS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

PERSON(S) RESPONSIBLE: _____

TIMELINE / TARGET DATE: _____

MEASURE OF SUCCESS: _____

RESOURCES REQUIRED (if any): _____

APPROVALS:

Superintendent

Child Nutrition Director

Date

Date

GOAL & ACTION PLAN

Key Performance Indicators (KPI) Project

Digital Education 2022

GOAL #3 – KPI: _____

DOES THIS GOAL MEET THE SMART CRITERIA?		
	YES	NO
SPECIFIC		
MEASURABLE		
ACHIEVABLE		
REALISTIC		
TIME-BOUND		

ACTION PLAN/STEPS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

PERSON(S) RESPONSIBLE: _____

TIMELINE / TARGET DATE: _____

MEASURE OF SUCCESS: _____

RESOURCES REQUIRED (if any): _____

APPROVALS:

Superintendent

Child Nutrition Director

Date

Date

GOAL & ACTION PLAN

Key Performance Indicators (KPI) Project

Digital Education 2022

GOAL #4 – KPI: _____

DOES THIS GOAL MEET THE SMART CRITERIA?		
	YES	NO
SPECIFIC		
MEASURABLE		
ACHIEVABLE		
REALISTIC		
TIME-BOUND		

ACTION PLAN/STEPS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

PERSON(S) RESPONSIBLE: _____

TIMELINE / TARGET DATE: _____

MEASURE OF SUCCESS: _____

RESOURCES REQUIRED (if any): _____

APPROVALS:

Superintendent

Child Nutrition Director

Date

Date

GOAL & ACTION PLAN

Key Performance Indicators (KPI) Project

Digital Education 2022

GOAL #5 – KPI: _____

DOES THIS GOAL MEET THE SMART CRITERIA?		
	YES	NO
SPECIFIC		
MEASURABLE		
ACHIEVABLE		
REALISTIC		
TIME-BOUND		

ACTION PLAN/STEPS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

PERSON(S) RESPONSIBLE: _____

TIMELINE / TARGET DATE: _____

MEASURE OF SUCCESS: _____

RESOURCES REQUIRED (if any): _____

APPROVALS:

Superintendent

Child Nutrition Director

Date

Date

STATEMENT OF ACTIVITIES
(Assessment of Goals)
Key Performance Indicators (KPIs) Project
Digital Education 2022

GOAL #1: _____

WAS IT MET? Yes No

WHY / WHY NOT? _____

GOAL #2: _____

WAS IT MET? Yes No

WHY / WHY NOT? _____

GOAL #3: _____

WAS IT MET? Yes No

WHY / WHY NOT? _____

GOAL #4: _____

WAS IT MET? Yes No

WHY / WHY NOT? _____

GOAL #5: _____

WAS IT MET? Yes No

WHY / WHY NOT? _____

APPROVALS:

SUPERINTENDENT

DATE

CHILD NUTRITION DIRECTOR

DATE



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