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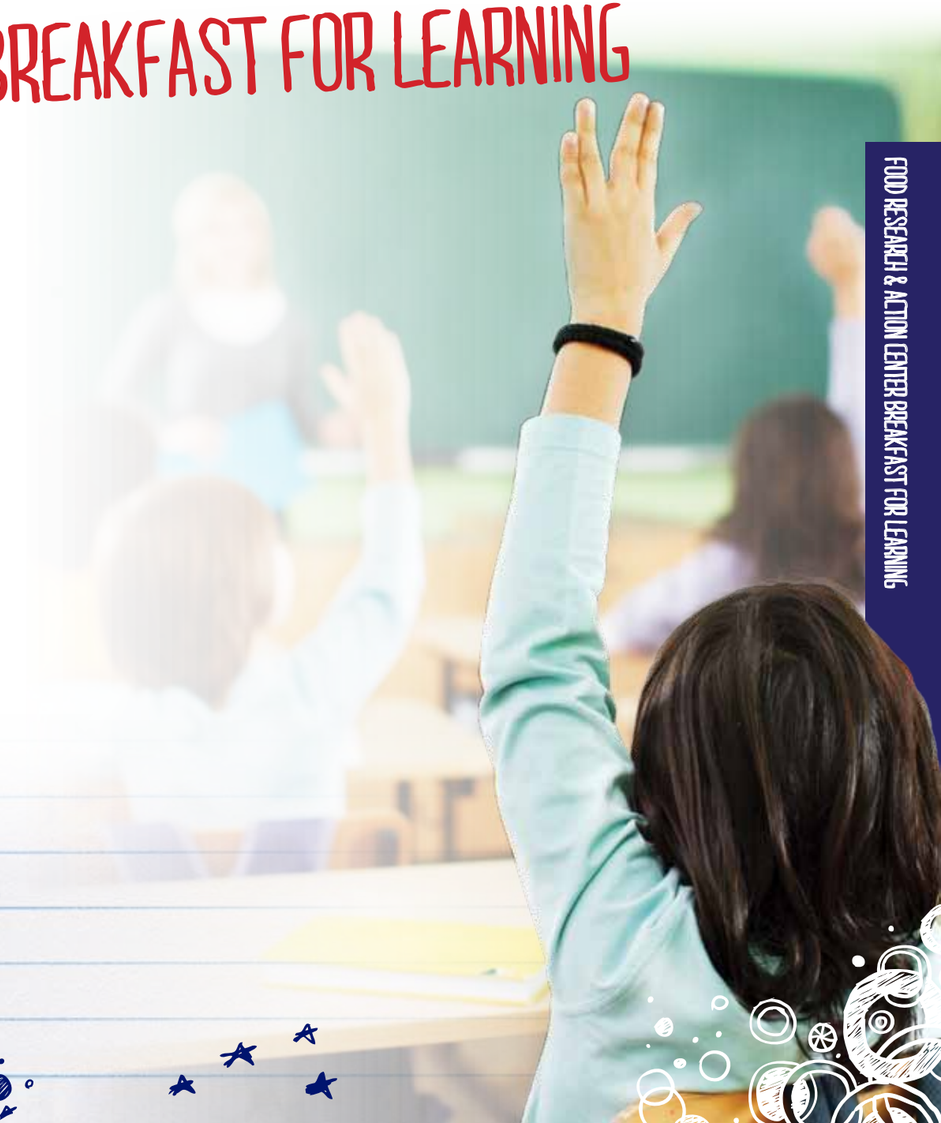
TOOLS FOR SCHOOLS

FOOD RESEARCH & ACTION CENTER

BREAKFAST FOR LEARNING



FOOD RESEARCH & ACTION CENTER BREAKFAST FOR LEARNING

SCIENTIFIC RESEARCH ON THE LINK BETWEEN CHILDREN'S NUTRITION AND ACADEMIC PERFORMANCE

Over the past five years, significant new evidence has documented the link between eating breakfast and learning. Recent studies show that skipping breakfast is relatively common among children in the U.S. ...and is associated with quantifiable negative consequences for academic, cognitive, health, and mental health functioning.

— J. Michael Murphy, EdD, Massachusetts General Hospital and Harvard Medical School, 2007[19]

Skipping breakfast and experiencing hunger impair children's ability to learn

- Children who skip breakfast are less able to differentiate among visual images, show increased errors, and have slower memory recall.[1]
- Children experiencing hunger have lower math scores and are more likely to repeat a grade.[2]
- Behavioral, emotional and academic problems are more prevalent among children with hunger.[3]
- Children experiencing hunger are more likely to be hyperactive, absent and tardy, in addition to having behavioral and attention problems more often than other children.[4]
- Children who are undernourished have poorer cognitive functioning when they miss breakfast.[5]
- Teens experiencing hunger are more likely to have been suspended from school and have difficulty getting along with other children.[6]
- Children with hunger are more likely to have repeated a grade, received special education services, or received mental health counseling, than low-income children who do not experience hunger.[7]

Eating breakfast at school helps improve children's academic performance

- Children who eat a complete breakfast, versus a partial one, make fewer mistakes and work faster in math and number checking tests.[8]
- Children who eat breakfast at school – closer to class and test-taking time – perform better on standardized tests than those who skip breakfast or eat breakfast at home.[9]
- Providing breakfast to students at school improves their concentration, alertness, comprehension, memory, and learning. [10, 11, 12]
- Children who eat breakfast show improved cognitive function, attention, and memory.[13]
- Participating in school breakfast is associated with improved math grades, attendance and punctuality.[14, 15]
- Children perform better on tests of vocabulary and matching figures after eating breakfast.[16, 17]
- Consuming breakfast improves children's performance on demanding mental tasks and reaction to frustration.[18]

School breakfast improves student behavior and learning environments

- Students who participate in school breakfast show improved attendance, behavior, standardized achievement test scores as well as decreased tardiness.[19]
- Providing students with breakfast in the classroom setting is associated with lower tardy rates and fewer disciplinary office referrals.[20]

Universal school breakfast programs yield positive results

- Children who participate in universal school breakfast have lower rates of absence and tardiness.[21, 22]
- Schools that provide universal school breakfast have higher breakfast participation, especially when breakfast is served in the classroom, resulting in a higher percentage of students consuming a nutritionally substantive breakfast.[23, 24, 25]
- Schools providing all students with free breakfast have greater positive changes in academic performance.[26]

Breakfast can improve children's nutrition

- Children who eat breakfast tend to have more adequate nutrient intakes than children who do not.[27, 28, 29]
- By eating breakfast, students also get more of important nutrients, vitamins and minerals such as calcium, iron, potassium, folate, dietary fiber and protein.[30, 31, 32]
- A higher percentage of children who skip breakfast have reduced intakes of many nutrients such as vitamins A, E, C, B6, B12; folate; iron; calcium; phosphorus; magnesium; potassium; and dietary fiber[33]

Eating Breakfast may be a protective factor against childhood obesity

- Adolescents who eat breakfast tend to have a lower body mass index (BMI); higher BMIs can indicate overweight and obesity.[34]
- Girls who eat breakfast are more likely to have a lower BMI than girls who skip breakfast.[35]
- Low-income elementary school girls who participate in the School Breakfast, School Lunch, or Food Stamp Programs, or any combination of these programs, have significantly less risk of being overweight.[36]
- Eating school breakfasts was associated with lower mean BMI levels.[37, 38]

Beliefs about breakfast can influence participation

- Girls often skip breakfast because they believe it might make them fat and are concerned about gaining weight.[39, 40]
- Adolescents who skip breakfast are significantly more likely to have fasted to lose weight.[41]
- Children report that they believe eating breakfast increases their energy and ability to pay attention in school.[42]