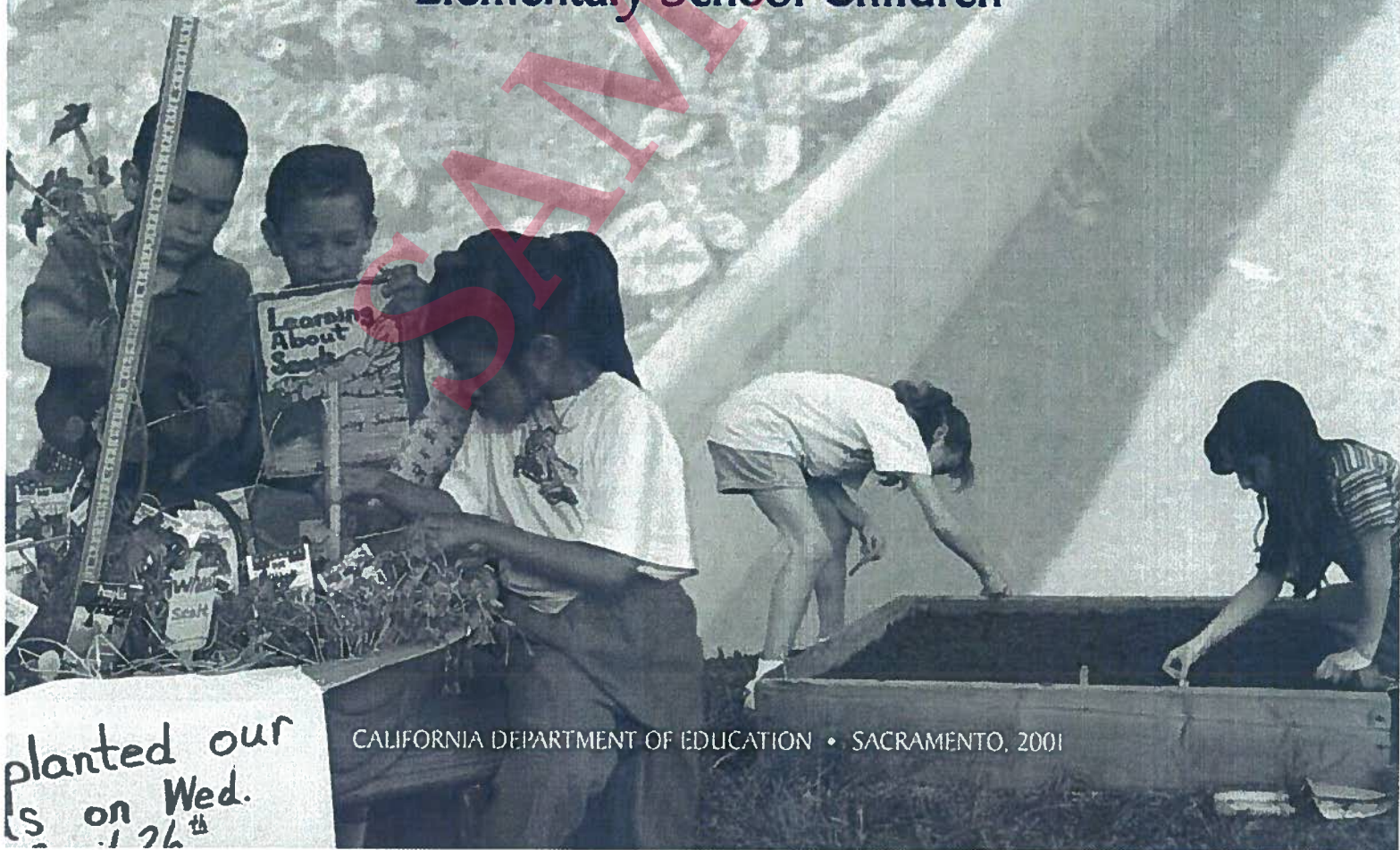


NUTRITION TO GROW ON

A Garden-Enhanced Nutrition
Education Curriculum for Upper
Elementary School Children



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INTRODUCTION



Teachers are beginning to notice that all too often their students come to school hungry, show a significant drop in energy level during mid-morning activities, and bring lunches that lack fruits and vegetables. This observation is a valid concern because research shows that when children come to school hungry, their potential to learn is affected. A recent review suggests that a child's brain is sensitive to short-term variations in nutrient intake (Pollitt 1995). In other words what a child eats or does not eat affects his or her ability to learn. Current national recommendations promote diets high in fruits, vegetables, and whole grains but low in fats and sugars for persons two years of age and older (U.S. Departments of Agriculture and Health and Human Services 2000). Such diets provide the nutrients necessary for healthy growth and development and reduce the risk of chronic diseases. Unfortunately, children often eat insufficient amounts of fruits and vegetables and excessive amounts of less nutrient-dense foods, which are generally high in fats and sugars (Muñoz et al. 1977).

Some children understand why it is important to eat healthfully, but few know how, and even fewer are actually able to do so. In addition, few children truly know and appreciate where their food comes from. Many children believe their fruits and vegetables come in bags from the grocery store. Children need to be equipped with the knowledge of how to incorporate healthful foods into their diets and an appreciation for agriculture. However, children will not be able to go through this learning process alone; their caregivers need to be involved as well. Families need to learn that all foods can and do fit into a healthful diet and that the key lies in moderation and variety.

The two main objectives of this curriculum are to (1) teach upper elementary school children and their caregivers the importance of making healthful food choices and the ways in which to do so; and (2) improve children's preferences for fruits and vegetables by giving children an opportunity to work with the land and grow their own produce. All lessons were tested prior to inclusion in this publication. (See Appendix A for details of the testing process.)

For a curriculum to be effective, research shows that it should be based on sound theoretical principles. This curriculum is based on the social cognitive theory (SCT)—the belief that children's behavior is influenced by several factors. Personal (i.e., knowledge), behavioral (i.e., skills), and environmental (i.e., visual reinforcement) factors are believed to influence children's health-related behaviors, such as dietary choices (Bandura 1986). Young children are greatly influenced by their surroundings, so the curriculum uses the

environment to stimulate learning about nutrition and academic subjects, such as science and mathematics. This curriculum teaches children about nutrition while taking them through the steps of planting, maintaining, and harvesting their own vegetable garden. Garden activities have been incorporated into the lessons to teach children more about where their food comes from and reinforce the principles of the SCT. Another benefit of having a garden at a school is that it is a constant visual reminder that good nutrition is important even on those days when no nutrition lessons are formally presented.

CURRICULUM PRINCIPLES

The principles guiding the development of this curriculum were simple. The lessons had to be fun, easy to implement, integrative, and adaptable.

Fun. First and foremost, the curriculum is meant to be fun and interactive for the students and the teachers. Children must be constantly stimulated. No one would continue with a healthful lifestyle if he or she saw it as nothing more than another chore.

Easy. The authors wanted to make the curriculum easy for teachers to use; therefore, preparation time is minimal. Teachers are already inundated with work. The last thing they need is another lesson plan that requires hours of preparation. Most of the lessons require few materials to be gathered or prepared prior to the activity. Detailed background information is included in each lesson so that little additional research, if any, is needed.

Integrative. From the first day of school to the last, teachers are asked to teach their students according to a set of standards or a curriculum framework. Standards are necessary to establish consistency among teachers and schools in many regions. Some of the standards were incorporated into this curriculum so that teachers would not feel as though they needed to add yet another activity to an already full schedule. This curriculum was developed with the California content standards and curriculum frameworks in mind. The lessons offer students opportunities to practice the skills called for in the content standards. (Appendix B shows the academic content standards supported by each lesson.)

Adaptable. The dynamics of all classrooms are unique. What works in one classroom may not work in another. Another requirement for this curriculum was that it had to be adaptable to any educational situation. The hope is that teachers take what they wish from these lessons to make them fit their own classroom. The lessons have enough structure to be taught exactly as written but also have enough flexibility to be modified as needed. In addition, the lessons include enough activities to provide a challenging environment for older children but may be broken down into much simpler activities for younger children.