

SCIENCE HABITS OF MIND
KINDERGARTEN THROUGH SECOND GRADE

I. VALUES AND ATTITUDES

By the end of second grade, students should:

- A. raise questions about the world around them and be willing to seek answers to some of them by making careful observations and trying things out.

II. COMPUTATION AND ESTIMATION

By the end of second grade, students should be able to:

- A. use whole numbers and simple, everyday fractions in ordering, counting, identifying, measuring, and describing things and experiences.
- B. readily give the sums and differences of single-digit numbers in familiar contexts where the operation makes sense to them and they can judge the reasonableness of the answer.
- C. give rough estimates of numerical answers to problems before doing them formally.
- D. explain to other students how they go about solving numerical problems.
- E. make quantitative estimates of familiar lengths, weights, and time intervals and check them by measurements.

III. MANIPULATION AND OBSERVATION

By the end of the second grade, students should be able to:

- A. use hammers, screwdrivers, clamps, rulers, scissors, and hand lenses, and operate ordinary audio equipment.
- B. assemble, describe, take apart and reassemble constructions using interlocking blocks, erector sets, and the like.
- C. make something out of paper, cardboard, wood, plastic, metal, or existing objects that can actually be used to perform a task.
- D. measure the length in whole units of objects having straight edges.

IV. COMMUNICATION SKILLS

By the end of second grade, students should be able to:

- A. describe and compare things in terms of number, shape, texture, size, weight, color, and motion.
- B. draw pictures that correctly portray at least some features of the thing being described.

V. CRITICAL-RESPONSE SKILLS

By the end of second grade, students should:

- A. ask, "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question.