

MAP KEY

BENCHMARKS

are specific learning goals derived mostly from *Benchmarks for Science Literacy* but also from *Science for All Americans* and *National Science Education Standards*. Colored boxes indicate knowledge goals; bordered boxes indicate skill goals. Some benchmarks have been split into two or more ideas which appear in separate boxes. (See page xvi.)

CONNECTING ARROWS

indicate that achieving one benchmark contributes to achieving the other. The exact meaning of a connection is not indicated explicitly, but connections can be based on the logic of the subject matter or on cognitive research about how students learn. (See page xviii.)

GRADE RANGES

suggest when most students could achieve these benchmarks. A benchmark's position within a grade range does not indicate the grade in which it should be taught, nor does its position indicate that it should be taught before or after another benchmark unless there is an arrow connecting them. (See page xix.)

BENCHMARK CODES

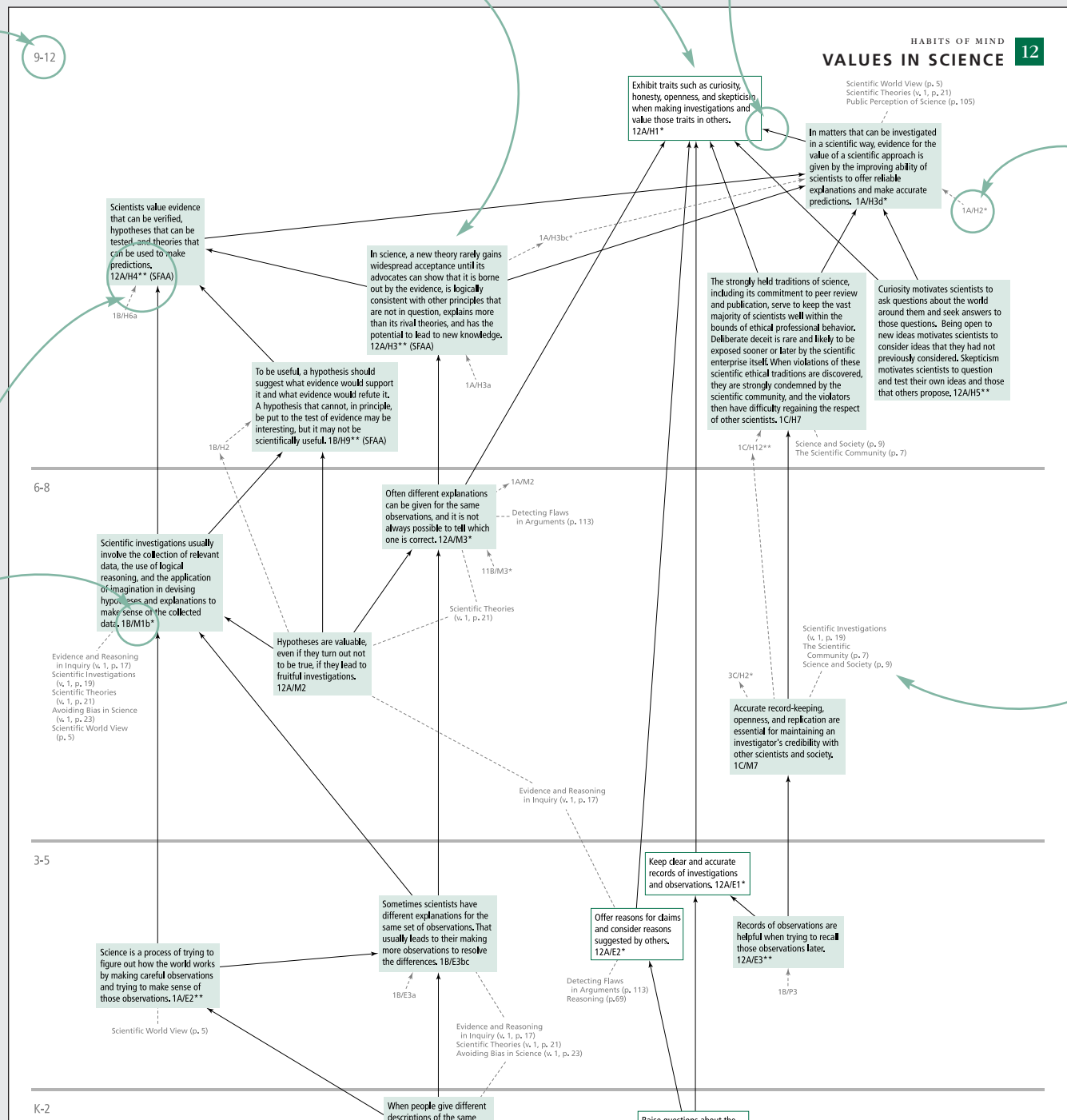
indicate chapter, section, grade range, and number of the corresponding goal statements in *Benchmarks for Science Literacy*. Letters, asterisks, and acronyms following the code provide additional information about the benchmark. (See page xvii.)

OFF-MAP CONNECTIONS

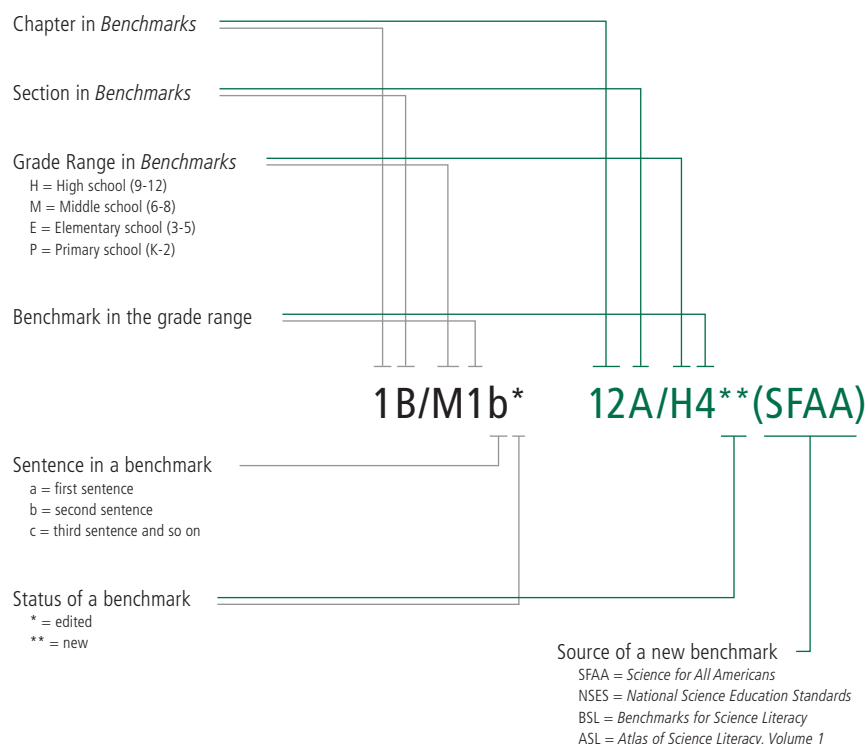
show links to the codes of closely related benchmarks when it is not possible to include the full text of the benchmark on a map. Arrows in off-map connections imply the same relationship between benchmarks as they do when they connect boxes to boxes. Use the Index of Mapped Benchmarks on page 124 to search by benchmark code for maps on which a benchmark appears in its full text. (See page xx.)

CROSS-REFERENCES TO OTHER MAPS

indicate that the benchmark also appears on the maps that are listed. (See page xx.)



WHAT'S IN A BENCHMARK CODE?



common values as applied in science

STRAND LABELS

help the reader find things in the map and get a sense of the map's content. Strands loosely suggest ideas or skills that develop over time. Strands often interweave and share benchmarks. (See page xix.)