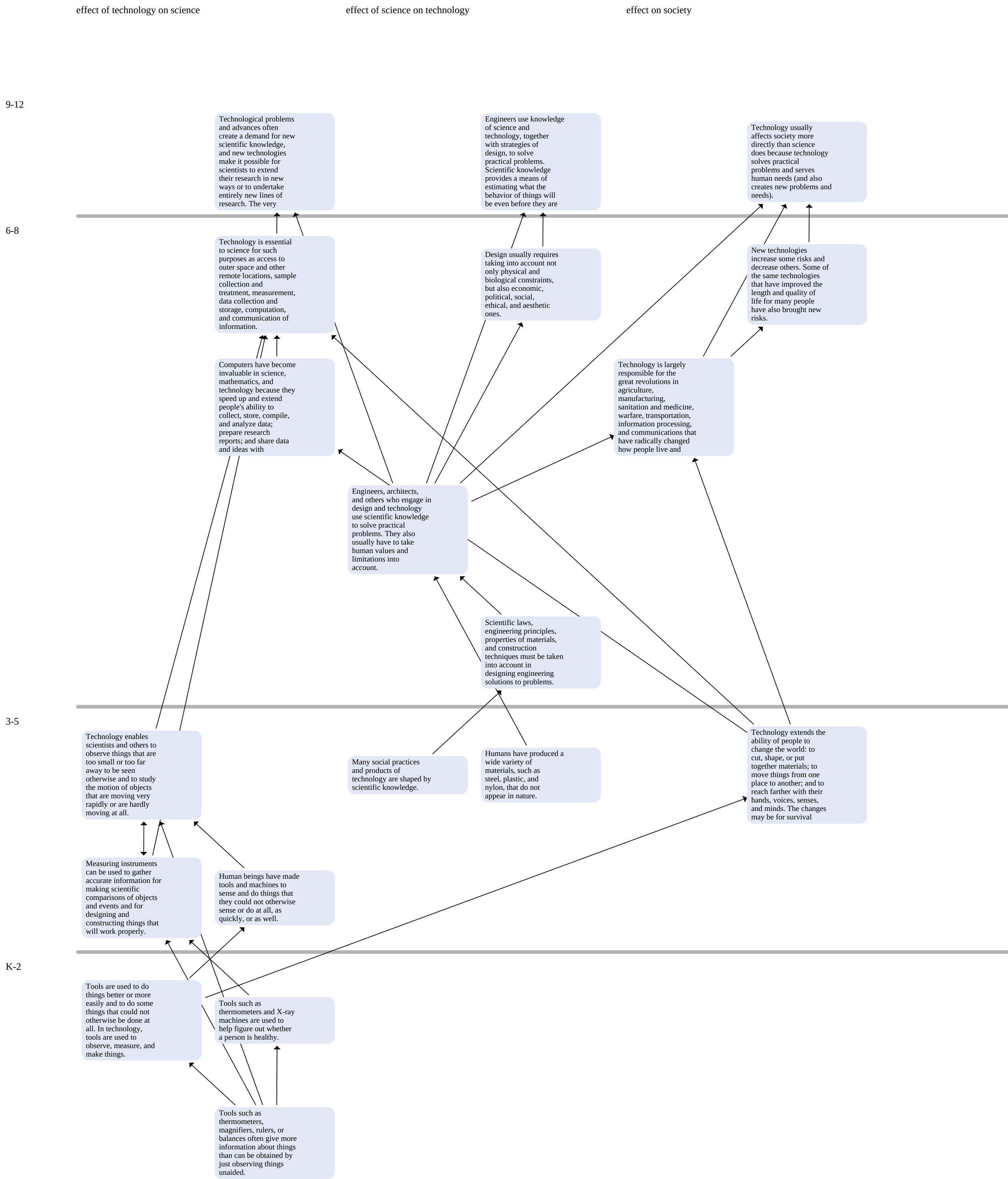
effect of technology on science
effect of science on technology
effect on society
9-12
6-8
3-5
K-2
Technological problems and advances often create a demand for new scientific knowledge, and new technologies make it possible for scientists to extend their research in new ways or to undertake entirely new lines of research. The very
Engineers use knowledge of science and technology, together with strategies of design, to solve practical problems. Scientific knowledge provides a means of estimating what the behavior of things will be even before they are
Technology usually affects society more directly than science does because technology solves practical problems and serves human needs (and also creates new problems and needs).
Technology is essential to science for such purposes as access to outer space and other remote locations, sample collection and treatment, measurement, data collection and storage, computation, and communication of information.
Design usually requires taking into account not only physical and biological constraints, but also economic, political, social, ethical, and aesthetic ones.
New technologies increase some risks and decrease others. Some of the same technologies that have improved the length and quality of life for many people have also brought new risks.
Computers have become invaluable in science, mathematics, and technology because they speed up and extend people's ability to collect, store, compile, and analyze data; prepare research reports; and share data and ideas with
Technology is largely responsible for the great revolutions in agriculture, manufacturing, sanitation and medicine, warfare, transportation, information processing, and communications that have radically changed how people live and
Engineers, architects, and others who engage in design and technology use scientific knowledge to solve practical problems. They also usually have to take human values and limitations into account.
Scientific laws, engineering principles, properties of materials, and construction techniques must be taken into account in designing engineering solutions to problems.
Technology enables scientists and others to observe things that are too small or too far away to be seen otherwise and to study the motion of objects that are moving very rapidly or are hardly moving at all.
Many social practices and products of technology are shaped by scientific knowledge.
Humans have produced a wide variety of materials, such as steel, plastic, and nylon, that do not appear in nature.
Technology extends the ability of people to change the world: to cut, shape, or put together materials; to move things from one place to another; and to reach farther with their hands, voices, senses, and minds. The changes may be for survival
Measuring instruments can be used to gather accurate information for making scientific comparisons of objects and events and for designing and constructing things that will work properly.
Human beings have made tools and machines to sense and do things that they could not otherwise sense or do at all, as quickly, or as well.
Tools are used to do things better or more easily and to do some things that could not otherwise be done at all. In technology, tools are used to observe, measure, and make things.
Tools such as thermometers and X-ray machines are used to help figure out whether a person is healthy.
Tools such as thermometers, magnifiers, rulers, or balances often give more information about things than can be obtained by just observing things unaided.