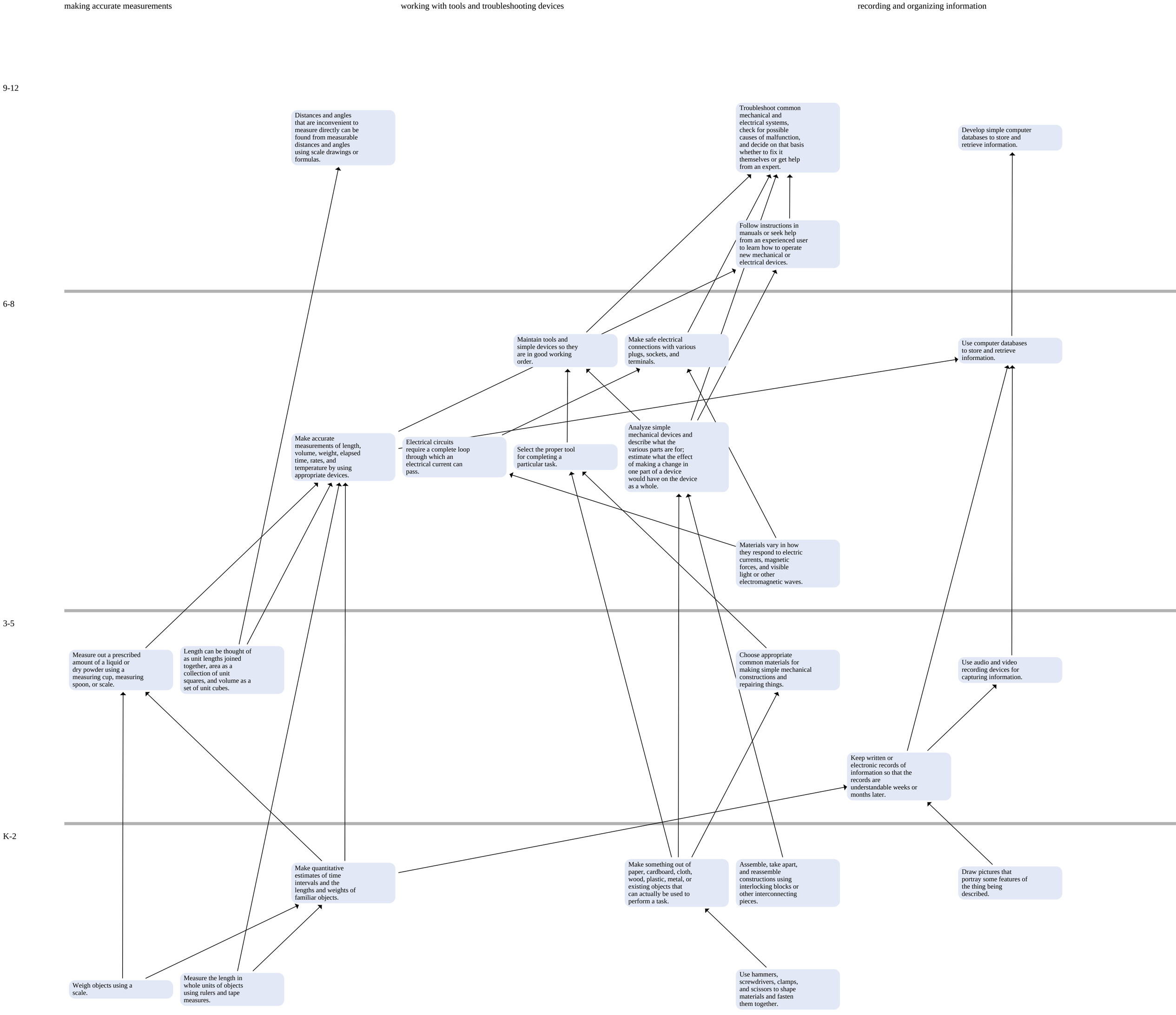
making accurate measurements
working with tools and troubleshooting devices
recording and organizing information
9-12
6-8
3-5
K-2
Distances and angles that are inconvenient to measure directly can be found from measurable distances and angles using scale drawings or formulas.
Troubleshoot common mechanical and electrical systems, check for possible causes of malfunction, and decide on that basis whether to fix it themselves or get help from an expert.
Develop simple computer databases to store and retrieve information.
Follow instructions in manuals or seek help from an experienced user to learn how to operate new mechanical or electrical devices.
Maintain tools and simple devices so they are in good working order.
Make safe electrical connections with various plugs, sockets, and terminals.
Use computer databases to store and retrieve information.
Make accurate measurements of length, volume, weight, elapsed time, rates, and temperature by using appropriate devices.
Electrical circuits require a complete loop through which an electrical current can pass.
Select the proper tool for completing a particular task.
Analyze simple mechanical devices and describe what the various parts are for; estimate what the effect of making a change in one part of a device would have on the device as a whole.
Materials vary in how they respond to electric currents, magnetic forces, and visible light or other electromagnetic waves.
Measure out a prescribed amount of a liquid or dry powder using a measuring cup, measuring spoon, or scale.
Length can be thought of as unit lengths joined together, area as a collection of unit squares, and volume as a set of unit cubes.
Choose appropriate common materials for making simple mechanical constructions and repairing things.
Use audio and video recording devices for capturing information.
Keep written or electronic records of information so that the records are understandable weeks or months later.
Make quantitative estimates of time intervals and the lengths and weights of familiar objects.
Make something out of paper, cardboard, cloth, wood, plastic, metal, or existing objects that can actually be used to perform a task.
Assemble, take apart, and reassemble constructions using interlocking blocks or other interconnecting pieces.
Draw pictures that portray some features of the thing being described.
Weigh objects using a scale.
Measure the length in whole units of objects using rulers and tape measures.
Use hammers, screwdrivers, clamps, and scissors to shape materials and fasten them together.