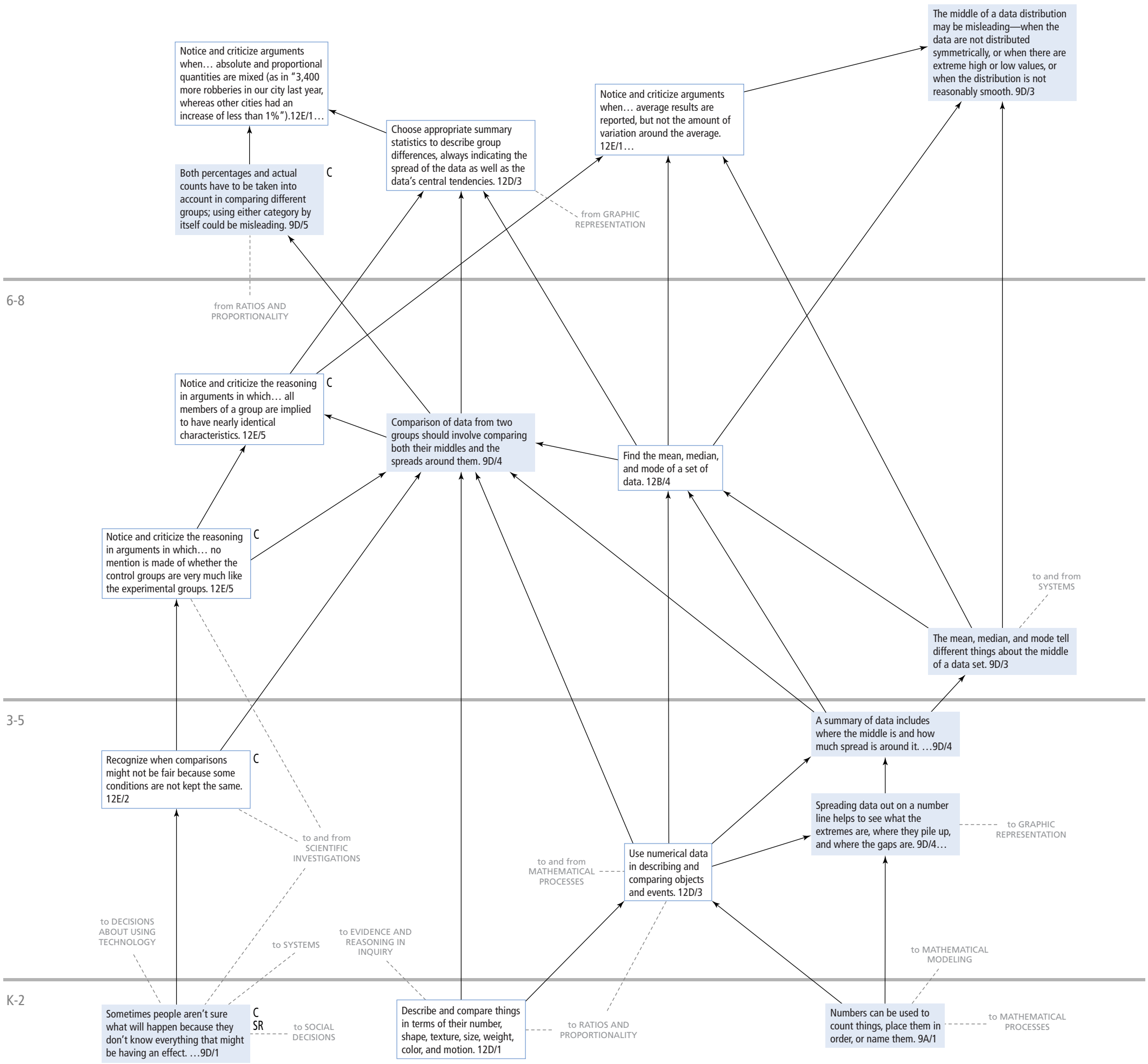
9-12
Notice and criticize arguments when… absolute and proportional quantities are mixed (as in "3,400 more robberies in our city last year, whereas other cities had an increase of less than 1%").12E/1…
Choose appropriate summary statistics to describe group differences, always indicating the spread of the data as well as the data's central tendencies. 12D/3
Notice and criticize arguments when… average results are reported, but not the amount of variation around the average. 12E/1…
The middle of a data distribution may be misleading—when the data are not distributed symmetrically, or when there are extreme high or low values, or when the distribution is not reasonably smooth. 9D/3
Both percentages and actual counts have to be taken into account in comparing different groups; using either category by itself could be misleading. 9D/5
C
from GRAPHIC REPRESENTATION
6-8
from RATIOS AND PROPORTIONALITY
Notice and criticize the reasoning in arguments in which… all members of a group are implied to have nearly identical characteristics. 12E/5
C
Comparison of data from two groups should involve comparing both their middles and the spreads around them. 9D/4
Find the mean, median, and mode of a set of data. 12B/4
Notice and criticize the reasoning in arguments in which… no mention is made of whether the control groups are very much like the experimental groups. 12E/5
C
to and from SYSTEMS
The mean, median, and mode tell different things about the middle of a data set. 9D/3
3-5
A summary of data includes where the middle is and how much spread is around it. …9D/4
Recognize when comparisons might not be fair because some conditions are not kept the same. 12E/2
C
Spreading data out on a number line helps to see what the extremes are, where they pile up, and where the gaps are. 9D/4…
to GRAPHIC REPRESENTATION
to and from SCIENTIFIC INVESTIGATIONS
to and from MATHEMATICAL PROCESSES
Use numerical data in describing and comparing objects and events. 12D/3
to DECISIONS ABOUT USING TECHNOLOGY
to SYSTEMS
to EVIDENCE AND REASONING IN INQUIRY
to MATHEMATICAL MODELING
K-2
Sometimes people aren't sure what will happen because they don't know everything that might be having an effect. …9D/1
C
SR
to SOCIAL DECISIONS
Describe and compare things in terms of their number, shape, texture, size, weight, color, and motion. 12D/1
to RATIOS AND PROPORTIONALITY
Numbers can be used to count things, place them in order, or name them. 9A/1
to MATHEMATICAL PROCESSES
control and conditions
comparing groups
averages and spreads