METHODS

OBSERVATORY
SCIENCE AND TECHNOLOGY
APPLIED SCIENCE AND TECHNOLOGY
Teacher's Guide B
First Year of Secondary Cycle Two

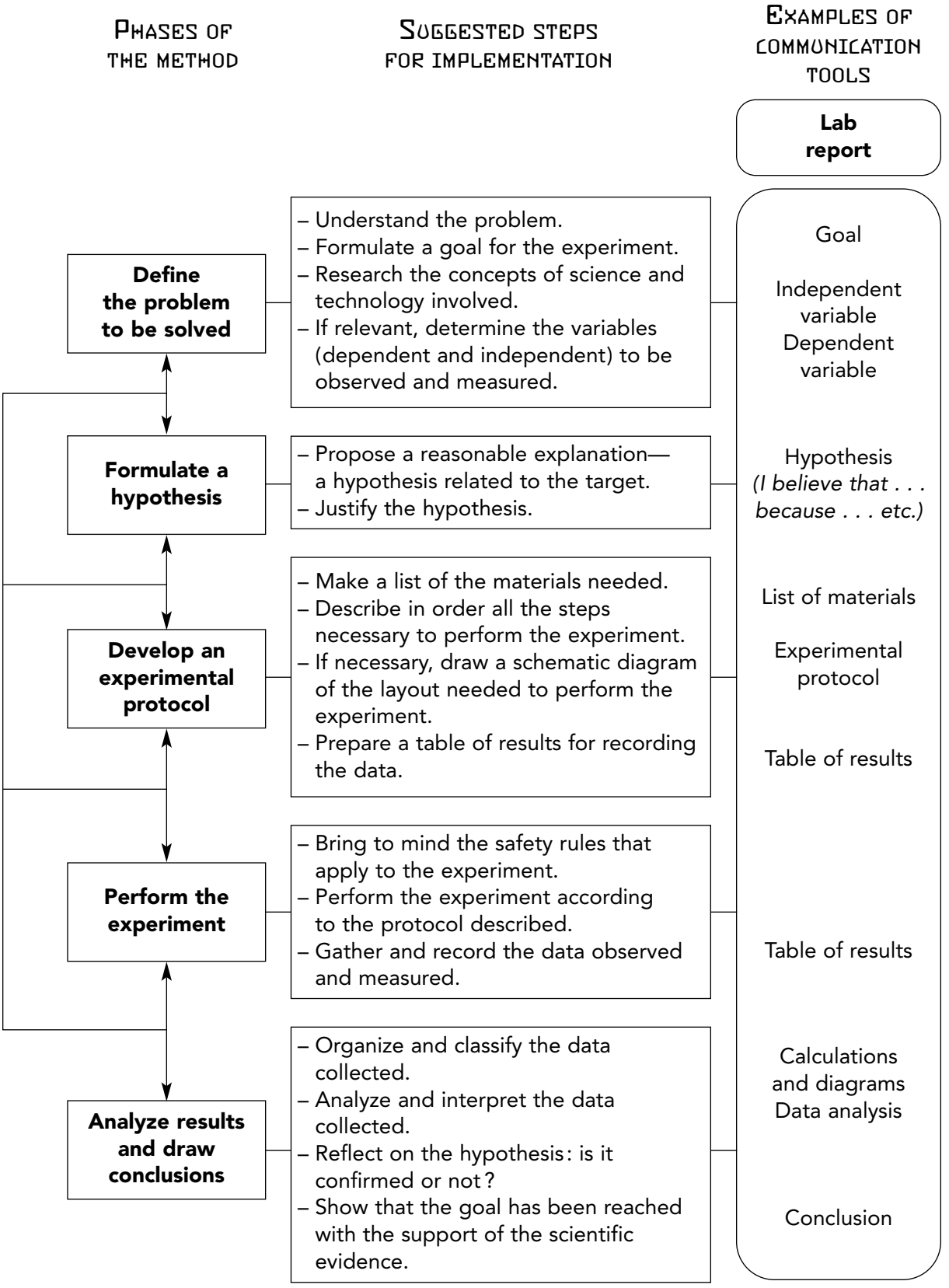
The programs of Science and Technology (ST) and Applied Science and Technology (AST) offer different methods for problem solving in the context of a learning and evaluation situation (LES) and elsewhere. This section presents each method in the form of a schematic flowchart to assist the student as needed in completing activities in the *Observatory* series. Double arrows placed between stages of the methods reflect their non-linear nature; moving back-and-forth between stages at times may be necessary to successfully implement a method.

Observatory/Guide
11071-B

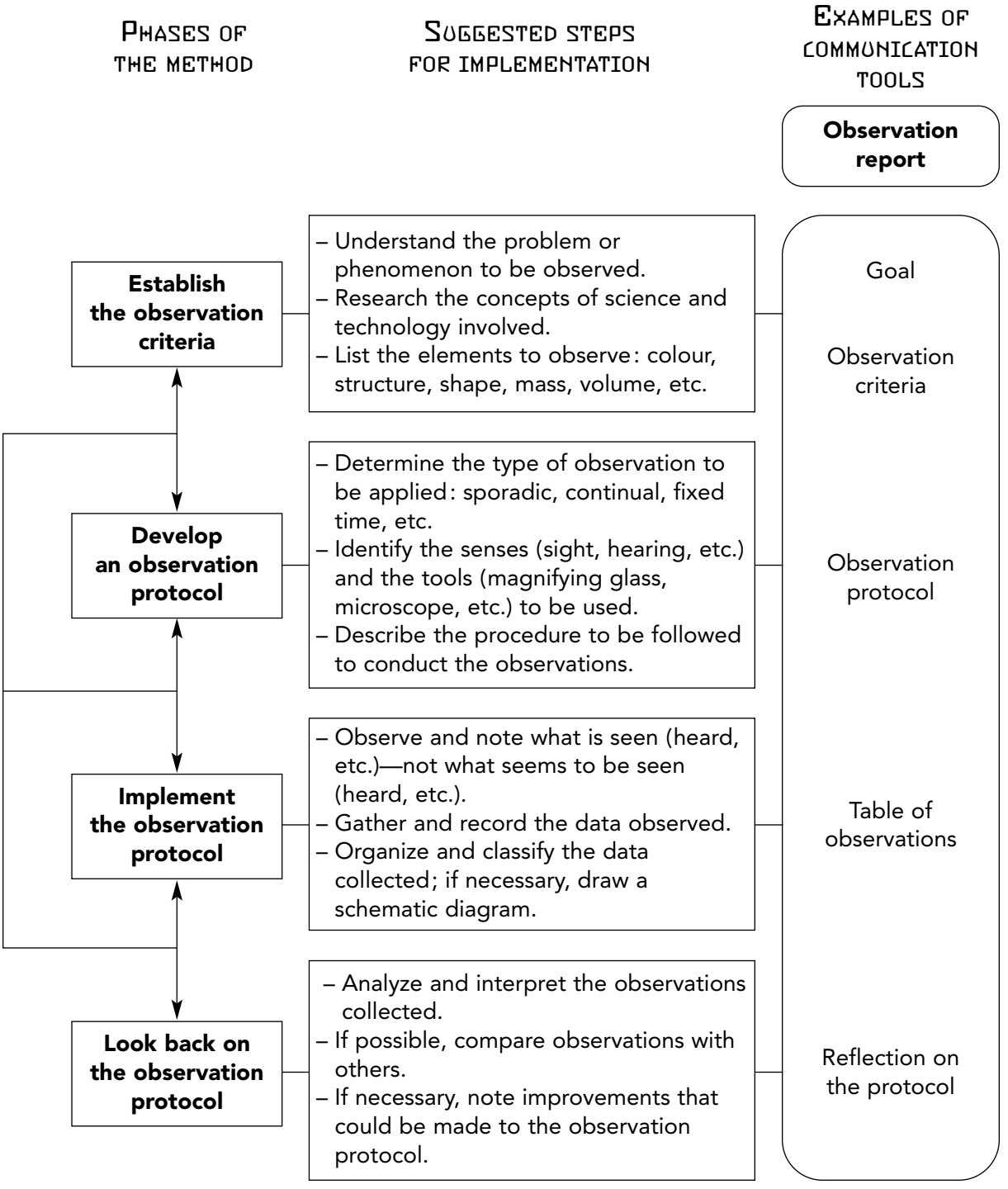
DESCRIPTION OF METHODS AND PROGRAM OF STUDY

Method		To be developed in		Description
		ST	AST	
Experimental method		✓	✓	Involves the study of reaction and interaction of variables during an experiment.
Observation method		✓	✓	Aims toward better understanding of a phenomenon by its observation according to set criteria.
Empirical method		✓	✓	Aims toward better understanding of a phenomenon by gathering and compiling data on it.
Modelling		✓	✓	Aims toward better understanding of an abstract phenomenon by constructing a concrete representation of it.
Formation of an opinion		✓		Permits the taking of a position on a controversy by developing an argument based on scientific and technological concepts.
Technological analysis		✓	✓	Aims toward better understanding of an object or a system by studying its design and operation principles.
Industrial process	Conception	✓	✓	Aims toward conceptualizing a technical object or system that satisifes one or more identified needs.
	Design		✓	Aims toward designing a conceptualized technical object or system for optimal performance, paying close attention especially to form, style and type of materials.
	Production		✓	Aims toward manufacturing a conceptualized and designed technical object or system or one or more of its components.

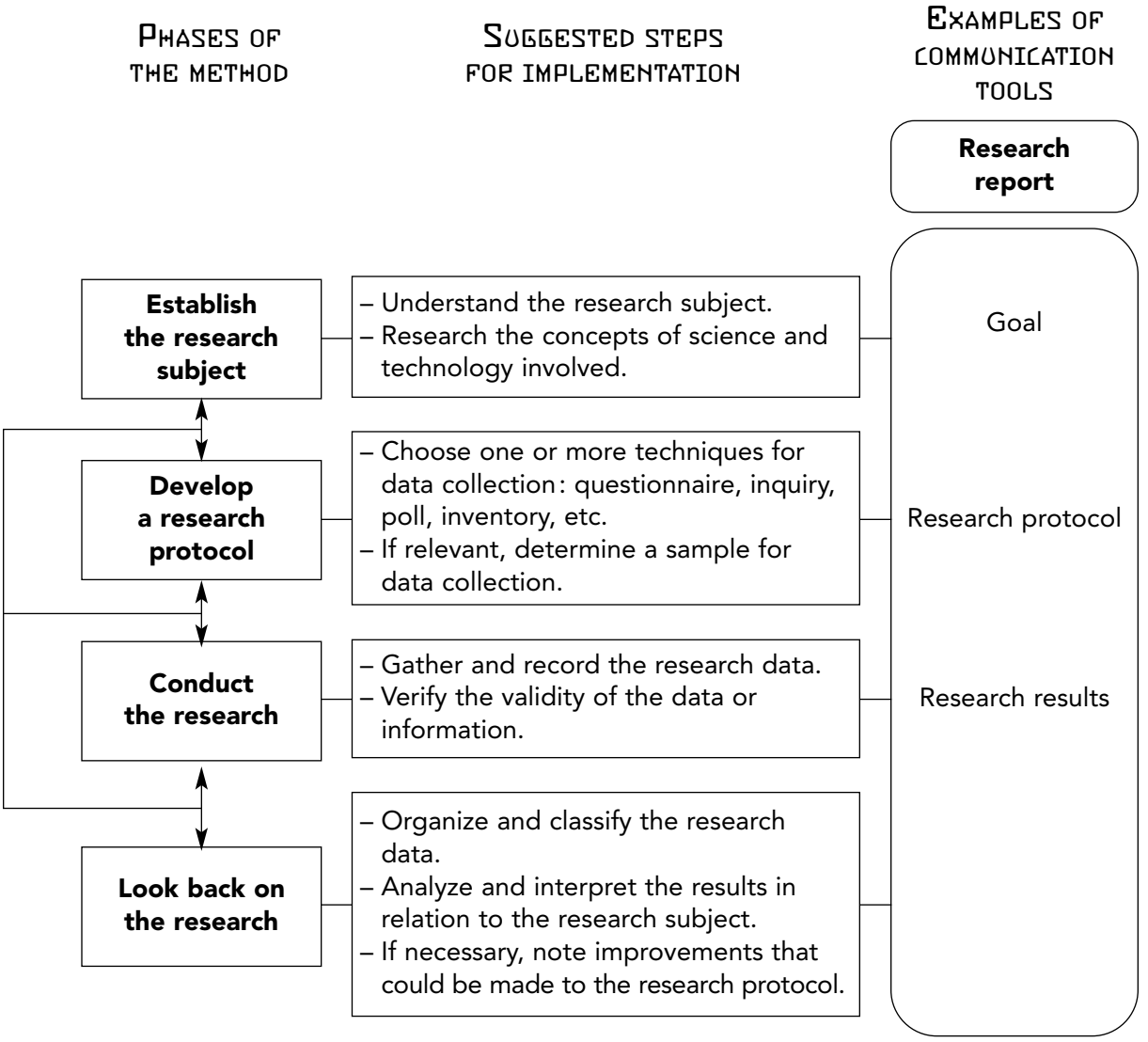
EXPERIMENTAL METHOD



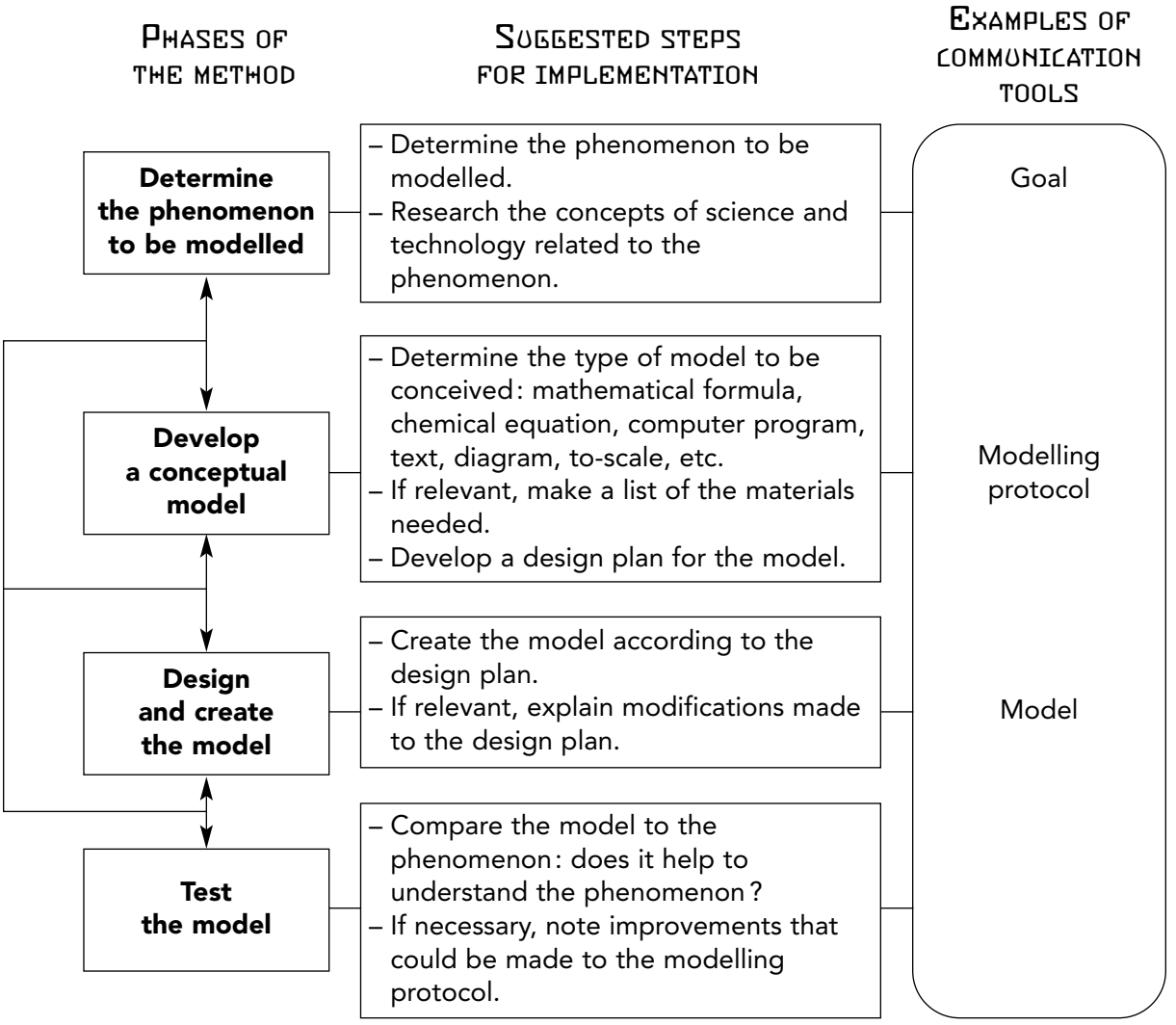
OBSERVATION METHOD



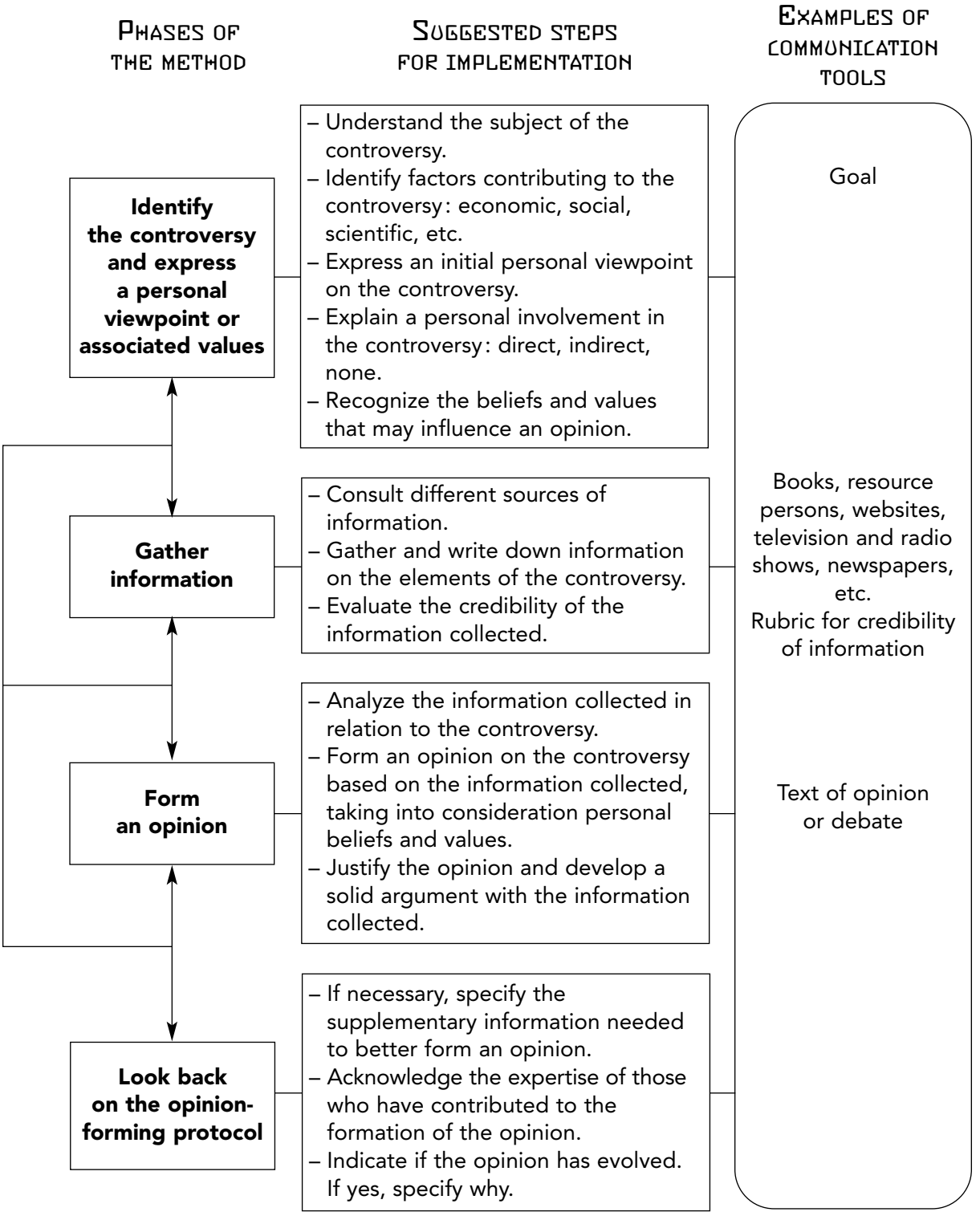
EMPIRICAL METHOD



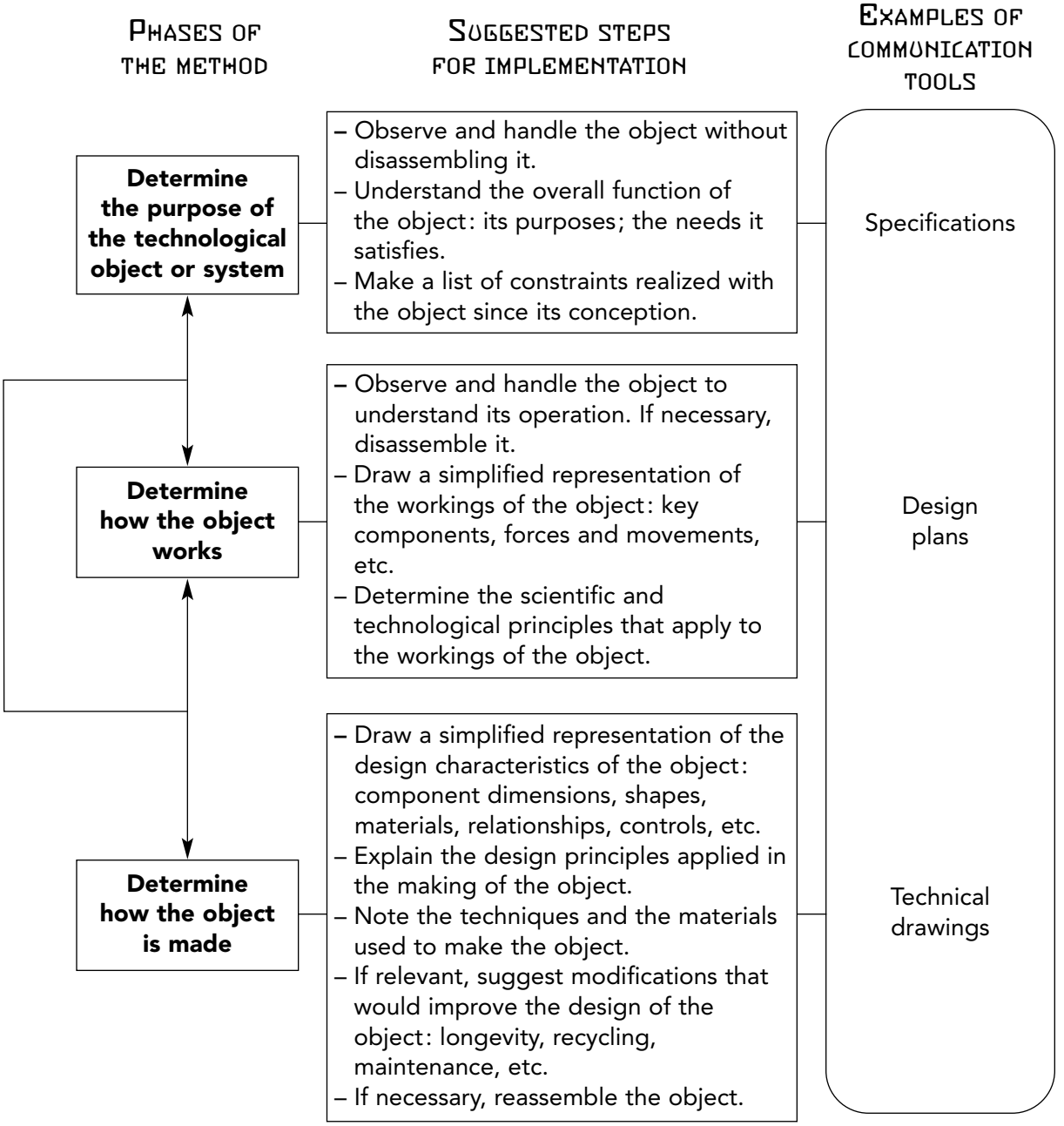
MODELLING



FORMATION OF AN OPINION

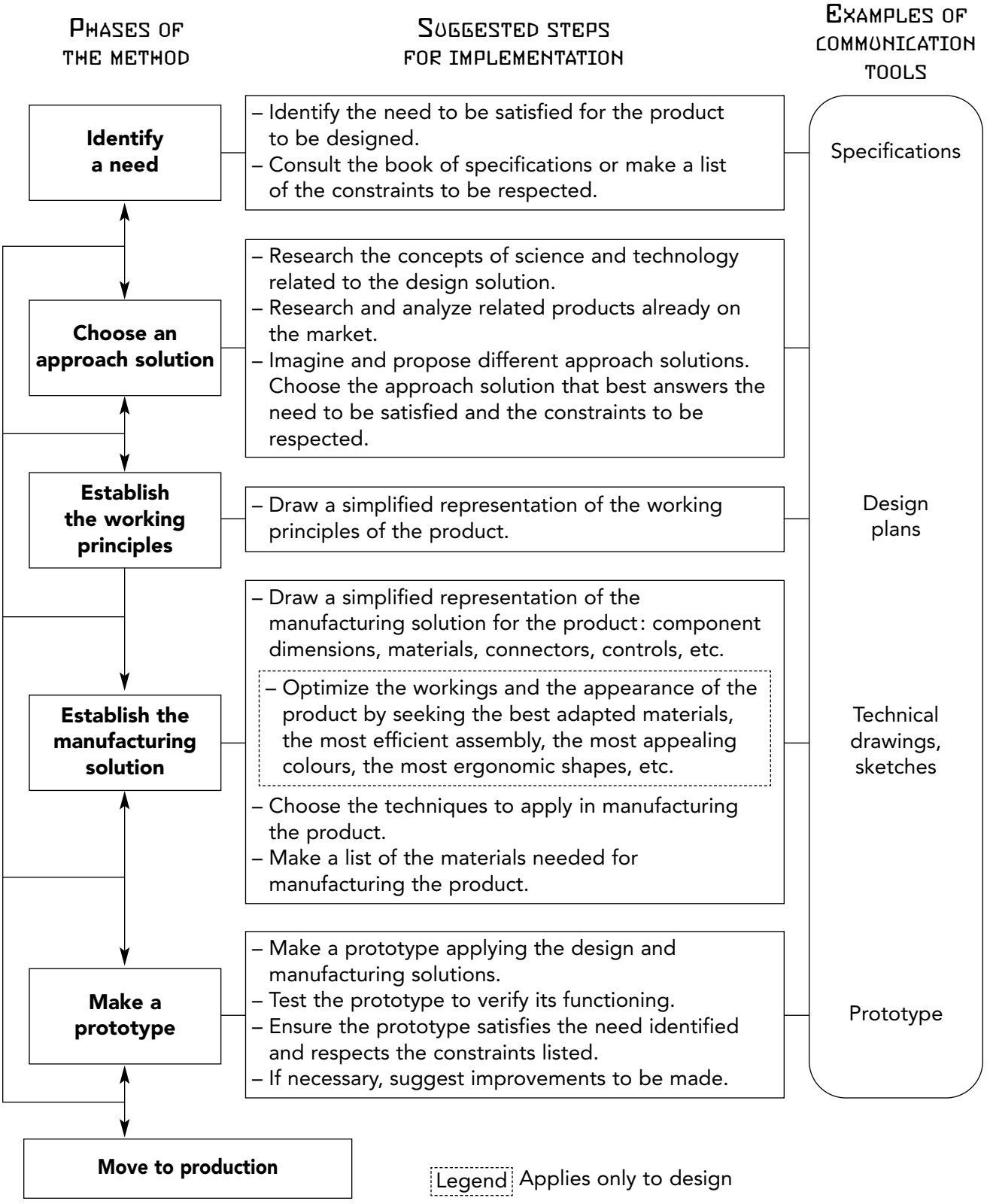


TECHNOLOGICAL ANALYSIS



INDUSTRIAL PROCESS

PART I: CONCEPTION AND DESIGN



INDUSTRIAL PROCESS

PART II : PRODUCTION