



## Data Handling Framework

Actions – Actions	Skills for:	Useful Questions
Collection – Observation	Collection of data	What is the issue?
Analysis	Watchfulness	What are the difficulties?
Mediations - Conclusions	Reversal of knowledge	What situation is under study?
	Measurement – Enumeration – Calculations	Questions starting with:
	Cooperation Study	What;
	Utilization of information media	When;
	Analytical thinking	Who;
	Communicative – Descriptive	What;
Description – Presentation – Contact	Set up representations	Where;
	Creative thoughts/ Considerations	Because;
	Open mind	How;
Problem Solution – Subproblems	Set up questions	What if?
	Hypothesis Formulation	So, what emerges?
	Design actions for the implementation of case frameworks	What's next?
Checking – Evaluation	Model configuration	Open-ended questions
	Designing models to solve problems	Questions arising from the results
	Investigation - Review	Mediation Questions

## Data Management Skills

### Problem Solving and Creative Thinking

Learning Process		Skills for:
Problem Solving and Creative Thinking	Choice – Identification of information data	Identifying/identifying relevant information and presenting it verbally or in other ways
	Analysis Solution Plan Formulation	Test consecutive systematic efforts and use knowledge to identify a solution framework
	Reflection and control	Check results for adequacy, identify and resolve errors, compare and evaluate different approaches
	Transfer	Transfer/exploitation of approaches in similar cases
	Modification and invention	Devising other activities and questions/discussion
	Application	Selecting appropriate numerical rules, algorithms and tools for solving problems and implementing appropriate ones



### Modelling Data Skills

Modelling	Discovery/ identification	Separation/isolation of information on problematic situations and separation of relevant and non-relevant data
	Solving	Transfer data from problem situations to mathematical models and use these models to solve problems
	Validate/certify	Correlation of solutions with the problematic situation and verification of the plausibility of the results
	Association	Define analogous problems related to the mathematical model and formulate questions linked to the model

### Documentation Skills

Discussion/ Documentation	Hypothesis	Formulation of hypotheses about mathematical relationships or irregularities / anomalies
	Checking	Checking hypotheses using examples and questioning whether hypotheses, solutions, claims, etc. are correct
	Inference	Prove or disprove hypotheses based on examples, and develop preliminary conclusions based on those assumptions
	Attestation	Describe relationships and rules using examples and following the reasoning of others

### Descriptive Skills

Description and Contact	Record	Recording outcomes, processes and learning experiences
	Presentation and Exchange	Design and develop appropriate presentation media, such as slides or posters, to present solutions, ideas and results in an understandable way
	Cooperation and Communication	Work on complex problems in teams, organize meetings and combine points of view
	Use of expert terminology	Use appropriate mathematical terminology to present events, symbols and conventions
	Variations of representations	Transfer charts to other explanatory representation formats