

# Grade 6 Science Summary

## AY 2017 -2018 - Term 1

### Chapter 1

**The Big Idea:** What processes do scientists use when they do scientific investigations?

#### Lesson 1-1: Case Study

**Essential Question:** How are independent variables and dependent variables related?

**Success Criteria:**

- A variable is any factor that can have more than one value.
- An independent variable is the factor that is being tested.
- A dependent variable is the factor that is observed or measured during an experiment.
- When the independent variable is changed, it causes the dependent variable to change.
- A controlled experiment is a scientific test done under controlled conditions, where just one just one factor changes and the other factors stay the same.
- An experimental group is used to study how a change in the independent variable changes the dependent variable.
- A control is necessary to determine if experimental results are caused by the variable that is tested or from another factor
- Scientific investigations may include observations, inferences, hypothesis, predictions, tests, analysis, and conclusions.
- Scientists do not use all skills of scientific inquiry because there is more than one way to test a hypothesis.
- An observation is the act of using one or more of your senses to gather information and take note of what occurs
- An inference is a logical explanation of observations based on past experiences.
- A prediction is a statement of what is expected to happen.
- A hypothesis is a possible explanation for an observation that can be tested by scientific investigations.
- Scientists concluded that around 5,300 year ago, Otzi, the Iceman, traveled from the high alpine region in spring to his native village in the lowland valleys. There, during a conflict, the Iceman sustained a fatal injury. He retreated back to the higher elevations, where he died.

**Essential Question:** How is scientific inquiry used in a real-life scientific investigation?

**Success Criteria:**

- Scientific inquiry was used throughout the investigation of the Iceman when hypotheses, predictions, tests, analysis, and conclusions were developed.

#### Lesson 1-2: Saruq Al-Hadid Study

**Essential Question:** How is scientific inquiry used in a real-life scientific investigation in modern discovery?

**Success Criteria:**

- Scientific inquiry was used to determine the location of the Saruq Al-Hadid.
- The Saruq Al-Hadid is one of the largest and most important sites dating back to the times of Iron Age in the Arabian Peninsula.
- The site has a global importance as it opens the way to our knowledge for Industrial activity and daily life during the Iron Age Arabian Island.
- The site provides comprehensive evidence to prove the manufacture of copper alloys and works of gold and iron.
- Manufacturing of iron has special importance because the evidence related to the iron industry at this time is very rare in the Arabian Peninsula