e-Learning Activity
During this laboratory, you will complete a tutorial to learn about the stages of iron deficiency and the laboratory tests used to diagnosis this condition.

Objectives
• Be able to recognize the clinical signs and symptoms associated with iron deficiency.
• Define the stages of iron deficiency and physiological changes associated with each stage.
• Recognize the advantages and disadvantages of various laboratory tests used for assessing iron deficiency.
• Be able to document your assessment of a patient in the form of a SOAP note.

Assignment
As you read the tutorial answer the following questions.

Case Study
List five symptoms associated with iron deficiency.

1.

2.

3.

4.

5.

List the signs of iron deficiency observed by the physician.

1.

2.

3.

4.
Tutorial
There are four stages of iron deficiency.
During Stage 1. of iron deficiency iron stores drop.
• Where is iron stored in the body and in what form?

• What happens during the final stage of iron deficiency?

Laboratory Tests.
Go to the hematocrit assay.
• What is a hematocrit?

• What is Jessica's hematocrit value? __________

• Would you consider her to have anemia? _________

• Review the stages of iron deficiency. At what stage of iron deficiency does the hematocrit fall and what does this tell you about the sensitivity of the hematocrit for determining anemia?

List five causes of anemia other than iron deficiency.
   a. 
   b. 
   c. 
   d. 
   e.
Go to hemoglobin assay.
• What is hemoglobin?

• What is Jessica's hemoglobin value and would she be classified as having anemia.

• Hemoglobin is not a very sensitive or specific test for anemia. In your own words define sensitivity and specificity.

Go to the ferritin assay.
• What is ferritin?

• Why is the serum ferritin assay a better method for assessing iron status than hemoglobin or hematocrit assays?

• In adults, how do serum ferritin values change with age and gender?

• What is Jessica’s ferritin value? _________________

• Is this value indicative of iron deficiency? ____________
Go to Red Blood Cell Indices

- How is the size and hemoglobin of red blood cells altered during iron deficiency?

- Mean cell volume (MCV) classifies anemia based on cell size. What two values do you need to calculate MCV?

___________________________        ________________________

- What are Jessica’s values for:
  
  MCV _____________________
  MCH ______________________

- How would you classify Jessica’s anemia based on these values?

  Cell Size: _________________  Cell Hemoglobin Content: __________________

Nutritional Care Plan

As part of the Health Care Team, your assessment and treatment of the patient becomes part of the medical record. Your notes are recorded in a standardized format known by the acronym SOAP. The SOAP note contains the following parts:

(S) Subjective data: Information provided by the patient and family that is relevant to the problem. This would include information such as the patient’s perception of how he/she feels including a list of his or her symptoms and complaints.

(O) Objective data: This includes laboratory data and reliable observations made by members of the Health Care Team. Weight, height and physical signs observed by Health Professionals as well as laboratory results would be listed here.

(A) Assessment: Based on the subjective and objective data, an evaluative statement is given suggesting a possible diagnosis and/or severity of the problem.

(P) Plan: Based on the assessment, an immediate plan for treatment is given. This plan may be a special diet, patient education or consultation to obtain additional information. Plan for follow up is included.

LABORATORY REPORT: Write a SOAP note for Jessica.