

# Spring 2013 Student Performance Analysis with Instructional Guidance

## Grade 3 and Grade 5 Standards of Learning



Presentation may be paused and resumed  
using the arrow keys or the mouse.

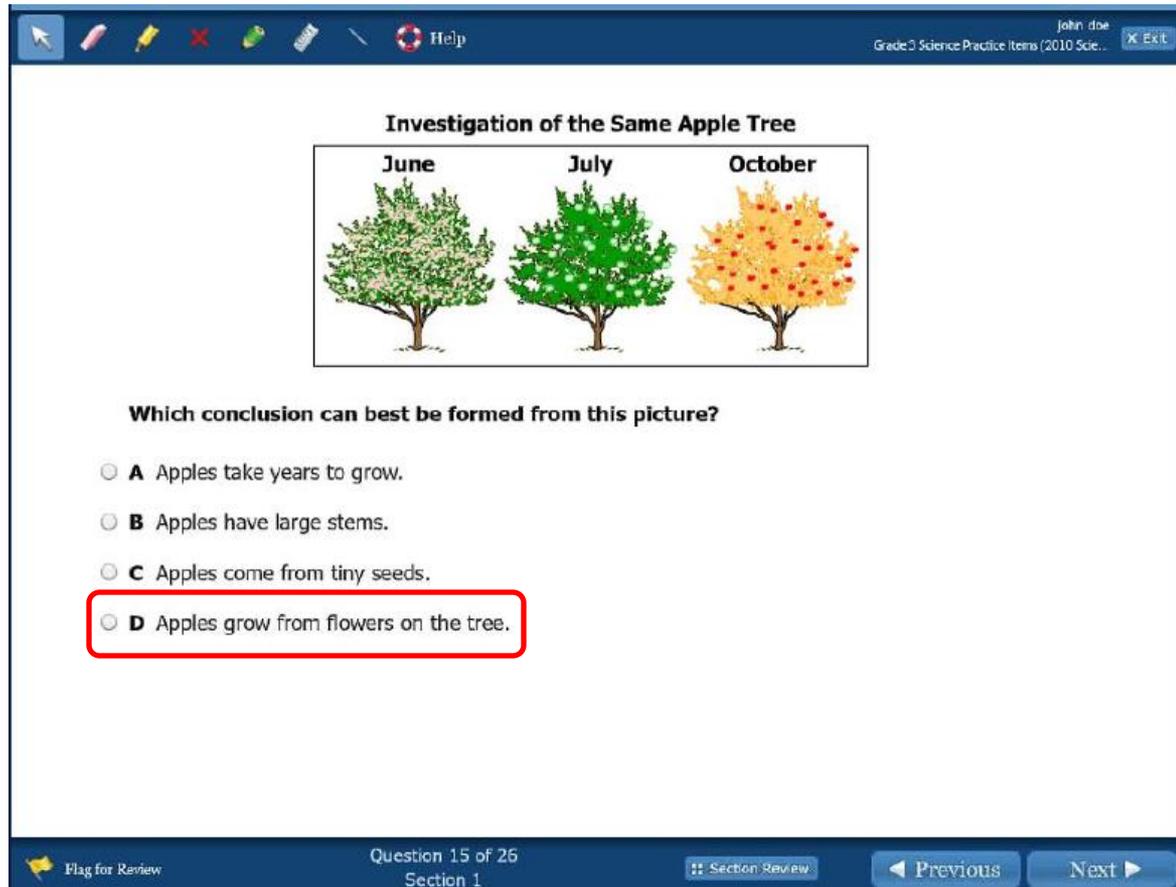
# Drawing Conclusions

**SOL 2.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which**  
**j) conclusions are drawn.**

**Students need additional experiences drawing conclusions during investigations and from real life situations.**

# Instructional Guidance for 2.1j

## Drawing Conclusions



The screenshot shows a digital assessment window with a dark blue header. On the left, there are icons for a mouse cursor, eraser, highlighter, and a red 'X'. On the right, it says 'John Doe', 'Grade 3 Science Practice Items (2010 Sci...', and an 'Exit' button. The main content area has a white background with the title 'Investigation of the Same Apple Tree' centered at the top. Below the title are three illustrations of an apple tree, each labeled with a month: 'June', 'July', and 'October'. The June tree has green leaves and small white flowers. The July tree has green leaves and small green apples. The October tree has yellow and orange leaves and many red apples. Below the illustrations is the question: 'Which conclusion can best be formed from this picture?'. There are four multiple-choice options, each with a radio button. Option D, 'Apples grow from flowers on the tree.', is highlighted with a red rectangular box. At the bottom of the window, there is a dark blue footer with a 'Flag for Review' button, 'Question 15 of 26 Section 1', a 'Section Review' button, and 'Previous' and 'Next' navigation buttons.

**Investigation of the Same Apple Tree**

June      July      October

Which conclusion can best be formed from this picture?

- A Apples take years to grow.
- B Apples have large stems.
- C Apples come from tiny seeds.
- D Apples grow from flowers on the tree.

Flag for Review      Question 15 of 26 Section 1      Section Review      Previous      Next

# Important Plant Products are Classified

**SOL 2.8 The student will investigate and understand that plants produce oxygen and food, are a source of useful products, and provide benefits in nature. Key concepts include**  
**a) important plant products are identified and classified;**

**Students need additional practice identifying and classifying important plant products at school and at home.**

# Important Plant Products are Classified (2.8a)

1. Which of these natural resources comes from plants?

A. Steel

B. Wood

C. Aluminum

D. Cement

2. Select three products that come from plants.

Paper	Eggs	Wool
Leather	Spices	Cotton

# Examples of Compound and Simple Machines

**SOL 3.2 The student will investigate and understand simple machines and their uses. Key concepts include**

- a) purpose and function of simple machines;**
- b) types of simple machines;**
- c) compound machines; and**
- d) examples of simple and compound machines found in the school, home, and work environments.**

**Students need additional experiences identifying examples of simple and compound machines.**

# Instructional Guidance for 3.2d

## Examples of Compound and Simple Machines

John doe  
Grade 3 Science Practice Items (2010) Scie... **X** EXIT

**Student Riding a Bicycle**



**How many simple machines are in this picture?**

- A Less than two simple machines
- B Two simple machines
- C Three simple machines
- D More than four simple machines

Flag for Review Question 18 of 26 Section 1 Section Review Previous Next

# Observations, Conclusions, Inferences and Predictions

**SOL 4.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which**  
**a) distinctions are made among observations, conclusions, inferences, and predictions;**

**Students need additional practice making distinctions among observations, conclusions, inferences, and predictions.**

# Instructional Guidance for 4.1a

## Observations, Conclusions, Inferences and Predictions

Students notice that sugar maple tree leaves change from green to red during the fall months, and black oak tree leaves change from green to brown during the same time. The students are making -

A. an observation

B. a conclusion

C. a prediction

D. an inference

# Identifying Atoms and Compounds

**SOL 5.4 The student will investigate and understand that matter is anything that has mass and takes up space; and occurs as a solid, liquid, or gas. Key concepts include**

- a) distinguishing properties of each phase of matter;**
- b) the effect of temperature on the phases of matter;**
- c) atoms and elements;**
- d) molecules and compounds; and**
- e) mixtures including solutions.**

**Students need additional practice making distinctions among atoms, molecules, and compounds.**

# Identifying Atoms and Compounds (5.4c and d)

The smallest part of matter that is identifiable as an element is the-

A) Atom

B) Molecule

C) Cell

D) Compound

All elements are made up of-

A) Atoms

B) Compounds

C) Mixtures

D) Solutions

# Identifying Basic Cell Structures

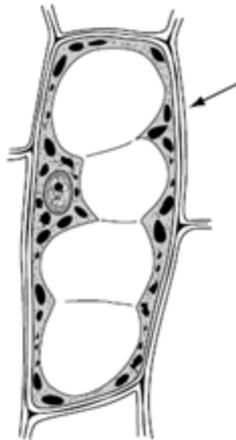
**SOL 5.5 The student will investigate and understand that organisms are made of one or more cells and have distinguishing characteristics that play a vital role in the organism's ability to survive and thrive in its environment. Key concepts include**

- a) basic cell structures and functions;**
- b) classification of organisms using physical characteristics, body structures, and behavior of the organism; and**
- c) traits of organisms that allow them to survive in their environment.**

**Students need additional practice identifying basic cell structures.**

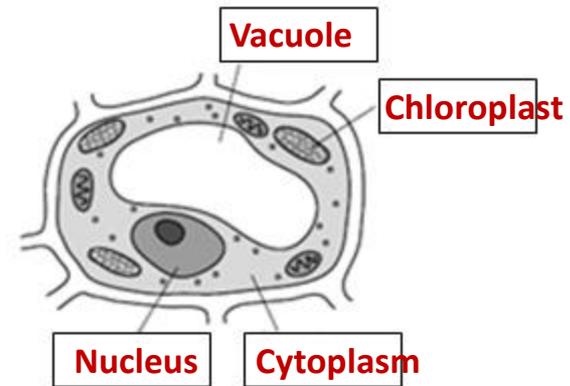
# Identifying Basic Cell Structures (5.5a)

1. What part of the plant cell is shown at the arrow?



- A) Cell wall
- B) Cell membrane
- C) Vacuole
- D) Nucleus

2. Label the plant cell structures in the diagram.



Use four of the structures from this list:

Cytoplasm  
Chloroplast  
Cell Wall

Nucleus  
Vacuole  
Lysosome

# Practice Items

**This concludes the student performance information for the spring 2013 Grade 3 and 5 Science SOL tests.**

**Additionally, test preparation practice items for Grade 3 and 5 Science can be found on the Virginia Department of Education Web site at:**

**[http://www.doe.virginia.gov/testing/sol/practice\\_items/index.shtml#science](http://www.doe.virginia.gov/testing/sol/practice_items/index.shtml#science)**

## Contact Information

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