

# Physical Science

Unit Lesson:

**Matter, Periodic Table and Atomic Bonding**

**Georgia Online Assessment System**

**Pre/Post Assessments**

**Wordle**

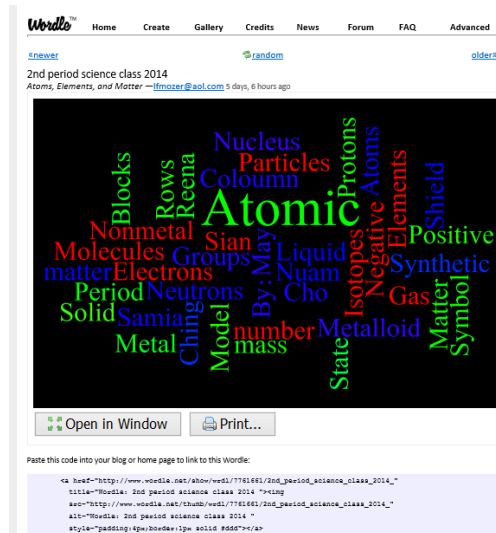
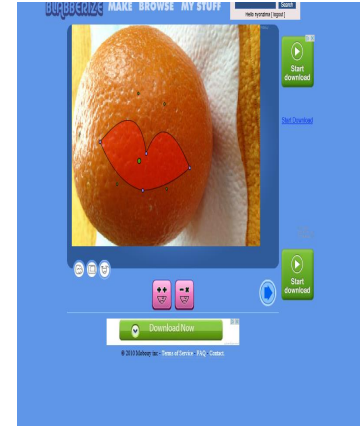
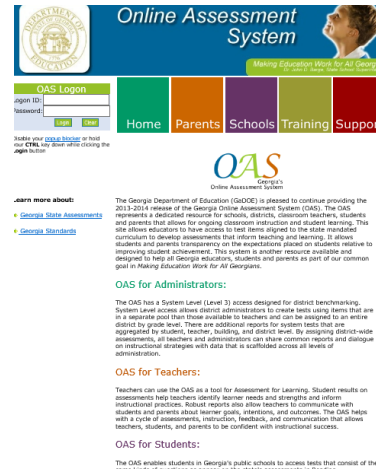
**Unit Vocabulary Poster**

**Blabberize**

**Science Project, Web publishing**

**WhatsApp**

**Science Project, Video**



# Lesson Overview

Students gain an understanding of science terms and atomic structures by learning the organization of the periodic table and element properties. Students acquire appropriate science content vocabulary skills for speaking, reading and writing.

Students will identify electronic configuration, atomic properties, and substance stability according to element groups and their location on the periodic table.

Students will also gain an understanding of compounds and bonding, covalent and ionic bonding. Students gain skills in use of microscopes, Web 2.0 publishing tools, and use advance writing skills for science description reporting during this learning process.

Support appropriate writing skills and the practice of accurate application of punctuation, grammar, and syntax skills such as those targeted in Language Arts.

# Worksheets (formative, classwork grade)

## The Atom

PDF, pages 30, 50, 53, and 59 available at:

[http://www.glencoe.com/sites/common\\_assets/science/workbooks/georgia/ga8sn2.pdf](http://www.glencoe.com/sites/common_assets/science/workbooks/georgia/ga8sn2.pdf)

## Pure elements and the Periodic Table

PDF, pages 31, 32, 45, 58, 74, and 63 available at:

[http://www.glencoe.com/sites/common\\_assets/science/workbooks/georgia/ga8sn2.pdf](http://www.glencoe.com/sites/common_assets/science/workbooks/georgia/ga8sn2.pdf)

## Compounds and Mixtures & Bonding (Part 1 and 2)

PDF, pages 35 – 37, and 66 -70 and 79, available at:

[http://www.glencoe.com/sites/common\\_assets/science/workbooks/georgia/ga8sn2.pdf](http://www.glencoe.com/sites/common_assets/science/workbooks/georgia/ga8sn2.pdf)

Worksheet titled "Atomic Structure and Chemical Bonds" with sections for "Main Idea" and "Details".

**Section 1: Structure of Matter (continued)**

**Main Idea:** Models of the Atom. Compare and contrast the Thomson and Rutherford atomic models.

**Details:** Create a drawing of the charged, negatively charged.

**Section 2: The Simplest Matter (continued)**

**Main Idea:** The Elements. Summarize three properties about elements.

**Details:** The Periodic Table. Complete the graphic organizer to show how the periodic table is organized.

**Graphic Organizer:**

```

graph TD
    A[The Periodic Table] --> B[metals, called]
    A --> C[nonmetals, called]
    B --> D[metals]
    C --> E[nonmetals]
    
```

**Section 3: Identifying Characteristic Properties**

**Main Idea:** Label the square below with information you would find about elements in the periodic table. Identify each piece of information and explain what you can learn from it.

**Section 4: Before You Read**

**Atomic Structure and Chemical Bonds**

**Before You Read**

Before you read the chapter, respond to these statements.

1. Write an A if you agree with the statement.

2. Write a D if you disagree with the statement.

**Table:**

Before You Read	Atomic Structure and Chemical Bonds
	Electrons exist with specific levels of energy.
	Elements can be arranged according to their properties.
	An atom that loses an electron is called a molecule.
	Elements can form bonds by sharing electrons.

**Section 5: Science Journal**

Write a sentence comparing household glass to chemical bonds.

**Page 65**

# Science Projects

## Periodic Paper Box Model

Construction of a paper box to model one table element, the multiple faces of the paper box designed by the student to show:

- Atomic symbol, atomic weight, atomic mass, and element name

- Atomic dot diagram (shells, electrons, and nucleus)

- Atomic physical and chemical properties

- Reason student made their element selection

Web publishing for an outside audience and an online student academic artifact

## Science Project:

Mixture of hot water and salt, students observe salt dissolves. The mixture of dissolved salt and water is left out for the evaporation process to occur. The remaining ice crystals are viewed under the microscope, and observed for the purpose of witnessing the formation of crystals and providing a written description and drawing of that which can be observed under the microscope for entries in student science journals.



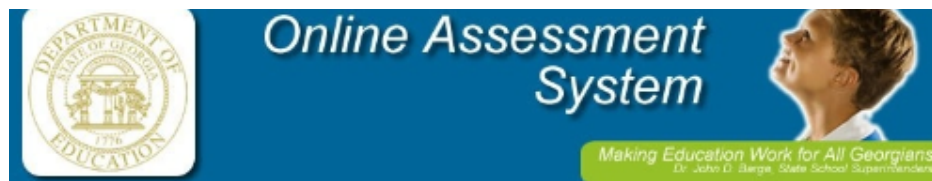
Students **Pure Element Paper Box Models** and **Salt Chrystal Observations**

# Physical Science

## Unit Lesson:

## Matter, Periodic Table and Atomic Bonding

## Pre/Post Assessments



**OAS Logon**

Logon ID:

Password:

Disable your [popup blocker](#) or hold your **CTRL** key down while clicking the **Logon** button



### Learn more about:

- [Georgia State Assessments](#)
- [Georgia Standards](#)

The Georgia Department of Education (GaDOE) is pleased to continue providing the 2013-2014 release of the Georgia Online Assessment System (OAS). The OAS represents a dedicated resource for schools, districts, classroom teachers, students and parents that allows for ongoing classroom instruction and student learning. This site allows educators to have access to test items aligned to the state mandated curriculum to develop assessments that inform teaching and learning. It allows students and parents transparency on the expectations placed on students relative to improving student achievement. This system is another resource available and designed to help all Georgia educators, students and parents as part of our common goal in *Making Education Work for All Georgians*.

### OAS for Administrators:

The OAS has a System Level (Level 3) access designed for district benchmarking. System Level access allows district administrators to create tests using items that are in a separate pool than those available to teachers and can be assigned to an entire district by grade level. There are additional reports for system tests that are aggregated by student, teacher, building, and district level. By assigning district-wide assessments, all teachers and administrators can share common reports and dialogue on instructional strategies with data that is scaffolded across all levels of administration.

### OAS for Teachers:

Teachers can use the OAS as a tool for Assessment for Learning. Student results on assessments help teachers identify learner needs and strengths and inform instructional practices. Robust reports also allow teachers to communicate with students and parents about learner goals, intentions, and outcomes. The OAS helps with a cycle of assessments, instruction, feedback, and communication that allows teachers, students, and parents to be confident with instructional success.

### OAS for Students:

The OAS enables students in Georgia's public schools to access tests that consist of the

# Physical Science

## Unit Lesson:

## Matter, Periodic Table and Atomic Bonding

## Pre/Post Assessments

Test Results Page - Windows Internet Explorer

https://www.georgiaoas.org/servlet/a2l-Test

Correct answers are indicated by ✓.

[Back](#) 1. The observation that ice cubes float in a glass of water can be explained by the fact that

- ☐ most substances have less energy as solids than as liquids.
- ☐ most substances are less dense as solids than as liquids.
- ☒ ice has less energy than liquid water.
- ☐ ice is less dense than liquid water.

[Back](#) 2. Which of the following is a compound?

- ☐ oxygen
- ☒ water
- ☐ nitrogen
- ☐ air

[Back](#) 3. Evidence of a chemical change would be a

- ☐ melting popsicle.
- ☐ spinning top.
- ☐ spilled bucket of water.
- ☒ rusting car fender.

[Back](#) 4. Which symbol represents carbon?

- ☐ Ca
- ☐ N
- ☐ K
- ☒ C

[Back](#) 5.

What do these substances have in common?

air  
helium gas  
salt water  
copper wire

☒ They are compounds.  
☐ They are pure substances.  
☒ They are composed of atoms.  
☐ They are composed of molecules.

[Back](#) 6.

During science lab, some students added small pieces of magnesium (Mg) to hydrochloric acid (HCl). They noticed that bubbles formed, the test tube got hot, and the magnesium

 **Online Assessment System** 

Making Education Work for All Georgians

**OAS Logon**

login ID:

password:

Notice: save [page](#) before or hold our CTRL key down while clicking the login button.

[Home](#) [Parents](#) [Schools](#) [Training](#) [Support](#)

**OAS**  
Georgia's  
Online Assessment System

**Learn more about:**

- [Georgia State Assessments](#)
- [Georgia Standards](#)

The Georgia Department of Education (GaDOE) is pleased to continue providing the 2013-2014 release of the Georgia Online Assessment System (OAS). The OAS represents a dedicated resource for schools, districts, classroom teachers, students and parents that allows for ongoing classroom instruction and student learning. This site allows educators to have access to test items aligned to the state mandated curriculum to develop assessments that inform teaching and learning. It allows students and parents transparency on the expectations placed on students relative to improving student achievement. This system is another resource available and designed to help all Georgia educators, students and parents as part of our common goal in Making Education Work for All Georgians.

**OAS for Administrators:**

The OAS has a System Level (Level 3) access designed for district benchmarking. System Level access allows district administrators to create tests using items that are in a separate pool than those available to teachers and can be assigned to an entire district by grade level. There are additional reports for system tests that are aggregated by student, teacher, building, and district level. By assigning district-wide assessments, all teachers and administrators can share common reports and dialogue on instructional strategies with data that is scaffolded across all levels of administration.

**OAS for Teachers:**

Teachers can use the OAS as a tool for Assessment for Learning. Student results on assessments help teachers identify learner needs and strengths and inform instructional practices. Subtest reports also allow teachers to communicate with students and parents about learner goals, intentions, and outcomes. The OAS helps with a cycle of assessments, instruction, feedback, and communication that allows teachers, students, and parents to be confident with instructional success.

**OAS for Students:**

The OAS enables students in Georgia's public schools to access tests that consist of the

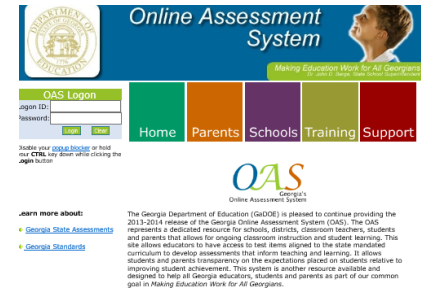


# Physical Science

## Unit Lesson:

## Matter, Periodic Table and Atomic Bonding

## Pre/Post Assessments



Online Assessment System

Welcome Mozer, Lisa

Help | Account Info | Logout

Students

Classes

Tests

Reports

Reports Menu

Choose one of the following options:

- ☐ Teacher / Classroom Level Reports  
( Choose this option to report on tests created / assigned to classes by Teachers )
- ☐ Benchmark and School System Level Reporting  
( Choose this option to report on State Benchmark Tests and tests assigned to your students by your school system )
- ☐ Test Status and Information Reporting  
( Choose this option to report on non analytical information related to roster, proctors, and test assignments )
- ☐ Automated Reporting  
( Choose this option to automatically generate reports which you use on a regular basis and frequency )

Click the Reports tab to return to the main Reports menu.

Copyright (c) 2012 by The Riverside Publishing Company. All Rights Reserved.





# Online Assessment System

Making Education Work for All Georgians  
Dr. John D. Barge, State School Superintendent

[View Student Tests](#)

[View Teacher-Assigned Tests](#)

[Logout](#)

Welcome Ali Fowsia



  
[Student User Guide](#)

  
[Parent User Guide](#)

[View Student Tests](#) | [View Teacher-Assigned Tests](#) | [Logout](#)

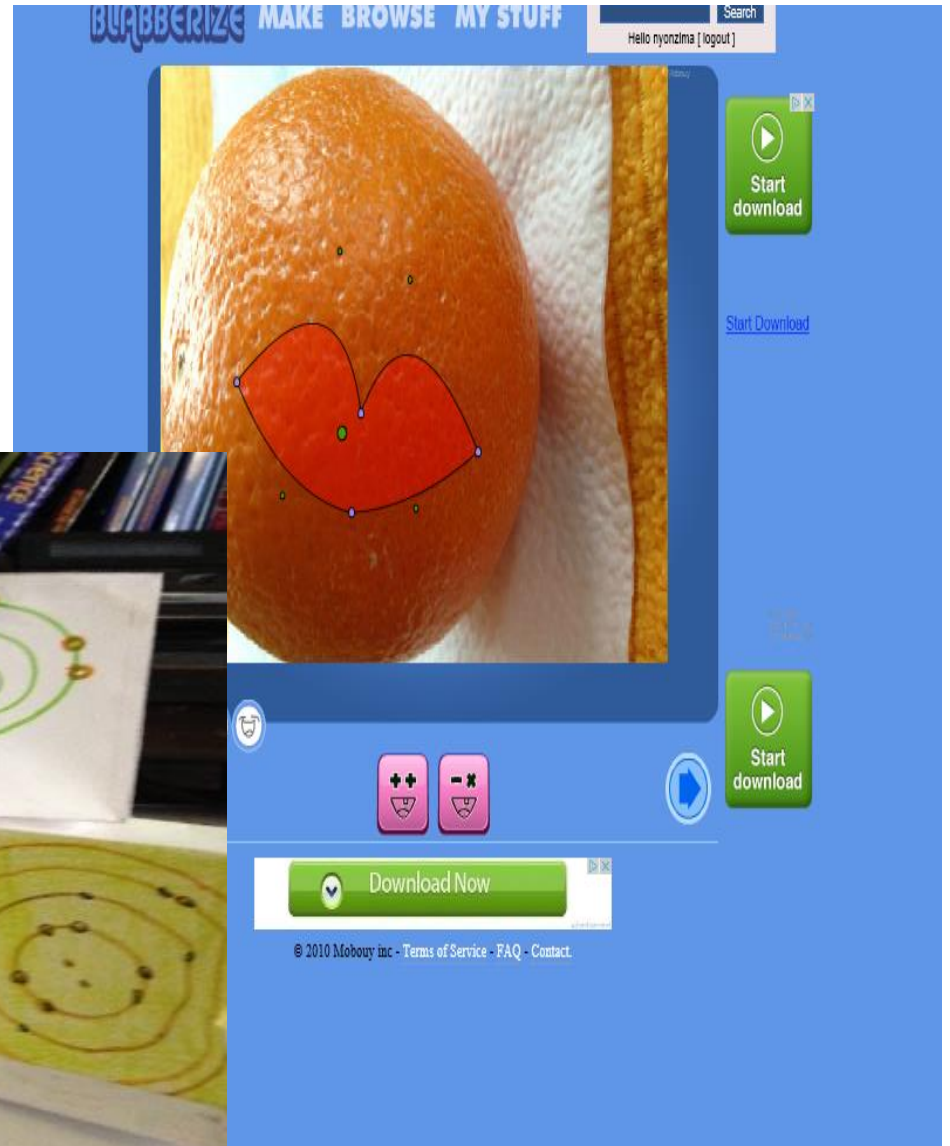
Copyright (c) 2012 by The Riverside Publishing Company. All Rights Reserved.

# Physical Science

## Technology Integration

### Science Project

### Periodic Model Paper Box



## Science Project, Video

