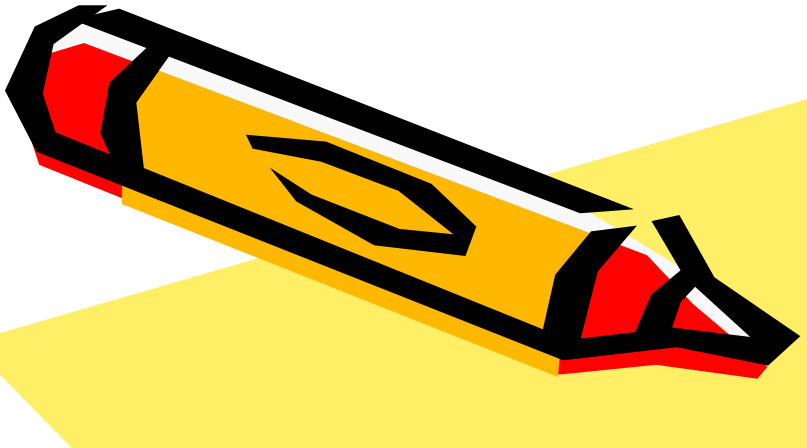
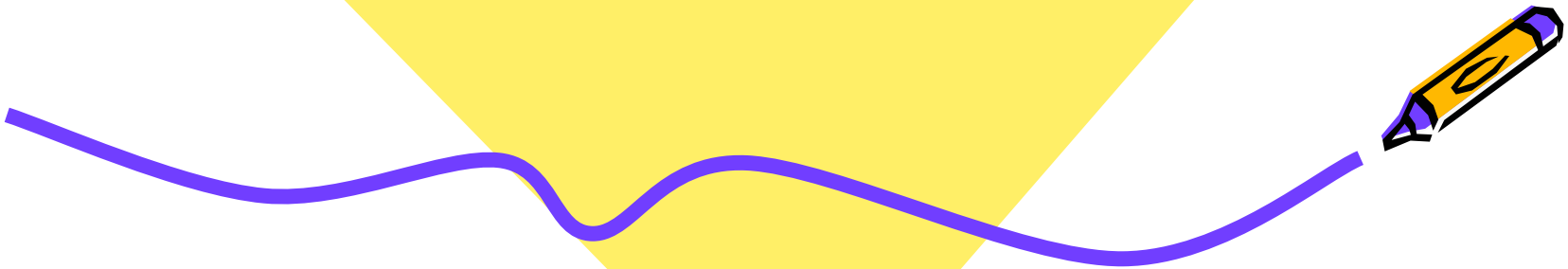
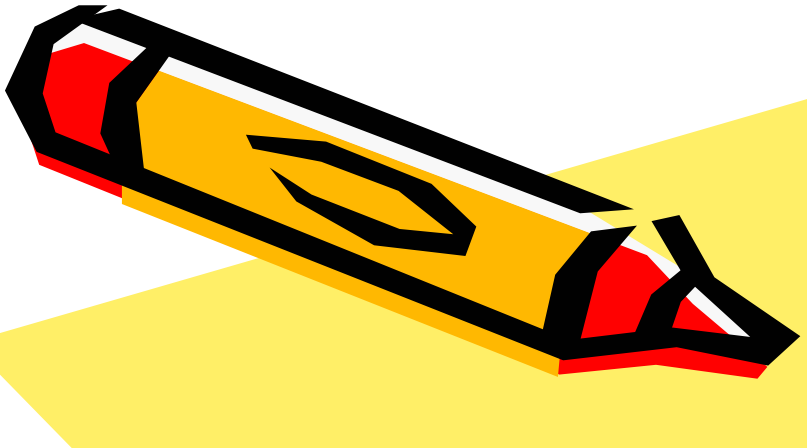
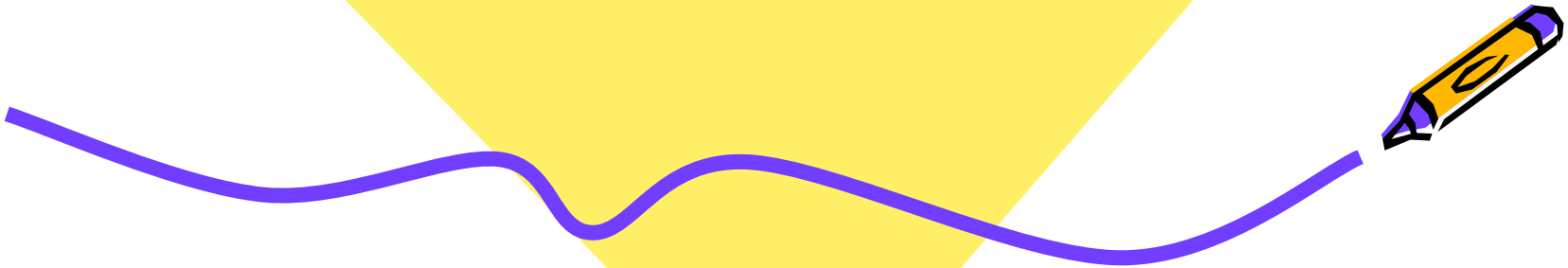


Lesson Plan





West Gordon Demographics



Participant Demographics

- West Gordon Elementary School
- Valdosta City Schools
- 813 Gordon Street, Valdosta, GA 31601
- (229) 333-8570

Classroom Demographics

- 11 EIP (Early Intervention Program)
- 1 Deaf/Hard of Hearing
- 2 EBD (Emotional/Behavior Disorders)
- 22 total children
- Ages 9-11 years old
- Inclusion classroom (General Ed.)

Technology Used

- 3 computers (Pentium II processors, Windows 95 & 98)
- No programs that are used by students to further learning
- Computers are not used regularly in the classroom, and serve little purpose for the students

Technology Needs

- The students could benefit from the use of computers by reviewing things or using them to type their projects
- The computers are not utilized to their potential, and could further the children's educational experience.

Technology Needs

- The students could benefit from the use of computers by reviewing things or using them to type their projects
- The computers are not utilized to their potential, and could further the children's educational experience.

Strategies for Technology Use

- The teacher could have access to programs that may help the students with and without disabilities succeed more
- The classroom should be equipped with materials for all students to learn best with. They should focus on the student's individual needs.
- Modified assignments should be available for students, special programs to help students use the computer to complete assignments, and devices that would assist students in the completion of work.

Newton's Laws of Motion

- Written by: Janellda Cain
- Jeff Davis Elementary School
- http://www.glc.k12.ga.us/BuilderV03/lptools/lpshared/lpdisplay.asp?Session_Stamp=&LPID=35099

Assessed QCCs

- Grade: 5
- *Science* Inquiry
- 1
- *Topic:* Science Inquiry, Process Skills and Problem Solving
  Standard: Asks questions, makes and keeps records of observations, classifies objects and events, communicates with others, makes inferences and predictions, uses estimation and measurement, uses evidence to construct explanations, makes sketches and diagrams to explain ideas, organizes data into tables and charts for interpretation, reads and interprets various types of graphs, formulates simple hypotheses, identifies and controls a limited number of variables, and designs a simple experiment.

Physical Science

- 12
- *Topic:* Motion/Force/ Machines
  Standard: Explains and infers that objects at rest or in motion do not change their motion unless acted upon by an outside force. Using common objects like balls or rolling cars, infers that an outside force is necessary for a change in velocity to occur.

13

- *Topic:* Motion/Force/ Machines
  Standard: Describes the relationship between movement and forces (e.g., inertia, acceleration, and velocity) quantitatively as a function of change in distance traveled over time. Picks a speed and uses it to predict the time required to travel the distance between two cities.

Non Assessed QCCs

- Grade: 5
- *Language Arts* Oral Communication
- 4
- *Topic:* Listening/Speaking
  Standard: Recalls, interprets, and summarizes information presented orally.

  7
- *Topic:* Listening/Speaking
  Standard: Paraphrases and discusses information.

  Written Communication
- 64
- *Topic:* Reference/Study
  Standard: Uses research process by: -choosing topic -formulating questions -identifying key words -selecting sources -skimming -paraphrasing -note taking -organizing -presenting.

  Grade: 5
- *Science* Physical Science
- 15
- *Topic:* Motion/Force/ Machines
  Standard: Investigates the force of gravity. Describes gravity as a force that changes depending on the distance between two objects and difference in their masses

  16
- *Topic:* Motion/Force/ Machines
  Standard: Predicts, observes and records data on the rate of fall of objects. Compares the rate of fall of objects varying in mass and discusses how air resistance affects the rate of fall.

Primary Learning Outcomes

- What are the three laws of motion? How do everyday objects demonstrate these laws?

Additional Learning Outcomes

- What information should be written down to summarize the information presented in class?

Step 1

- *Duration: 1 hour 50 minutes*
  The students will take notes from an Internet site on the laws of motion. We will orally review force and friction at this site. The students will work with a partner to identify five more examples of a force moving on an object. The students will also discuss ways to reduce friction. The students will do the activity in the attachment, which demonstrates ways to reduce friction.

Resources for Step 1

- **Web Resources for Step 1**
- **Title:** Push Me
  URL: http://www.usoe.k12.ut.us/curr/science/sciber00/8th/forces/sciber/forcmot.htm
  Annotation: This site defines and illustrates forces and types of friction.
- **Attachments for Step 1**
  Title: Reducing Friction Activity **FileName:** Reducing Friction Activity.doc
  Description: This activity demonstrates how to reduce friction by testing various lubricants.

Modifications for Step 1

- Ieshia will work with her interpreter and Jasmine (a student who knows some sign language) on the computer.
- Ieshia will cut and paste information from the web site into a word document.
- Ieshia will be required to identify 3 rather than 5 extra examples of a force moving on an object

Step 2

- *Duration: 50 minutes*
  The students will take notes on the first law of motion as we discuss it from the Internet site. The students will do the activity on the following attachment, which demonstrates the first law of motion. Then the students will work with a partner to come up with another example that demonstrates the first law of motion and share it with the class.

Resources for Step 2

- **Web Resources for Step 2**
  Title: Newton's Laws Law #1 Inertia
  URL: http://www.usoe.k12.ut.us/curr/science/sciber00/8th/forces/sciber/newtons.htm
  Annotation: This site defines and illustrates Newton's first law of motion.
- **Attachments for Step 2**
  Title: First Law of Motion Activity **FileName:** First Law of Motion Activity.doc
  Description: This activity uses a paper or plastic cup, an index card, and a coin to demonstrate the first law of motion.

Modifications for Step 2

- Ieshia will continue to work with her interpreter and Jasmine on the computer
- She will cut and paste information from the Newton #1 site into Word

Step 3

- *Duration: 50 minutes*
  The students will make predictions about a situation. The situation is as follows: A bowling ball and a soccer ball are dropped from a roof of a tall building at the same time. Which ball will hit the ground with greater force? Will they hit the ground at the same time? Allow students some think time. Then have them jot down their answers to the questions on a piece of paper. Then discuss the answers to the questions using the Internet site. Students should take notes on the second law of motion as the answers to the questions are being discussed. The second Internet site will define and illustrate the third law of motion. The students will be given a balloon to use for the activity on the Internet, which demonstrates the third law of motion. The students will also be given a worksheet to fill out. They may use the notes they have taken over the previous steps.

Resources for Step 3

- **Web Resources for Step 3**
  Title: Newton's Laws Law #2
  URL:
  http://www.usoe.k12.ut.us/curr/science/sciber00/8th/forces/sciber/newton2.htm
  Annotation: This site defines and gives examples of the second law of motion. **Title:** Newton's Laws #3
  URL:
  http://www.usoe.k12.ut.us/curr/science/sciber00/8th/forces/sciber/newton3.htm
  Annotation: This site defines and illustrates the third law of motion. It also suggests an activity to demonstrate this law.

- **Attachments for Step 3**
  Title: Newton Worksheet **FileName:** Newton Worksheet.doc
  Description: This is the worksheet to be used for assessment of the lessons presented in the previous steps.

Modifications for Step 3

- Ieshia will be given a notes page so she can take notes and participate in the lesson.
- Teacher will allow Ieshia time to watch her interpreter and then write the answers to her questions.

Materials and Equipment

- Internet
- In Focus projector
- Pencil
- Student worksheets
- Notebook paper
- Materials for a balloon powered car

Assessment

- Teacher will use the worksheet from Step 3 to determine if students understand Newton's Laws of Motion
- Extension
- The students will use the attached web site to make a balloon racer and write a paragraph about how their racers applies the laws of motion.
- **Title:** Balloon Racers
  URL: http://www.ahsd25.n-cook.k12.il.us/School%20Info/South/Southfiles/Bingaman/motion/balloon/racers.htm
  Annotation: Web site addressing the issue of building a balloon racer to test Newton's 3rd Law of Motion.

Extension

- The students will use the attached Web site to make a balloon racer and write a paragraph about how their racers applies the laws of motion.

Modifications for Extension

- Ieshia will have to sign facts about the balloon racers, rather than writing a paragraph.
- Ieshia will tell the teacher the 3 laws of Motion instead of how they apply to the balloon racers.