Lesson Summary for Grade 2
In the study of air, our second-grade intervention class used the scientific processes of observing, predicting, hypothesizing, collecting data and drawing conclusions. These scientific processes were integrated into all subject areas, including literature, social studies, math, art, music and social science. The topics were selected because they were specified as critical objectives in the second-grade curriculum for the Hamilton City School District. The objectives were aligned with the state models of the above-mentioned subject areas. The mastery of these skills ensures student success in the future as they prepare for the fourth-grade proficiency tests.

These skills were taught by utilizing the following procedures:
1. introduction of vocabulary terms relevant to critical objectives
2. gathering current and past knowledge of related skills
3. hands-on experience to reinforce abstract concepts
4. application of skills to everyday situations to ensure mastery of the critical objective
5. assessment and intervention of the students understanding of the critical objective

In summation, based on the information received in the Science with Toys class, I am now able to restructure the focus of the development of my lesson plans. I am now able to integrate all subject areas and improve instruction by including activities that encourage the use of the higher level thinking skills of analysis, synthesis and evaluation.

Students learn the following concepts while performing the “Delta Dart,” “Balloon in a Bottle,” “Mighty Air,” “Catch the Wind,” and “Balloon on a String” experiments:
  • Air is strong.
  • Air takes up space.
  • Air occupies every space between other kinds of matter.

Science Activity 1: Delta Dart
Students explore the principles of flight while building and experimenting with the Delta Dart.


Key Science Topics:
  • force of gravity
  • lift
  • Newton’s Third Law
  • thrust

Key Process Skills:
• predicting
• controlling variables
• investigating

Science Activity 2: Balloon in a Bottle
Students discover that air takes up space.


Key Science Topics:
• nature of gases
• properties of air

Key Process Skills:
• inferring
• hypothesizing

Science Activity 3: Mighty Air
Students investigate the properties of air.


Key Science Topics:
• air pressure
• air takes up space
• atmospheric pressure
• pressure/volume relationship
• properties of gases
• relationship between pressure and number of particles

Science Activity 4: Catch the Wind
Students learn that wind—moving air—can be used to do work and that, even though we can’t see wind, we can see its effects.


Key Science Topics:
• using wind to do work
• forces
• engineering

Key Process Skills:
• assembling
• observing
• communicating

Science Activity 5: Balloon on a String
Students discover that an object can be pushed or pulled by an invisible force.


Key Science Topics:
• force
• motion

Key Process Skills:
• observing
• predicting

Reading Activity
Students are introduced to science-related vocabulary while reading.

Students read the books Mirandy and the Brother Wind by Patricia McKissack, Flying by Gail Gibbons, and Big Balloon Race from the Harcourt Brace text. During these reading activities students:
• make predictions and inferences from pictures and hands on activities (RB04)
• identify what is known and learned about air (RB04)
• define vocabulary terms (RB04)
• apply newly learned concepts in special science experiments (CA03)
• practice fluency by re-reading with reading buddies (CA03)
• extend their knowledge to other subject areas described below (CA03)

Writing Activity
Students use a story starter to extend the usage of appropriate vocabulary in a science journal.

“If I were in an air balloon I would feel.... I would see.... I would want to travel to.... I would want __________ to be with me.” The students complete this story, illustrate it, then share it with classmates. This activity meets Hamilton City School District Objective NA02.

Social Studies Activity
Students exhibit kites, Frisbees, sailboats or air machines of any kind.

Students send written invitations, designed and illustrated in the computer lab, to parents and community workers encouraging their participation in sharing their works or hobbies that relate to air. Students visit a local airport and have airport employees discuss the effects of weather (air) on flying. This activity meets Hamilton City School District
Objective CA03.

**Art Activity**  
*Students create a bulletin board collage of things that use air.*  
Students build and explore kites and sails. This activity meets Hamilton City School District Objective TA02.

**Music Activity**  
*Students create song lyrics.*  
While designing their kites, students create lyrics to the tune of “I Believe I Can Fly” using the science vocabulary. This activity meets Hamilton City School District Objective CA03.

**Mathematics Activity**  
*Students practice measurement skills.*  
While using the delta dart plane, students use measurement skills and terms such as inches, feet, yards, greater than, and less than, and while using skills of addition and subtraction. This activity meets Hamilton City School District Objective M0102.

**References**  
“Literature Selections” from Harcourt Brace & Company’s second-grade text were referenced by the lesson author.  
Vurnakes, C.; Barr, M.G.; Riddles & Rhymes; Evan-Moor: Monterey, CA, 1993.
Coronavirus - lessons from an ancient plague village. Episode 200401 / 01 Apr 2020. Learn today's words and phrases: isolate, measure up, acts of kindness, close-knit, humanity. Today's words and phrases: flypasts, the RAF, air traffic centre, airspace, aircraft. 27 June 2018. Episode 180627 / 27 Jun 2018. Lesson Index - A List of all Lessons at TalkEnglish.com. This is a list of over 900 English lessons. You can click on any lesson below to study for free. There are over 9000 audio files to help you improve your English speaking. Click on the menu icon below the TalkEnglish logo to open or close the Lesson panel. The Lesson Panel will contain all of these lessons in an organized way to help you find the lesson you are looking for. Lessons is where you can level up a card's CT/Skill Level by feeding it other cards or mats. The screenshot above displays the card feeding panel. To switch to material feeding, tap the 'Item Selection' button at the top right. The mats you use to increase CT level are these, and you can get them by performing Improvs/Auditions, going on Strolls, or buying them from the Shop with pieces. You also get these from failed Adlib Chances. The weekly one-hour 'lesson' programme kicked off last Sunday, and runs from 11pm till midnight on radio broadcast FM99.7. 'This idea of having a 'live' tutorial class on air originated from two-dimensional advertisements [for tutorial centres]. We wanted to give students a sense of friendliness and link up teaching with entertainment,' said Mr Eng. Read full article.