Lesson Title	Mississippi's Contribution to Space Exploration
Length of Lesson	One (50 minute) class period
Created By	Will McBryde, Rob Thornton
Subject	General Science
Grade Level	8th grade
State Standards	8th: 1c, d, h (Inquiry); 4e (Earth and Space Science)
DOK Level	DOK 3
DOK Application	Develop a Logical Argument, Draw Conclusions, Cite Evidence
National Standards	5-8: A (Inquiry); D (Earth & Space Science)
Graduate Research Element	Space exploration is important to research and understanding the earth's role in the universe and how it was formed.

Student Learning Goal:
MS 8th Grade:
(Inquiry) 1(c) Summarize data to show the cause and effect relationship between qualitative and quantitative observations (using internet with Brain Pop) (d) Analyze evidence that is used to draw explanations (answering brain pop questions) (h) Analyze different ideas and recognize the skepticism of others as part of the scientific process in considering alternative conclusions (eliminating the wrong brain pop answers and selecting the correct answer); (Earth and Space Science) 4(e) Explain how the tilt of Earth's axis and the position of the Earth in relation to the sun determinate climatic zones, seasons, and length of the days.

National Science Education Standards of Content 5-8:
(Inquiry) 5-8(A) Abilities necessary to do scientific inquiry, Understandings about scientific inquiry; (Earth & Space Science) (D) Structure of the earth system, Earth in the solar system.

Materials Needed (supplies, hand-outs, resources):
PowerPoint file (INSPIRE_McBryde_12.01.10_PP); laptop; projector; Access to Brain Pop, Smart Board

Galileo and other Historical Astronomers:
http://www.brainpop.com/science/famousscientists/galileogalilei/preview.weml

International Space Station Brain Pop:
http://www.brainpop.com/science/space/internationalspacestation/

Lesson Performance Task/Assessment:
This lesson was an introductory lesson into Space Science to capture student interest. Students will observe a PowerPoint presentation presented by the instructor. Questions will be asked throughout the PowerPoint to keep the students engaged. Inferences about how students are the future to Mississippi's space program will be made to excite the students about potential career opportunities. After the PowerPoint presentation the students will participate in two Brain Pop exercises via internet and Smart Board. The assessment will be student participation during PowerPoint and the graded quizzes taken as a group during the Brain Quiz exercise.

Lesson Relevance to Performance Task and Students:
The PowerPoint presentation will help demonstrate to students how graduating from high school and college can lead to a career in space exploration. The PowerPoint presentation will also show the students how Mississippi is involved in space exploration. The two Brain Pop videos and two Brain Pop quizzes will also reinforce those ideas. One Brain Pop will be on Historical Astronomers and the second Brain Pop will be on the International Space Station.

Anticipatory Set/Capture Interest:
The PowerPoint presentation is designed to capture the student's interest and engage the students due to the relevancy of Mississippi's impact on space exploration.

Guided Practice:
The PowerPoint presentation on Mississippi's Contribution to Space Exploration will be guided. After which the Brain Pop video about historical astronomers will be shown followed by the quiz. After which the Brain Pop video about the International Space Station will be shown followed by the quiz. After the Brain Pop quizzes are taken they will be reviewed by the instructor in front of the class and the correct answers will be discussed.

Independent Practice:
Students will participate as a class to answer the Brain Pop quiz questions. The instructor will simply select a student to get up and push the answer they choose as a class on the Smart Board. Having the students select their answer as a group causes discussions and inquiry because the whole class usual never agrees on one single answer.

Remediation and/or Enrichment:
Remediation- Individual IEP; PowerPoint will be made available to resource teacher;
Enrichment - Have students research a career in space exploration they would like to have.

Check(s) for Understanding:
Observe students during PowerPoint presentation. Observe students participation during Brain Pop quizzes. Ask student's questions as you are going over the Brain Pop correct answers.

Closure:
Question 1: Why should we explore space?

Question 2: What interests you about space?

Possible Alternate Subject Integrations:
Physics, Math

Teacher Notes:
This lesson could apply to all middle school grades. This lesson should excite the students about studying space in the coming weeks since Mississippi is directly involved with space exploration. If the student chooses to have a career in space exploration one day he/she can do that right here in Mississippi!

http://www.nasa.gov/centers/stennis/home/index.html