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Volume 2 Issue 2

Guilford County Schools
STRIVING. ACHIEVING. EXCELLING.

P.O.S.T.
Preparing Outstanding Science Teachers

P.O.S.T. Schools

Guilford County Schools, recently committed to provide Discovery Education Science to middle school educators and students. Guilford County Schools has purchased licenses for the 11 middle schools in the P.O.S.T. grant for one year. Today, 1 million educators and 30 million students in more than half of U.S. schools learn with Discovery Education tools and products.

Discovery Education Science is a comprehensive multimedia toolkit that supplements existing school curriculum with high-quality digital content in a flexible online format. Recently awarded both the Teacher's Choice Award and *Technology & Learning* Magazine's Award of Excellence, Discovery Education Science provides middle-school science resources that engage today's technology-savvy students and helps educators grow scientific literacy and improve student achievement.

Teachers and staff will undergo intensive professional development designed to orient them to Discovery Education Science and help them integrate this resource into their existing lessons.

If a teacher has a streaming username and password they can use that to access the site. If they have not accessed United Streaming yet contact the Curriculum Facilitator in their building for the corresponding passcode. Next go to

discoveryeducation.com.

Discovery EDUCATION SCIENCE

Click on the new user login tab and enter the passcode and then they will be able to create their own username and password for future use.

This is an incredible product with a vast array of functions and uses. Use it in your class today!

Special Points Of Interest

- November 13 at 400pm POST Presentation Kernodle Middle School
- Novmeber 14 at 400pm POST Presentation Southeast Middle School
- **November 15 and 16** The annual NCSTA convention will be held at the Koury Convention Center. This year's theme is **Earth: A Good Planet is Hard to Find.**
- November 19 at 345pm POST Presentation Northwest Middle School
- November 20 at 300pm POST Presentation Johnson St Global Studies
- November 27 at 350pm POST Presentation Mendenhall Middle School

P.O.S.T. Quarterly Academy at Ben L. Smith High

The P.O.S.T. grant provided the second of four professional development opportunities for the P.O.S.T. middle schools on November 6th at Ben L. Smith High School. Teachers participated in sessions throughout the day including chemical safety training, global positioning and wetlands, inquiry lesson plans, meteorology and environmental science, and STEM (Science, Technology, Engineering, and Mathematics) skills. Thanks to the presenters: Flo Gullickson, Dr. Catherine Matthews, Lonnie Baxley, and Dr. Sandra Strubinger. It could not have been done without you! Our next Quarterly Academy is January 2nd. Plan now to attend. You do not want to miss it!

What is Inquiry-Based Learning? Part 1

An inquiry investigation is a complex task in which students are asked to think as scientists-to ask a testable question about the world they have experienced, to generate quality data, to evaluate these data and use them to answer the question they have posed. There are four phases to an inquiry investigation:

Connecting

Connecting is the process where students develop skills and habits of mind such as curiosity and an understanding of the types of questions science can and cannot answer. For an inquiry investigation to be meaningful to students, and for students to ask worthwhile questions, it is important to connect the topic being studied to students' previous experiences.

To promote connecting, a teacher introduces students to a phenomenon and gives students time to explore and build background knowledge about this phenomenon. Students are also asked to link their observations to their previous understandings and are invited to explain their understandings of the phenomenon being studied. Students are then asked to use this knowledge to create or refine questions to investigate.

Designing

Designing is the process students use to create a method for collecting data to answer their questions. Designing develops scientific skills and habits of mind such as consistency, attention to detail, and understanding the need to collect fair and adequate data.

During the design phase, teachers give students time to conduct a trial run of their methods, promote the use of detail and clarity of directions, and point out the need to collect sufficient data that answer the question posed.

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What is Inquiry-Based Learning? Part 2

Investigating

Investigating is the process of collecting, organizing, and displaying data. It develops scientific inquiry skills and habits of mind such as attention to detail, recognizing the need for reproducible results, and deciding which types of data are of greatest value in answering the questions posed.

During the investigation phase of an inquiry, teachers allow students to revise their procedures as needed, recording changes as they are made. It is important for teachers to show students the importance of collecting and recording the actual data generated. It is also important for teachers to model multiple ways of presenting data and the usefulness of each in answering specific types of questions. Students should be asked to select the forms of presentation which best clarify their data and help to answer the questions they have posed.

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The science and education communities agree that investigative science is a highly effective way to teach science. In this way, students build their scientific understanding and investigative skills through active inquiry, connecting their previous knowledge with new ideas and evidence.

What is Inquiry-Based Learning? Part 3

Constructing Meaning

Constructing meaning is the process of analyzing the data which have been collected, examining patterns and trends in the data, and using them to formulate explanations. Constructing meaning also involves examining the quality of data produced and evaluating their usefulness in answering the questions that were posed. It develops scientific skills and habits of mind such as critical and reflective thinking, communication, respect for evidence, and flexibility in thinking.

To promote these skills it is important for a teacher to raise student awareness of the many types of patterns that can be found in nature and to model the language used in explaining patterns. Students should be invited to explain general and specific trends in their data, and be guided back to their background information to compare these patterns with their original thinking. In promoting construction of meaning it is also important for a teacher to introduce students to the common places where errors occur in data collection. Students should be asked to explain problems that may have occurred during their data collection and possible solutions to these problems.

Check out http://www.nwrel.org/msec/science_inq/4traits.html for more info.