Discrete Events in Science

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Rational for Integration

- Have you ever tried to do one thing during your day which had no impact on anything else?
  - Gives meaning to content
  - Real world applications
  - Well rounded, life-long learners
What Factors Affect the Speed of a Stream?

By: Katrina Miguez

Integration of Earth Science concepts and Slope

- Will changing the slope of the stream bed change the speed of the stream?
- Determine the factors that effect the rate of change.
- Look at erosion rates.
Take a Hike!

- Look for patterns of stream flow.
- Look for drainage patterns.
- Evidence of erosion
- Is there any slope to terrain?
- Where does the water go?

Discuss
- Water cycle
- Water shed
- Students would draw their observations and record them in paragraph form.
Activity #1: Calculating Rate of Flow

- Set up trough.
  - Practice procedures.
  - Calculate speed the water.
Activity #2: What Factors Affect the Speed of a Stream?

- Investigate whether or not varying the slope of the streambed causes changes in a stream’s speed.
- Calculate the elevation and average time and speed.
  - Conclusions: As the slope increases the speed will increase.
Extensions:

- Calculate stream flow and slope for a real stream nearby.
- Change the streambed to see if there is a correlation between stream flow and irregular streambeds.
- Create a graph and function table of your data.
The Great American Ideal?
By: Katty Furitsch

- Applying ratio, proportions and percents
- Relating form and function of the human form using De Vinci’s “Ideal Human”
Focus Activity

- Discuss what De Vinci’s “Ideal” person?
- How reasonable is it?
Activity #1: Are You Ideal?

- Students are to measure each other’s height and arm span.
- In their group:
  - Determine the mean height and arm span of their group.
  - Determine the decimal equivalent of their height/arm span ratio.
  - Plot the data as a line graph.
  - Discuss the patterns.
Activity #2: Growing Icons

- Do the same activity using Ken and Barbie dolls.
  - Using an overhead, increase the size of Ken and Barbie to student size.
  - Discuss the reasonableness of Ken and Barbie’s proportions.
    - Are they attainable?
    - Why or why not?
Extensions:

- Measure the height and arm span of children of different ages and check for the consistency.
- Make other skeletal measurements, are there still the same proportions?
- Look at your graphs, are the linear or nonlinear?
- Do the dolls accurately represent the "ideal".
- Measure your percent deviation De Vinci’s "ideal".
The Beat Goes On
By: Lollie Garay

- Relationship between variables as displayed on a graph
- Graphing patterns
- Relationship between variables can written by using the symbolic shorthand of Algebra
- Relating pulse rates to the amount of activity
Activity #1: Measuring Resting Pulse Rate

- Have students measure their resting heart rate three times.
- Graph the results.
Activity #2: Pulse Rate Recovery

- Students are to run in place for one minute.
- Have students measure their heart rate for the next minute.
- Graph the data.
- Discuss the relationships between their resting and active pulse rates.
- Write a compare and contrast paragraph about the two graphs.
Conclusions

- Integration brings the real world into the classroom
- Makes learning more interesting
- Students are able to find math and science in everything