

ThinkDOTS©

A Versatile Strategy for Differentiation



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- After a conceptual unit has been presented and students are familiar with the ideas and associated skills, “Think DOTS” is an excellent activity for students to construct meaning for themselves about the concept they are studying. The instructor first defines readiness levels, interests or learning styles in the class, using on-going assessment.
- Each student is given a set of activity cards on a ring, a die, and an activity sheet. Each student rolls the die and completes the activity on the card that corresponds to the dots thrown on the die (that is, if a student rolls a “three,” she then finds the card with three dots on it and completes the activity written on that card). Each student then completes the activity on the activity sheet.

Materials:

1. 8 ½ x 11 inch paper or 5X7 index cards
2. Hole punch
3. Metal or plastic rings
4. Dice
5. Scissors
6. Markers or sticker dots
7. Laminating materials (optional)



Think Dots Activities

- The activities on the activity card should allow students to explore what they just learned from a variety of angles.
- You may consider having each activity card explore a concept or idea from a different level of Bloom's Revised Taxonomy*
- You can use the cards for a fun, engaging test review– put different formulas, important terms, or problems on each card

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Construction:

1. For each readiness level, six activities should be created.
2. On an 8 ½ x 11 inch page divided into six sections (this can be done easily on the computer by creating a 2 x 3 cell table and saving it as a template), the activities should be written or typed in each section.
3. On the back of each page, dots corresponding to the dots on the faces of a die should be either drawn or affixed (you can use Avery adhesive dots) on each of the six sections of the page.
4. The pages should be laminated for durability.
5. Then each page should be cut into the six sections.
6. Use a hole punch to make holes in one corner or in the top of each activity card.
7. Use a metal or plastic ring to hold each set of six cards together (you can get 100 metal rings from office supply stores for \$9.00)
8. Create an Activity Sheet to correspond to the lesson for easy recording and management.



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Suggestions:

1. Use colored paper and/or colored dots to indicate different readiness levels, interests or learning styles.
2. Have students work in pairs.
3. Let students choose which activities – for example: roll the die and choose any three; create complex activities and have students choose just one to work on over a number of days.
4. After students have worked on activity cards individually, have them come together in groups by levels, interest or learning style to synthesize





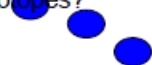
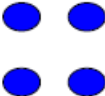

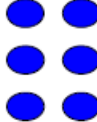
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Application:

1. Use “ThinkDOTS” to lead students into deeper exploration of an idea.
2. Use “ThinkDOTS” for review before assessment.
3. Use “ThinkDOTS” as an assessment.









**Science Lesson
ThinkDOTS - Matter**

<p>How do the atomic numbers in the periodic table change from the top to the bottom? From left to right across the table?</p> <p align="center"></p>	<p>Predict as many properties for potassium as you can. To make your predictions, look at the information in the box for this element and consider its location on the periodic table.</p> <p align="center"></p>	<p>Carbon is atomic number 6. How are two carbon atoms with mass numbers of 12 and 14 different? Why are these atoms called isotopes?</p> <p align="center"></p>
<p>Why do you think scientists used the term "cloud" to describe the position of electrons in an atom?</p> <p align="center"></p>	<p>There are three jars in the front of the room. Each has a substance with a strong odor. One is a solid, one is a liquid, and one is a gas. Which odor would students in the back of the room smell first? Why?</p> <p align="center"></p>	<p>Suppose you were given some sugar cubes, a grinder, some water, a pan, and a hot plate. What physical and chemical changes could you make in the sugar?</p> <p align="center"></p>

P. Goolsby & K. Brimijoin,
Amherst County Schools, 2000

High School English Unit: Prejudice

Kathy Pegues, 2000

<p align="center"><u>Prejudice</u> </p> <p>Discuss how prejudice and discrimination are not only harmful to the victim, but also to those who practice them.</p>	<p align="center"><u>Scapegoating</u> </p> <p>Imagine a group of people that could be scapegoats. List and describe stereotypes of this group and the treatments they received because of them.</p>
<p align="center"><u>Articles</u> </p> <p>Read the article. What could be reasons for the persecution? How can you justify and understand the minds of those responsible?</p>	<p align="center"><u>Photography</u> </p> <p>Photographs tell stories. Write a caption for the photo and explain why you chose it.</p>
<p align="center"><u>Genetics</u> </p> <p>Certain characteristics are blamed on genetics. Do genetics impact the characteristics of your group? Explain the reasoning behind your answer. Use your science knowledge.</p>	<p align="center"><u>Stereotypes</u> </p> <p>Your group was persecuted. Identify a group who has been persecuted in more recent years. Compare the two and give reasons why.</p>

ThinkDOTS: Vocabulary Review

<p style="text-align: center;"><u>Connect it</u> ●</p> <p>An automobile manufacturer wants to use this word as the name for its newest car. They have asked you to design the car– if this word were a car, what would it look like? Draw a picture.</p>	<p style="text-align: center;"><u>Define it</u> ● ●</p> <p style="text-align: center;">What is this word's definition?</p>
<p style="text-align: center;"><u>Use it</u> ● ● ●</p> <p>Create a concrete poem using this word as the poem's subject.</p>	<p style="text-align: center;"><u>Collage it</u> ● ● ● ●</p> <p>Create a collage of words and images which represents this word. Do not put the word or the definition on the front of the collage; write them on the back.</p>
<p style="text-align: center;"><u>Evaluate it</u></p> <p>In your opinion, is this word a "good" word or a "bad" word? In other words, is this word useful? Does it do a job that no other word can do?</p> <p style="text-align: center;">● ● ● ●</p>	<p style="text-align: center;">● ● ● ● <u>Personify it</u></p> <p>Give this word a personality– what do you think this word would be like if it were a person? Find another word from our list that you think would either be this word's perfect match or worst enemy, and explain your rationale.</p>

ThinkDOTS: Probability and Statistics

<p style="text-align: center;"><u>Argue it</u></p> <p>Make an argument for which graphing method is the easiest to read: pie charts, stem-and-leaf plots, bar graphs, or line graphs. Construct a visual model to show us why.</p>	<p style="text-align: center;"><u>Conduct a survey</u></p> <p>Choose a random sample of n=15 students from this class and conduct a survey of their favorite sports team/food/rock star/ etc. (your choice!). Describe how you arrived at your random sample, and create a data display of your results.</p>
<p style="text-align: center;"><u>Call it into question</u></p> <p>Is there such thing as a truly "random sample"?</p>	<p style="text-align: center;"><u>Define it</u></p> <p>What is a random stratified sample? When would you use one?</p>
<p>● <u>Rectangular</u> <u>Evaluate it</u></p> <p>Look at today's U.S.A Today opinion poll. What type of graph is it using to display its results? Do you feel that the data display is accurate or misleading?</p>	<p style="text-align: center;"><u>Plot it</u></p> <p>Plot the distribution of scores from last year's final exam (Get the scores from the teacher-- sorry, all names have been removed!)</p>