



## Grade 8 Sample Lesson Plan: Creating Health Through Building Design

### **Description**

Please see attached handout for a lesson submitted by a Virginia teacher

### **Handout**

The next page includes a handout for the lesson.

# Promoting Health Through Building Design

8.3.q Create environmental design solutions that promote physical and psychological health.

Note: You will need paper and pencil, pens, color pencils to complete a drawing

 <p>How does building design affect our physical and psychological health?</p> <p>What design solutions would you create to promote physical and psychological health?</p>	<h2 style="text-align: center;">Link</h2> <p>Think about a classroom that you feel most comfortable in at school. It could be because of a teacher you like or you have friends in the class, or it could be because of the surroundings.</p> <p>Respond to the questions in complete sentences in the boxes provided.</p> <p>Would you want to learn in a classroom with or without windows? If with windows, what do you want to be able to see?</p> <input type="text"/>
	<p>How do you feel when you are in a room with pictures, posters, or colors on the walls, versus a room without posters or pictures?</p> <input type="text"/>
	<p>How do you feel when you play in an indoor space versus playing in an outdoor space?</p> <input type="text"/>
	<p>If you had the choice to eat your lunch outside (on a nice day) or eat your lunch inside, which would you choose and why?</p> <input type="text"/>
	<p>Much of our day is spent inside in a variety of buildings and structures. Whether you realize it or not our environment has an effect on our physical and psychological health. Different environments can affect people in different ways. In this lesson, you will have an opportunity to explore information about design and then have an opportunity to create your own designed space.</p>

	<h2 style="text-align: center;">Explain</h2>
--	----------------------------------------------



Adults spend a good amount of their time at home or work, while students spend a good amount of their time in their home or school. Every building that is designed will have some effect on the environment and the people that will pass through their doors every day. Some buildings may be older and come with their own set of environmental challenges, such as indoor air pollution, inadequate heating or cooling, or structural issues. Newer buildings might have a “green” design.

Fairfax County has been working to create design solutions that promote physical health through building environmentally friendly buildings. In 2008, Fairfax County adopted a green building policy for any building with more than 10,000 square feet to be constructed to meet or exceed the green building standards. A 3 - bedroom house can be 1,400 to 2,000 square feet. On average, a FCPS elementary school is over 103,000 square feet, middle school over 167,000 square feet, and a high school is over 353,000 square feet.

Read about Fairfax County’s green building policy  
<https://www.fairfaxcounty.gov/environment/green-buildings>

As you read, list three strategies for making a building green

1.
2.
3.

Does color make a difference?

The color of a space can affect how a person feels in that space. **Blue** can evoke feelings of calm and freshness, and represents strength and dependability. Bold shades of blue can add energy to a space while light shades can make spaces feel larger.

**Yellow** activates memory, stimulates the nervous system, promotes communication, and sparks creativity.

**Green** represents growth and renewal, lending a calming feeling to a room.

How can building designs affect students?

According to an article in Scientific American, there are now research-based clues about how to design spaces that promote creativity and keep students focused and alert. Research shows information about the effects of ceiling height, windows, ability to see nature, light, and furniture arrangement.

- Higher ceilings encourage people to think more freely, which may lead them to make more abstract/creative connections.
- Low ceilings, on the other hand, may inspire a more detailed, statistical outlook—which might be preferable under some circumstances.

Source:  
Matteucci,  
Jeannie, Behind  
the Color Blue  
<http://www.hgtv.com/remodel/interior-remodel/behind-the-color-blue>

(Source: Anthes,  
Emily (2009).  
How room  
designs affect  
your work and  
mood.  
Scientificamerica



- Ceiling height may feel actually higher than it is by manipulating the perception of space, by using light-colored paint or mirrors to make the room look more spacious.
- Some people think that too many windows can cause distraction. However, a study showed that views of natural settings, such as a garden, field or forest, actually improve focus. Looking out at a natural setting is relatively effortless and can give the mind a much needed rest.
- In an analysis of more than 10,000 fifth-grade students in 71 Georgia elementary schools, students in classrooms with unrestricted views of at least 50 feet outside the window, including gardens, mountains and other natural elements, had higher scores on tests of vocabulary, language arts, and math than did students whose classrooms primarily overlooked roads, parking lots, and other urban fixtures.
- Looking at scores on standardized tests of math and reading for more than 21,000 elementary school students in three school districts in three states: California, Washington and Colorado. Researchers found that students in the sunniest classrooms advanced 26 percent faster in reading and 20 percent faster in math in one year than did those with the least daylight in their classrooms. Ample light boosted scores between 7 and 18 percent.
- Students in classrooms and schools with more natural light were more alert throughout the school day.
- Researchers rotated a class of fourth-grade students between two seating arrangements: rows of desks and a semi-circle of desks around the teacher. The semicircle arrangement increased student participation, boosting the number of questions pupils asked. Other studies suggest that putting desks in rows encourages students to work independently. To encourage interaction, organize furniture in small groupings throughout a room.



## Apply

How would you design a classroom, school, gym, outdoor space, park, bedroom, or other building/space that you think would promote physical and psychological health? Choose a space, describe the space and how it will promote both physical and psychological health, and then draw a picture of your design.

Possible resources to explore for ideas:

- ★ Search, images for innovative school designs and images for innovative classroom ideas to see pictures of different school interiors and exteriors
- ★ View images of High Tech High School in Chula Vista

California, on the web page, scroll down to access the “Additional Images” section to view pictures of the interior of the school at <http://www.aiatopten.org/node/462>

★ The 25 Most Amazing Campus Student Recreation Centers  
<http://www.bestcollegereviews.org/features/the-25-most-amazing-campus-student-recreation-centers/>

★ James Madison University’s UREC  
<https://www.jmu.edu/recreation/facilities/urec/index.shtml>  
(access different pictures of the recreation facility)

Description of space:

Drawing: On a piece of paper, draw your selected space that you think would promote physical and psychological health.



## Reflect

Our environments are affected by more than just the weather. From the buildings we walk into, to the parks we play in, everything is designed with a purpose.

Think back to the Link questions at the beginning of the lesson. The questions were designed to make you think about how your environment makes you feel. In the space below, write a quote that can be used as a review of what a person would say if they walked through the space you designed. How might people feel being in your design?