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| steM Lesson Plan  Cinderella’s Castle | Grade Level: 2 | |
| **Lesson Objective:**  Students will build a model of a castle for Cinderella. They will identify and describe the shapes they use to build the castle. | **Benchmark Standard:**  MAFS.2.G.1.1  Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. | |
| **Essential Question:**  How many of each shape was used? | **Vocabulary:**  **Math:** squares, circles, triangles, rectangles, hexagons  **Science:** Model (model of castle)  Other: Architect | **Vocabulary Activities:**  **D**iscuss shapes using their names and attributes. |
| **Preparation Directions:**  Remove rhombuses from pattern blocks if you are not going to teach students what a rhombus is.  If you have three dimensional blocks those can be used instead. Limit blocks to the shapes students are learning to identify.  **Engage:**  Read or tell the story of Cinderella or a summary. Explain that now that Cinderella is married she wants to become an architect. Her first project will to build her own castle. She would like you to share your castle building ideas with her to help her plan for her castle construction.  Share the Career page about becoming an architect. | **Materials:**  Pattern blocks  Labeled pictures of the shapes with names of the shapes.  **Sample Questions:**  How many \_\_\_\_\_\_\_\_s did you use to build your model of Cinderella’s castle?  Is the triangle still a triangle if you place it with the point down/sideways?  Which shape did you use more of?  How many more \_\_\_s than \_\_\_\_s?  How do you know this block is a ­­­­\_\_\_\_\_\_? (square, rectangle, rhombus, etc)  How many of your blocks are quadrilaterals? | |
| **Assessment:**  FORMATIVE ASSESSMENT TASK <http://www.cpalms.org/Public/PreviewResourceAssessment/Preview/36597>  Instructions for Implementing the Task  1. The teacher should provide the student with one color tile and ask, "Can you name this shape?"  2. If the student correctly identifies the shape as a square, the teacher asks, “Why is it a square? What do you know about a square? What about the sides of the square?”  3. Next, the teacher turns the color tile 45 degrees clockwise and asks, “Is this still a square?”  4. If the student does not respond that it is still a square, the teacher asks, “Why is it no longer a square?” If necessary, the teacher should ask leading questions to allow the student to see that this shape is a square no matter how you turn it.  Note: the teacher should be careful with vocabulary. For example, if the student says that it is now a rhombus once it is turned, the teacher should acknowledge that this square is a special type of rhombus but should encourage him or her to understand that it was a rhombus before it was turned as well.  **Summative**  How can you describe each shape? Is a rectangle (triangle, square. Etc.) turned a different way still a rectangle? Why or why not? | |
| **Additional Resources:** [**https://www.kidzworld.com/article/5966-becoming-an-architect**](https://www.kidzworld.com/article/5966-becoming-an-architect) | | |

**Becoming an Architect**

We all need **places to live**, work, play, shop and eat - and it wouldn't be possible without the work of architects. If you're interested in watching your **ideas turn into buildings**, then read on to find out how to become an architect!

Architects - What Do Architects Do?

Architects **design homes**, office buildings, schools, hospitals, **sports arenas**, shopping malls and so much more. Although [the appearance](https://www.kidzworld.com/article/4833-celebrity-plastic-surgery) of these buildings are important, architects need to consider other factors, like building costs and [function](https://www.kidzworld.com/article/473-the-science-of-farting), and make sure they **pass three tests**.

* The building must **be safe** for people to use.
* The building must serve the purpose for which it was designed for.
* The building must be **pleasing to the senses**.

In order to design such a building, you'll need to [**get educated**](https://www.kidzworld.com/quiz/3009-quiz-sex-education-101) in the **liberal arts and sciences**.

Architects - How Can I Become an Architect?



Since architecture is the **art AND science** of building design, you need to take a variety of courses in high school, like **English**, history, business, **computer science**, physics, [**math**](https://www.kidzworld.com/article/4107-tips-and-tricks-to-tame-your-times-tables)(geometry, trigonometry, algebra and calculus) and art (**drawing**, painting, sculpture and [photography](https://www.kidzworld.com/article/4796-photography-101-come-on-get-snappy)).

Once you graduate from high school, you need to earn a degree in architectures at an architectural school that's recognized by the **National Architectural Accrediting Board**(NAAB). Then you'll have to gain practical [work experience](https://www.kidzworld.com/article/5012-the-worst-school-jobs) by working under a licensed architect, [**work as an intern**](https://www.kidzworld.com/article/5250-top-ten-simple-life-moments) in the **Intern Development Program** (IDP), take and pass a national exam called the **ARE**, and apply for a certificate issued by the **National Council of Architectural Registration Boards** (NCARB), which allows you to practice architecture in both the US and Canada. That's quite [**a mouthful**](https://www.kidzworld.com/article/5139-the-411-on-braces), but getting past [all those steps](https://www.kidzworld.com/article/4724-how-to-build-a-quarter-pipe) will have you on your way to a **rewarding** (and well-paying) career!

Architects - Did U Know?

* Architects can earn anywhere from **$35,000 to $93,000 US**.
* More than **1 in 5** architects are self-employed.
* In North America, the initials **RA** designate a registered or licensed architect.

**Cinderella’s Castle**

Challenge: Can you build Cinderella’s new castle out of pattern blocks?

I used:

\_\_\_\_\_\_squares, \_\_\_\_\_rhombuses, \_\_\_\_\_\_hexagons,\_\_\_\_\_\_\_ triangles, \_\_\_\_\_\_\_ trapezoids, \_\_\_\_\_\_\_quadrilaterals