

Dabble Lab Lesson Plan

Series: Junior Makers 4D

Titles: *3D Pen Projects for Beginners: 4D An Augmented Reading Experience*, by Tammy Enz

GENERAL INFORMATION: Grade Level(s): 2-4 Lesson Plan Title: Shapes All Around Us
Curriculum: Reading Comprehension and Math

Overview of Lesson: In this lesson, students will learn how to apply what they've learned about shapes to this 3D pen lesson. Students will learn how 3-dimensional shapes can be built together to form what might be seen in reality like a house. By building a house, they can compare the shapes used to build a house. This will promote curiosity and inquiry about shapes that we see everyday.

BENCHMARKS OR LEARNING OBJECTIVES:

AASL Skills Indicator 1.1.2: Use prior background knowledge as context for new learning.

Grade 2 Benchmark: Share what is known about a topic, problem, or question.

AASL Skills Indicator 3.1.3: Use writing and speaking skills to communicate new understandings effectively.

Grade 2 Benchmark: Use a variety of ways (through art, music, movement, and oral and written language) to present information and main ideas; use oral and written language in a variety of formats (for example, narrative, poetry, podcasts).

AASL Skills Indicator 4.1.5: Connect ideas to own interests and previous knowledge and experience.

Grade 2 Benchmark: Demonstrate comprehension of stories read independently or shared aloud.

AASL Skills Indicator 4.1.8: Use creative and artistic formats to express personal learning.

Grade 2 Benchmark: Express feelings about a story through pictures and words.

ASSESSMENTS METHODS:

Students will create their own 3-dimensional model homes using 3D pens and familiar shapes. This lesson is a wonderful opportunity to collaborate or co-teach with another teacher.

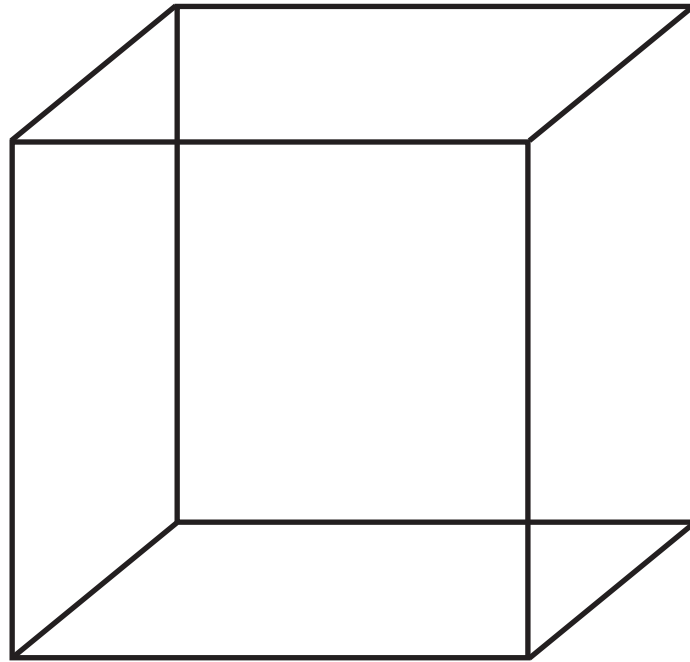
RESOURCES AND OTHER LEARNING SUPPORT MATERIALS:

- Completed model home from the activity on pp. 10–11 in the 3D Pen Projects for Beginners book
- 3D Pens for each person in the class or partner group
- Paper and pencil
- Pipe Cleaners
- Handout with cube and triangular prism included for students to trace if needed

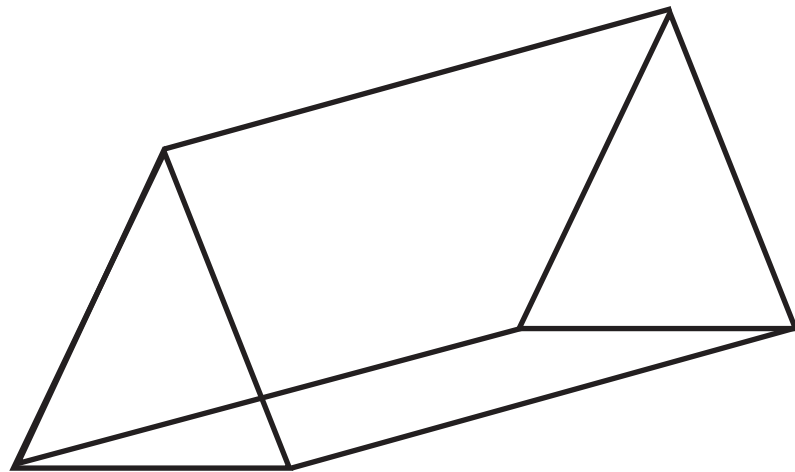
INSTRUCTION AND ACTIVITIES:

1. Ask students to draw a cube and a triangular prism. Provide drawings for students to trace, if needed (see below).
2. Introduce or review with students the differences between a cube and a triangular prism.
What do they know already? What do they wonder about? Where do they see these shapes around us?
3. Read aloud *Swirl by Swirl: Spirals in Nature*, by Joyce Sidman, or any short book about shapes in our world.
4. Show students your own 3D pen-created model of a house. Pass the model around for students to analyze.
5. Pass out pipe cleaners, and ask students to build what they've drawn and seen. These pipe cleaner homes will act as a model for students as they build the same home using the 3D pen.
6. Introduce the Model Home activity, or read pp.10–11 aloud.
7. Introduce or review how to use a 3D pen safely.
8. Pass out the 3D pens or assign students to particular areas.
9. Guide students through the process of completing the Model Home activity, asking students to use their pipe cleaner homes as models.
10. Additional Challenges:
 - a. Ask students to build rooms in their 3D pen-created homes or decorate their home's roofing and siding.
 - b. Ask students to identify and build other shapes around us that combine shapes familiar to them, like ice-cream cones, Native American teepees, volcanoes, fish, candles, and so forth.

Name: _____



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