

NCTM Strands

Geometry



NCTM Strands

[Number and Operations

[Algebra

[Geometry

[Measurement

[Data Analysis & Probability

NCTM Strands

[Strand 3

[Number and Operations

[Algebra

[Geometry

[Measurement

[Data Analysis & Probability

Geometry

- [Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships
- [Specify locations and describe spatial relationships using coordinate geometry and other representational systems
- [Apply transformations and use symmetry to analyze mathematical situations
- [Use visualization, spatial reasoning, and geometric modeling to solve problems

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1

Geometry



- [Analyze characteristics

1

Geometry

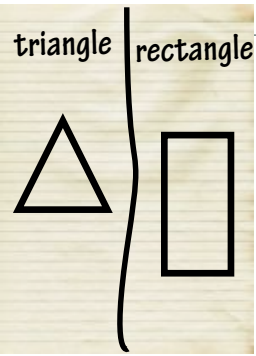
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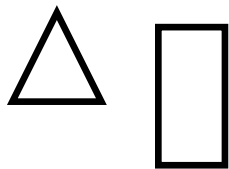
Analyze characteristics

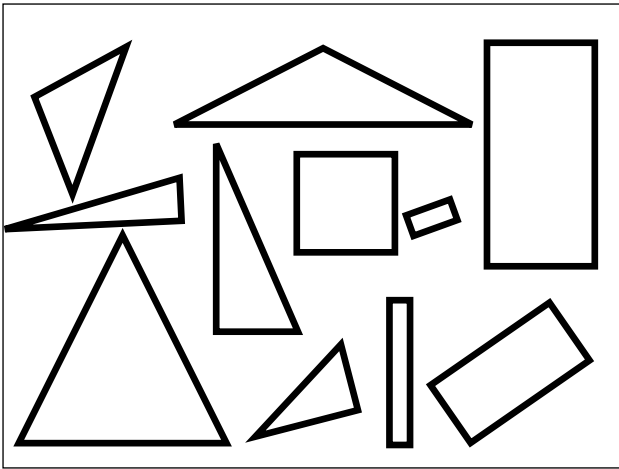
Geometry

1



Analyze characteristics





Geometry

1

— [Analyze characteristics

•Recognize, name, build, draw, compare, and sort two- and three-dimensional shapes

— [Recognize the shape: That's the _____.



Geometry

1

— [Analyze characteristics

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Geometry

1

— [Analyze characteristics

•Recognize, name, build, draw, compare, and sort two- and three-dimensional shapes

— [1-D ■

— [2-D

— [3-D



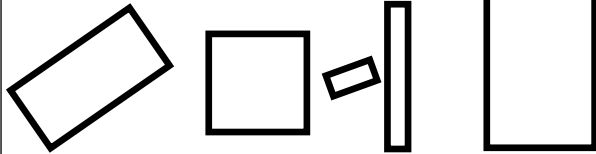
Geometry

1

— [Analyze characteristics

•Recognize, name, build, draw, compare, and sort two- and three-dimensional shapes

— [Give many examples of a shape



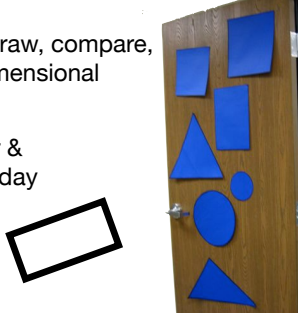
Geometry

1

— [Analyze characteristics

•Recognize, name, build, draw, compare, and sort two- and three-dimensional shapes

— [Tape shapes to door & rotate shapes every day



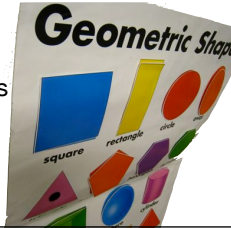
Geometry

1

— [Analyze characteristics

- Recognize, name, build, draw, compare, and sort two- and three-dimensional shapes

— [You want children to touch & play with shapes on walls



Geometry

1

— [Analyze characteristics

- Recognize, name, build, draw, compare, and sort two- and three-dimensional shapes

— [Why is that a circle and that is a square?



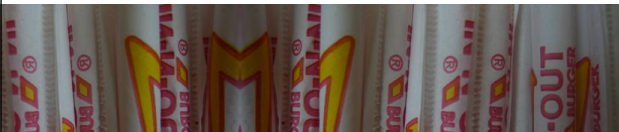
Geometry

1

— [Analyze characteristics

- Recognize, name, build, draw, compare, and sort two- and three-dimensional shapes

— [Build a triangle with these straws.



Geometry

1

— [Analyze characteristics

- Describe attributes and parts of two- and three-dimensional shapes

— [**corner**

Geometry

1

— [Analyze characteristics

- Describe attributes and parts of two- and three-dimensional shapes

— [**edge**

Geometry

1

— [Analyze characteristics

- Describe attributes and parts of two- and three-dimensional shapes

— [**face**

Geometry

1

— [Analyze characteristics

- Describe attributes and parts of two- and three-dimensional shapes

— [point

Geometry

1

— [Analyze characteristics

- Investigate and predict the results of putting together and taking apart two- and three-dimensional shapes.

— [Give them a shape and scissors; make a new shape

Geometry

1

— [Analyze characteristics

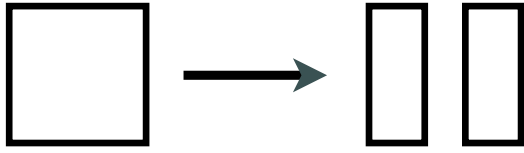
— [Give them a shape and scissors; make a new shape

decomposing

Geometry

1

— [Analyze characteristics



decomposing

Geometry

1

— [Analyze characteristics

• Investigate and predict the results of putting together and taking apart two- and three-dimensional shapes.

— [Hold up a 3D shape.



Geometry

1

— [Analyze characteristics

• Investigate and predict the results of putting together and taking apart two- and three-dimensional shapes.

— [Use the correct terms.

This is an:



Geometry

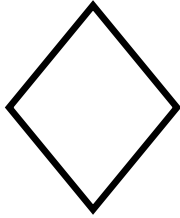
1

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Geometry

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Geometry

2

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Geometry

2

Specify Locations

- Describe, name, and interpret relative positions in space and apply ideas about relative position



The Playground Lesson



Geometry

2

Specify Locations

- Describe, name, and interpret direction and distance in navigating space and apply ideas about direction and distance



Geometry

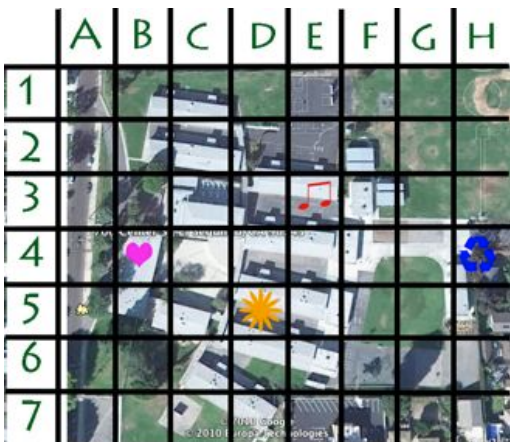
2

Specify Locations

- Find and name locations with simple relationships such as "near to" and in coordinate systems such as maps.







Geometry

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Geometry

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Geometry

3

- { Apply transformations

- Recognize and apply slides, flips, and turns



Geometry

3

— [Apply transformations

- Recognize and create shapes that have symmetry.



Geometry

3

— [Apply transformations

- Recognize and create shapes that have symmetry.

A	B	C	D	E
H	I	K	M	O
T	U	V	W	X

Geometry

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Geometry

4

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Geometry

4

— [Use visualization

- Create mental images of geometric shapes using spatial memory and spatial visualization



Geometry

4

— [Use visualization

- Create mental images of geometric shapes using spatial memory and spatial visualization



Geometry

4

— [Use visualization

- Recognize and represent shapes from different perspectives

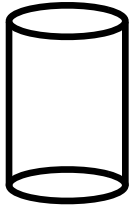


Geometry

4

— [Use visualization

- Recognize and represent shapes from different perspectives



Geometry

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— [Use visualization

- Recognize and represent shapes from different perspectives

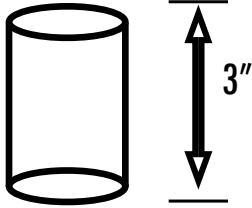


Geometry

4

— [Use visualization

- Relate ideas in geometry to ideas in number and measurement



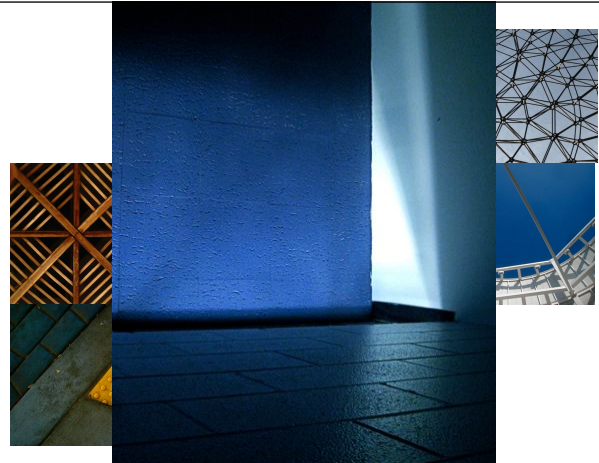
Geometry

4

— [Use visualization

- Recognize geometric shapes and structures in the environment and specify their location.





Geometry

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Book Sharing

- [Read the book for us.
- [Share the math concepts you can find in it.
- [Tell us the math standards.

Group Presentation

- [15 music
- [17 outdoors
- [19 movement

Midterm

- [processing strands
- [content strands
- [components of each strand
- [assessment principles
- [5 research models
- [strategies to use with EL learners
- [2-D and 3-D shapes

Journal

— [Prior to participating in this class today, what was your understanding of “geometry”? Identify two new concepts you learned today regarding the geometry strand. Explain how you can use this new knowledge to enhance learning in the pre-k through second grade classrooms.
