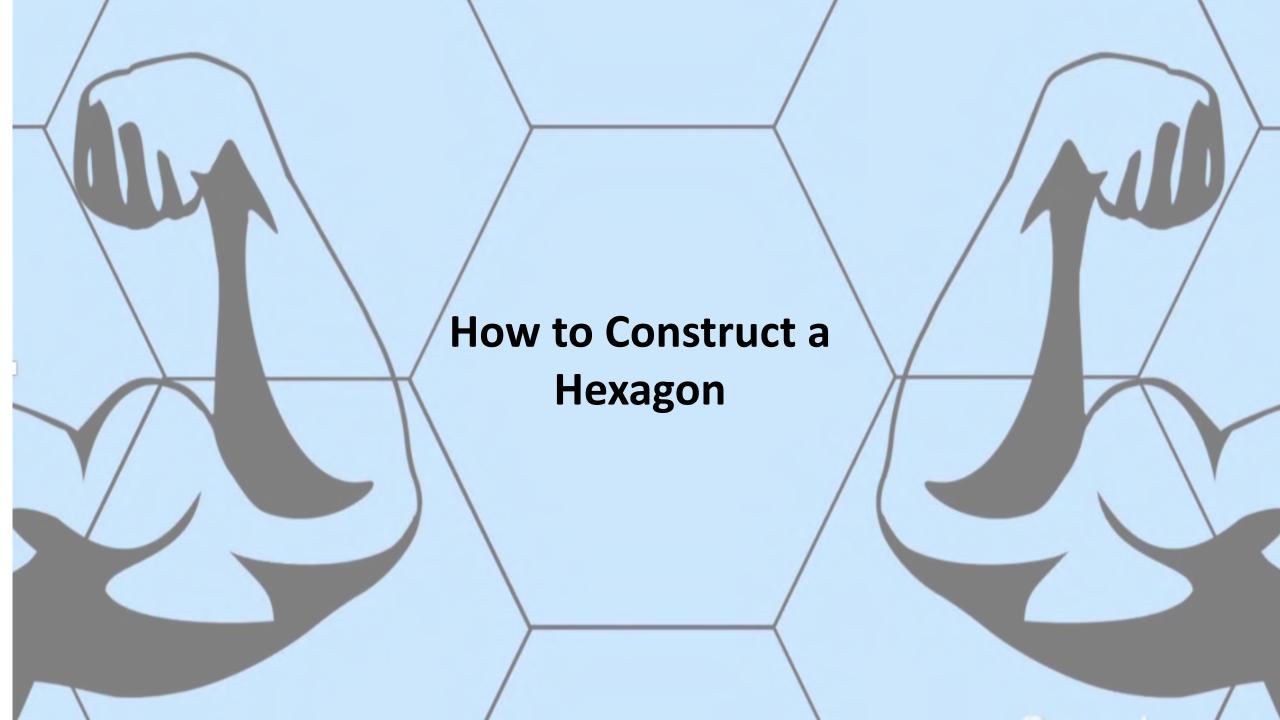
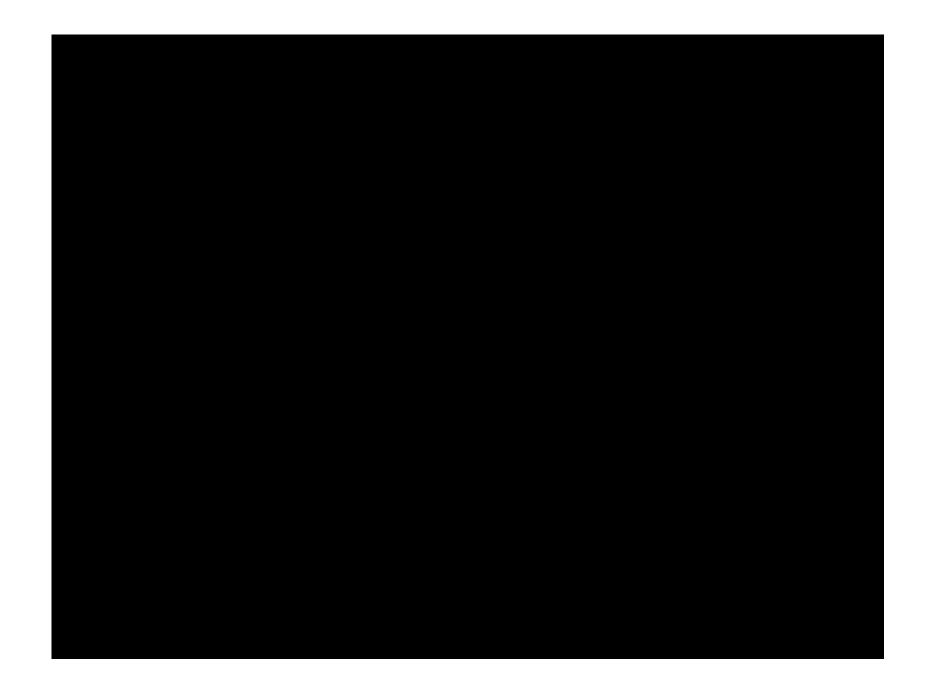
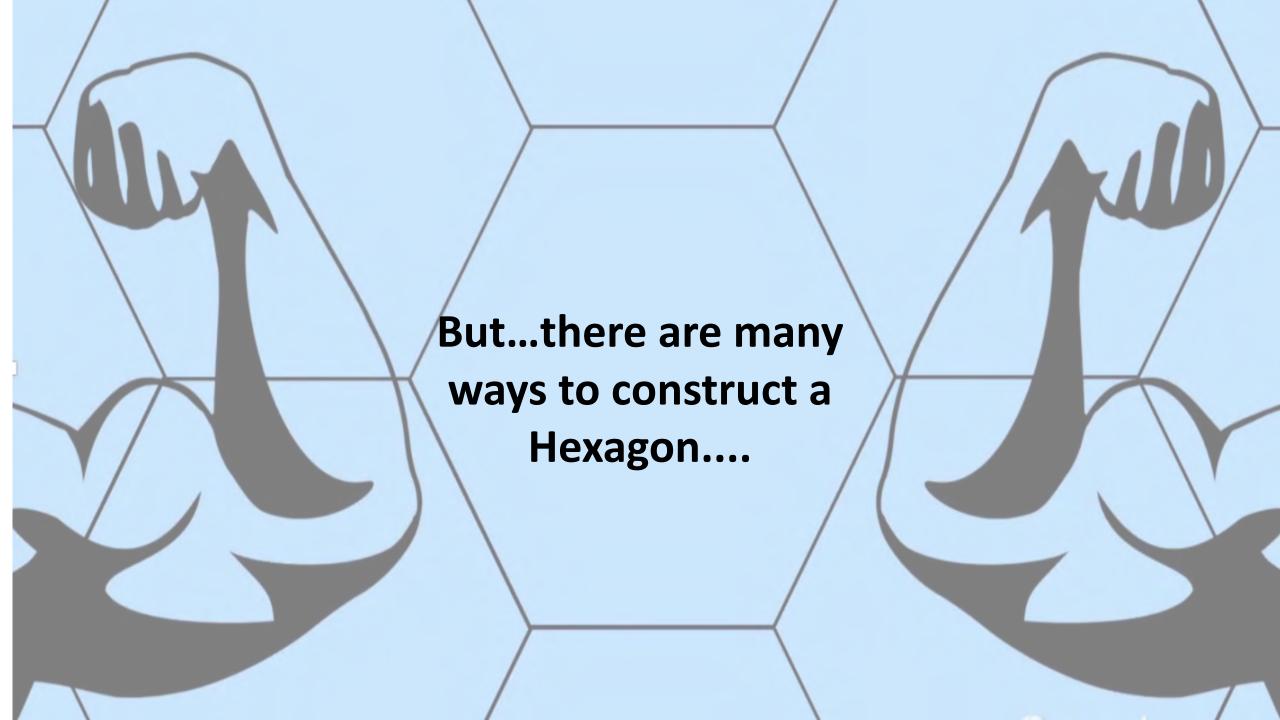
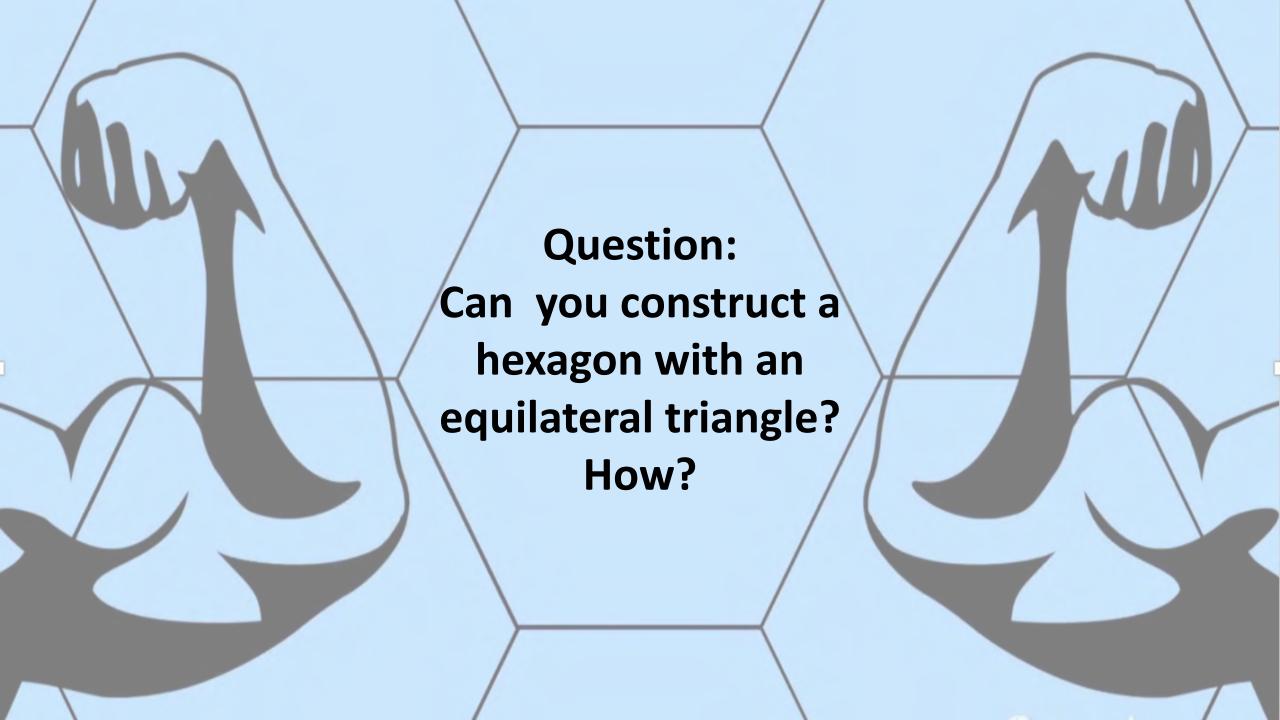


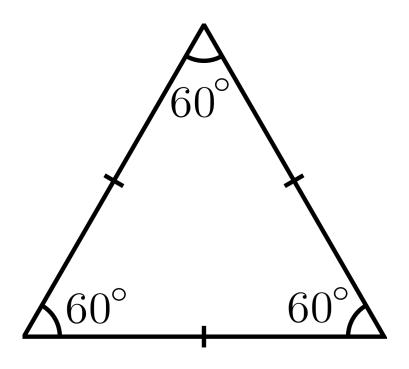
# What is a Hexagon? Definition, Area & Angles



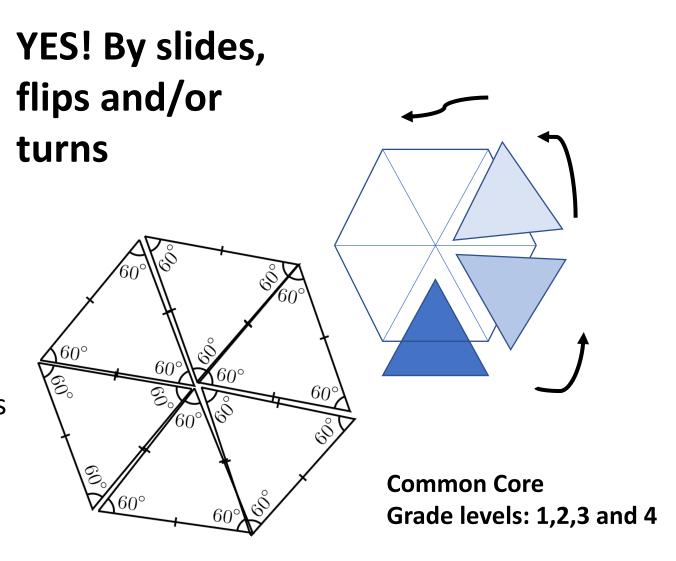






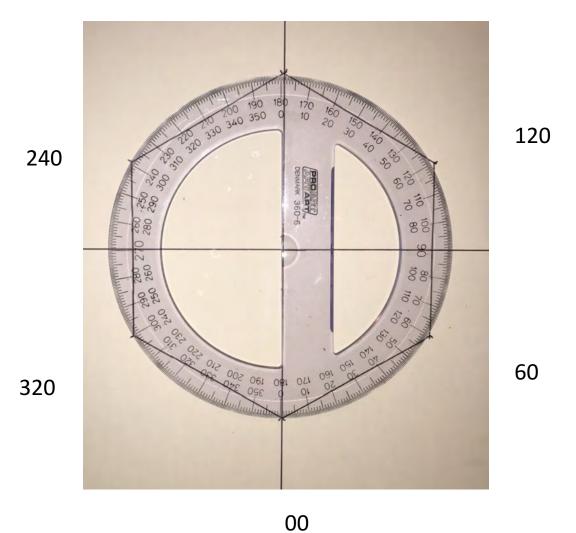


In geometry, an equilateral triangle is a triangle in which all three sides are equal. In the familiar Euclidean geometry, equilateral triangles are also equiangular; that is, all three internal angles are also congruent to each other and are each 60°.



# Creating a Hexagon inside a Square using a Protractor and Angles

180

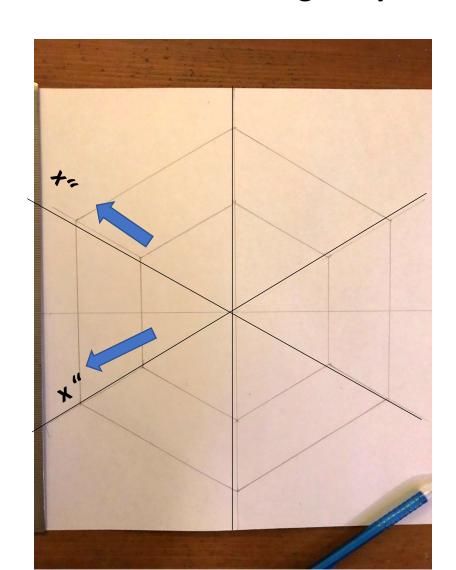


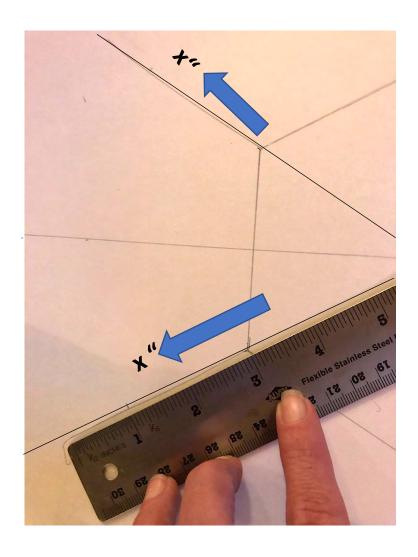


Place point at every 60 degrees

Connect the Dots!

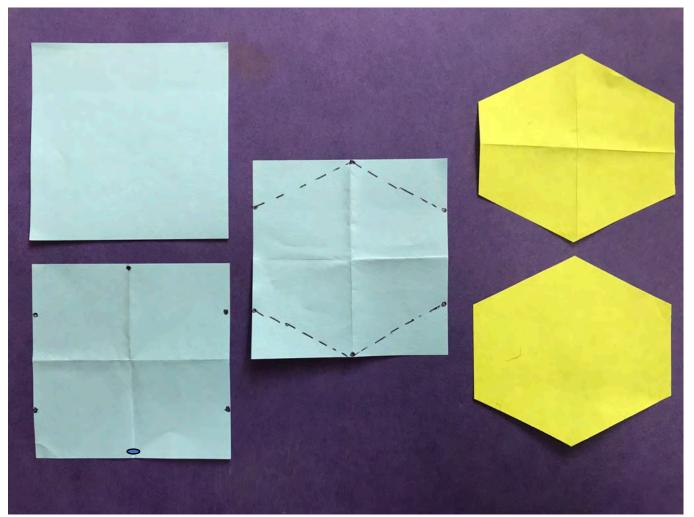
# Enlarging an existing Hexagon of ANY size...to ANY size... Draw 3 intersecting lines, Extend all 6 angles by an equal length, then connect the dots!





Folding in Half, Creasing and Measuring the Mid-points of Opposite Quadrants' Sides, then, Connecting the 6 Reference Points – will give you a Hexagon - but it will NOT be regular

**Inside any Square** 

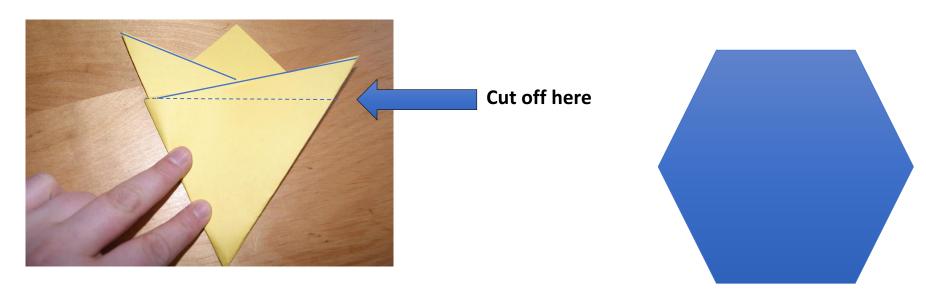


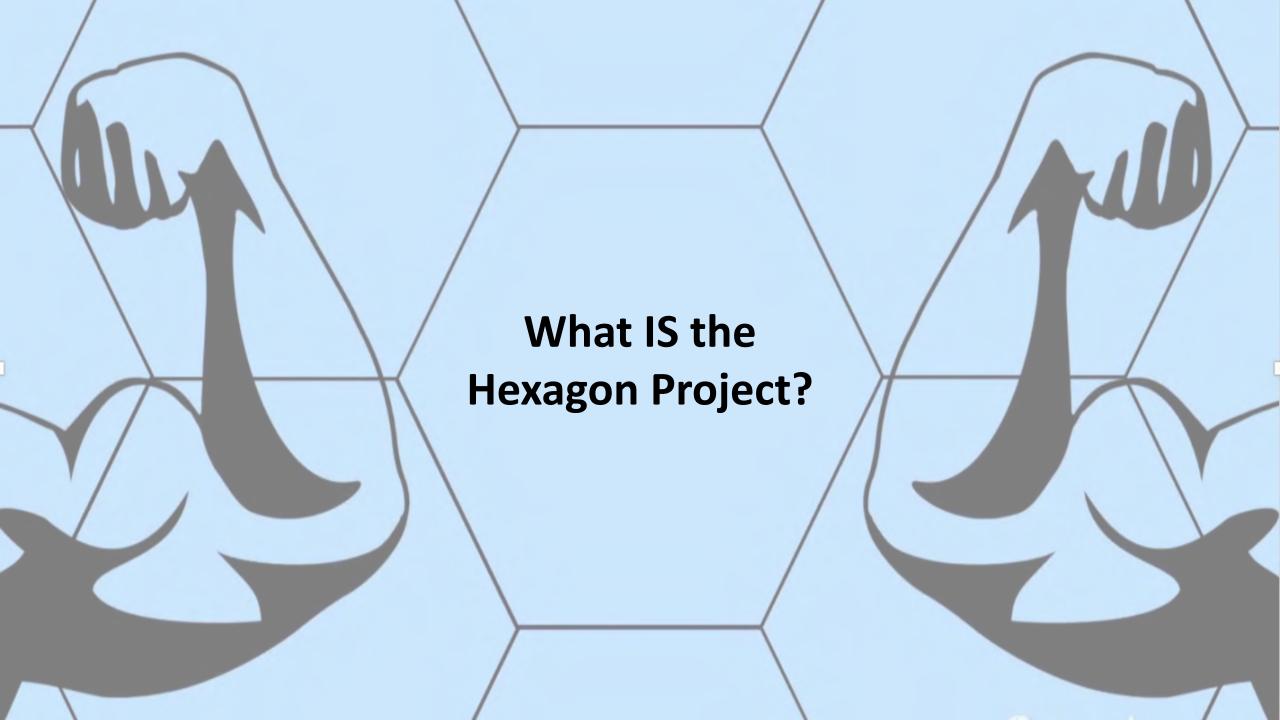
## **HEXAGON ORIGAMI**

## **Paper-folding and Cutting:**

Here is an easy way to make a hexagonal piece of paper:

- 1. Fold a square in half, so it is a triangle, and then Fold the two tips up across each other at about about a thirty degree angle as shown below.
- 2. Think of it as a triangle giving itself a hug.
- 3. Now you have six layers of paper all folded together and all you need to do is **trim the top off in a straight line and unfold**









Memorial HS, Arkansas

Riverside Jr. HS, PA

If You Believe... It is critical for young people to confront, question and reconsider attitudes and beliefs as part of their responsibilities as citizens, as part of their own personal growth and formation of self...



Tracey's Hope -Taylor, PA



**Greening of Verrettes, Haiti** 

If You Believe... that young people throughout the world should have opportunities to explore real-world themes, issues and ideas within schools and communities...

# If You Believe... through creative thinking, research and taking a stand on one's beliefs and understandings, changes of attitudes and action can occur...



Equal Pay
Adelaide, Australia



**Human Rights NEPAL** 



**Fair Trade** 



Elsik High School Alief, Texas Collaborative Clay Sculpture: "Interdependence"

"We may build our own unique lifestyles, careers, or businesses, but those 'towers' of success come from cooperation and interdependence with others in our social and professional lives."



If You Believe... the arts are powerful vehicles for this exploration...

## Then....

you are ready and invited to join

Standards-based

Social Justice Concepts and Themes

with

The Interdependence HEXAGON PROJECT

and

get

Hooked on Hexagons



## **Interdependence Themes**

(Hexagon Project)

## **HUMAN RIGHTS** of every person

We are one human family. Examine consumerism vs. having enough **Being more vs. having more** 

## **DIVERSITY**

Freedom for and acceptance of religious, ethnic, backgrounds, cultural identities, abilities.
Personal and group dignity

## COMMONALITIES & IDENTITY

**Having Empathy-**

We are similar and share common experiences. We can connect to issues that are personal and local with issues that are global.

## **Interdependence Goals:**

- 1. To see ourselves as citizens of one civilized world, recognizing rights and responsibilities to the common goods and liberties of humankind as a whole.
- 2. To explore these themes through "activist" art-making

## **ENVIRONMENT**

We need a safe, sustainable global environment We are one community We only have one earth to protect or destroy

## **CHILDREN**

We need to protect children's rights and goods and insure they obtain Safety, Health and Education

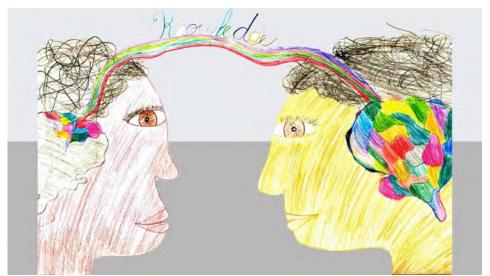
## **TECHNOLOGY**

Use positively and ethically to create informed global communities

## **GOVERNANCE**

We need to understand peoples' rights to govern themselves in a manner that allows them to flourish. Democratic rights and responsibilities.

## **2018 Theme: Transforming Conflict**



## The Theme

The 2018 theme of "Transforming Conflicts" is a call to promote global citizenship, enabling learners to

- Develop an understanding of and make connections among local, national and global issues
- Develop skills for civic literacy such as critical thinking, problem solving, peacebuilding and personal and social responsibility (UNESCO, 2015).

**Deadline for Schools is June 30** 

## 2017 marked 11 years that the Hexagon Project has been building Social Justice Art Education opportunities

for teachers, young people and communities worldwide through the use of a small-yet challenging - downloadable tessellating template, metaphor for Interdependence.

In our September 2017 International Hexagon Project Exhibition, we added another 600 hexagons, making

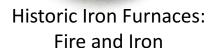
8600 since 2006.



Arts on the Square

Lackawanna Riverfest

# Connecting with COMMUNITIES





## Global Citizenry Collective Responsibility

"... the notion of being a global citizen is incorporated into every discipline we teach.

The hexagons...helped students to forge cognitive links between the subjects of the hexagons and the major issues in their own lives and the lives of other students around the world. Each shares the common values of health, education and human rights.

This exercise reinforced the notion of **collective responsibility** and exposed students to the common experiences of humankind as a whole."

**Gene Teeger, Art Teacher** 



Canada

## and in classrooms....

Throughout the United States: California, Nevada, Washington, Illinois, Wisconsin, Indiana, Florida, North Carolina, New York, New Jersey, Delaware, Maryland, Pennsylvania, Minnesota and others







## **Pre-service students in Haiti**





Kathmandu, NAPAL

Japan Philippines



Also Egypt, England, Greece, three African countries and Australia



**Culminating Exhibition in September** 

Clockwise from left:
Exterior of 2016 Exhibit,
Interior, showing Scranton
School District, bottom, and
Australian, top;
Panaorama of installation,
front;
Grades 9 – 12 wall.





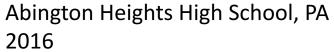




Hexagon Project in Your Community or School?



Seton Hill University, Greensburg, PA 2016



Chicago, IL 2013 and 14



Scranton, PA 2006 - 2017





Hexagonal Sand Mandala





Indian Visitor with Sand Mandala



**Cub Scout with Grandparents** 

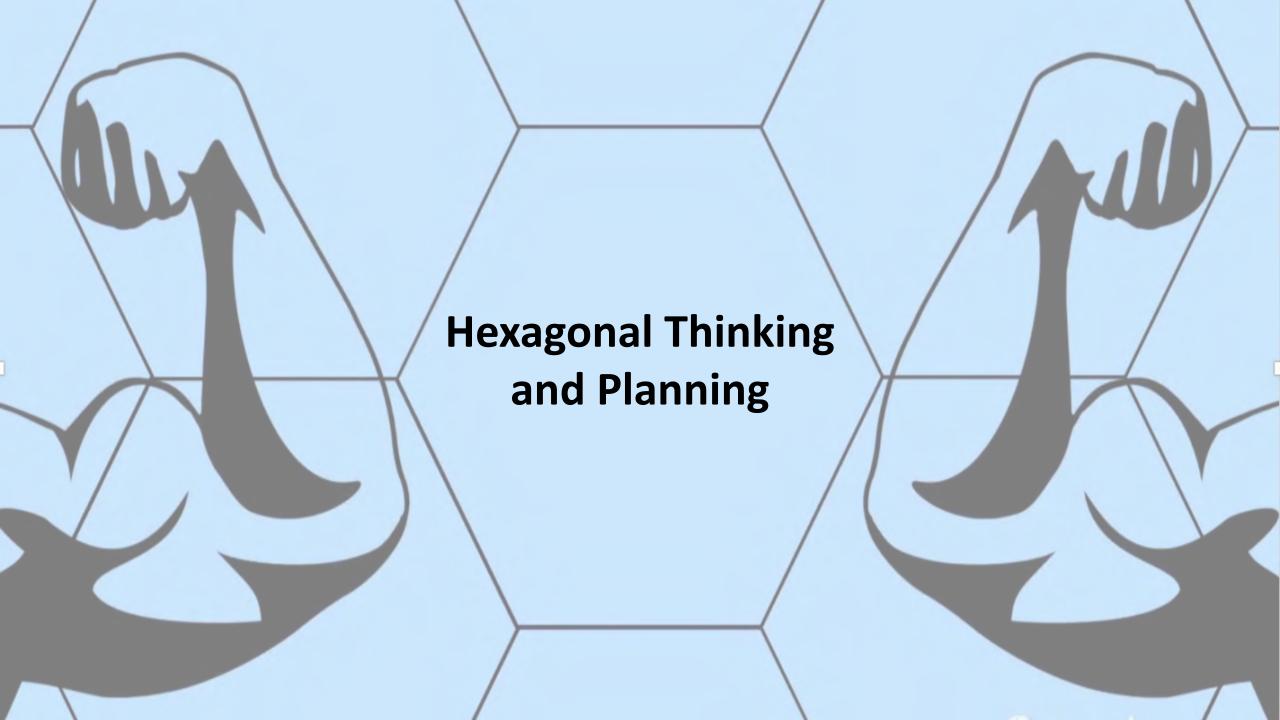








Deadline for Schools is June 30



## STEAM PLANNING SHEETS



## MIDDLE LEVEL

## STUDIO STANDARDS IN ACTION! | PLANNING SHEET

### STANDARDS: GRADE 7

Choose one or more!

#### GRADE 7 CREATING

- Apply methods to overcome creative blocks.
- Develop criteria to guide making a work of art or design to meet an identified goal.
- Demonstrate persistence in developing skills with various materials, methods, and approaches in creating works of art or
- ☐ Demonstrate awareness of ethical responsibility to oneself and others when posting and sharing images and other materials through the Internet, social media, and other communication formats.
- Apply visual organizational strategies to design and produce a work of art, design, or media that clearly communicates information
- Reflect on and explain important information about personal artwork in an artist statement or another format.

#### **GRADE 7 PRESENTING**

- Compare and contrast how technologies have changed the way artwork is preserved, presented, and experienced.
- Based on criteria, analyze and evaluate methods for preparing and presenting art.
- Compare and contrast viewing and experiencing collections and exhibitions in different venues.

#### **GRADE 7 RESPONDING**

- ☐ Explain how the method of display, the location, and the experience of an artwork influence how it is perceived and valued.
- Analyze multiple ways that images influence specific audiences.
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- Compare and explain the difference between an evaluation of an artwork based on personal criteria and an evaluation of an artwork based on a set of established criteria.

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- Individually or collaboratively create visual documentation of places and times in which people gather to make and experience art or design in the community.
- Analyze how response to art is influenced by understanding the time and place in which it was created, the available resources, and cultural uses.

#### STARTERS

Curriculum planning can start in many ways. Where will you start?

#### ART, DESIGN, AND VISUAL CULTURE

(For example, artists, artworks, objects, events)

#### MATERIALS AND PROCESSES

(For example: clay and clay processes; found objects; printmaking; drawing)

#### THEMES/BIG IDEAS

(For example: nature, identity, communication, celebrations)

#### COMMUNITY CONTEXTS

(For example: community issues, concerns, projects; community history and stories)

### STUDENTS IN ACTION!

Describe the action! Student experiences in Creating, Presenting. Responding, and/or Connecting.

WHAT WILL STUDENTS DO?

HOW WILL STUDENTS DEMONSTRATE LEARNING IN RELATION TO THE STANDARDS?

#### Hexagonal Book Design: Connecting Math, Book Arts and Social Justice

#### Skills:

- Creativity
- Research
- Problem-Solving
- · Applying Previous Knowledge
- Perseverance
- Craftsmanship
- Non-Verbal Communication



#### Math Vocabulary:

Measure- to ascertain the size of something or a set distance, amount, or degree of (something) by using an instrument or device marked in standard units.

### Circle- shape made of 360°

Radius-half of the longest distance across a circle.

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Congruent- In geometry, two figures or objects are congruent if they have the same shape and

Angle- 1 the space (usually measured in degrees) between two intersecting lines or surfaces at or close to the point where they meet. All angles of a hexagon are congruent and measure 120° each, 720° total.

Equilateral Triangle-triangle with each side having the same measurement and each angle

Polygon- shape with many sides.

Tessellate-cover (a plane surface) by repeated use of a single shape, without gaps or overlapping. Tessellations form a class of patterns in nature, for example in the arrays of hexagonal cells found in honeycombs.

### Standards Applied:

#### CommonCore Math:

☐ CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC 2.4.2.A.1 Measure lengths in standard units-

usingappropriate tools.

Grade 7 CC: "Draw, construct and describe geometrical figures..."; "solve real-life mathematical problems involving angle measure..."

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#### Responding:

VA:Re.7.2.IIa Evaluate the effectiveness of an image or images to influence ideas, feelings, and behaviors of specific audiences.

Connecting/Responding:

VA: Cn/Re 11. Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.

VA: Re.9. Apply criteria to evaluate artistic work.

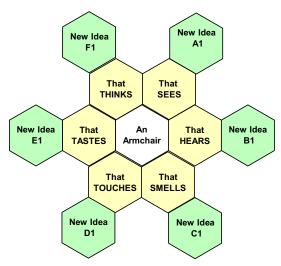
VA:Pr 5. Develop and refine artistic techniques and work for presentation



## VIS-IT™ Technique for Creative Thinking ATTRIBUTE ATTACHEMENT TECHNIQUE

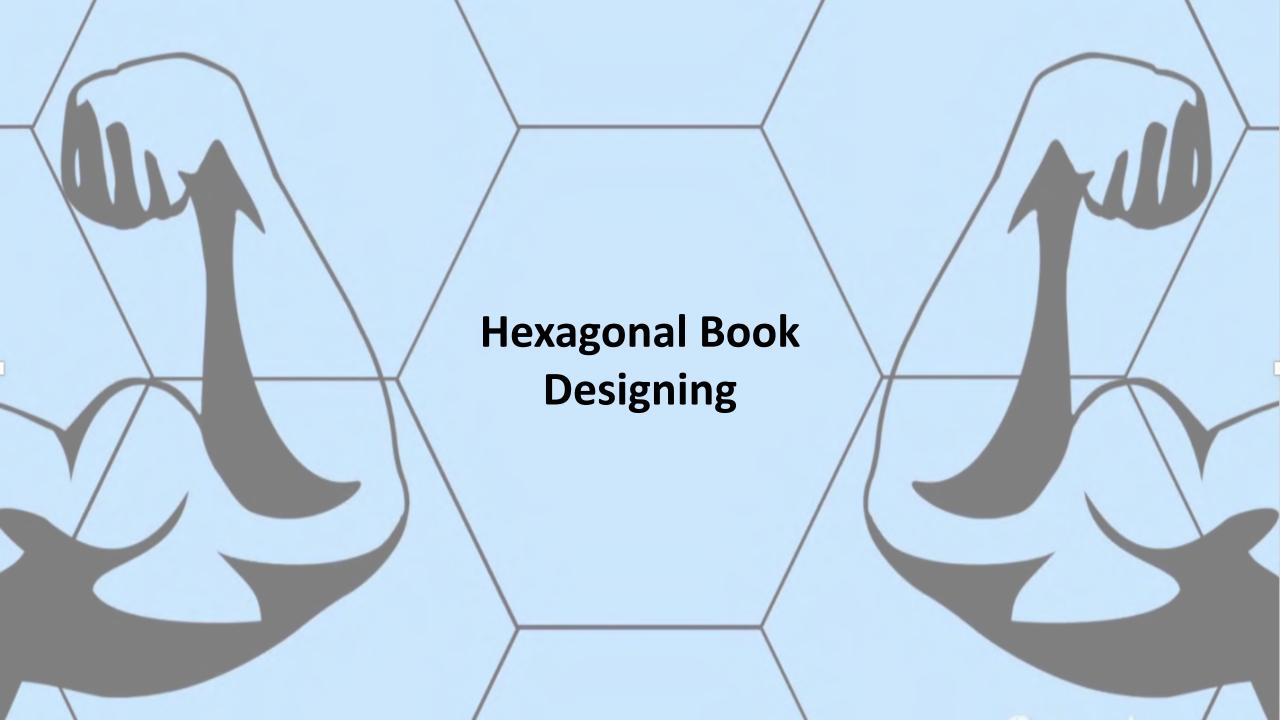
The Attribute Attachment technique for creative thinking in groups, like other creative thinking techniques, generates *new* ideas by asking the minds of the participants to integrate two or more already existing, but previously unconnected, concepts or ideas.

An "attribute" is defined as a quality or characteristic of a person or thing. The Attribute Attachment technique forces the mind to create new ideas by trying to "attach" the attributes of one thing to something else, which is significantly different. In an example of the technique below, human sensory attributes are attached to an otherwise inanimate object, an armchair. Why would anyone want to do such a silly thing? The reason is that, by using this technique, new product designers might come up with several good ideas for new benefits and features for a current product.

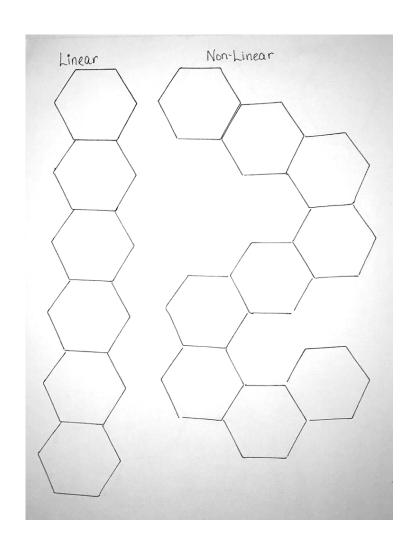


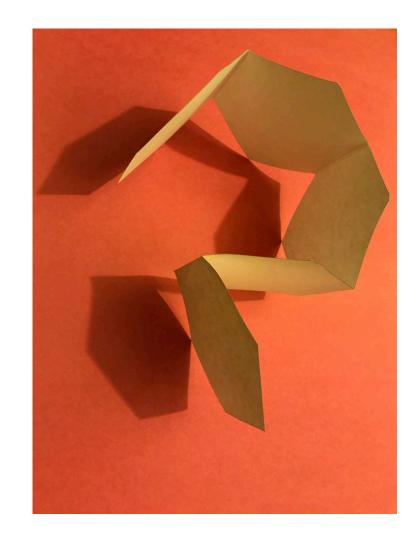
Sets of six or more attribute attachment ideas can come from many sources. Human sensory and intellectual capabilities are just one source. Other human attributes like emotional feelings, mobility, self-awareness, and memory are just some of them. Stimulative attribute attachment ideas can also be developed from a class of objects. For example, the "class" might be "Modes of Transport", and the elements might include racecars, bikes, airliners, limousines, and others.

Attribute Attachment, Page 1
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Phone or Fax: 1-888-439-7237 www.thinkingtools.net

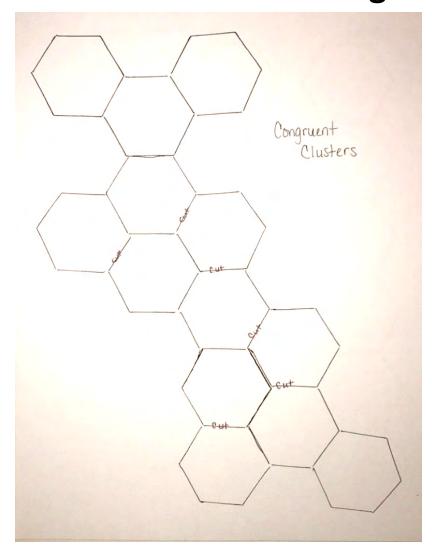


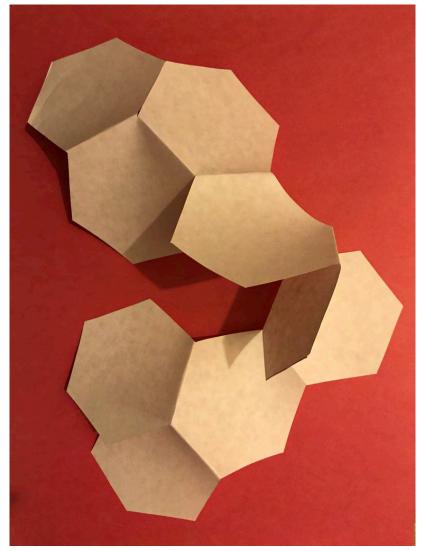
# Accordion-folded Linear Book and Free-form Linear Book





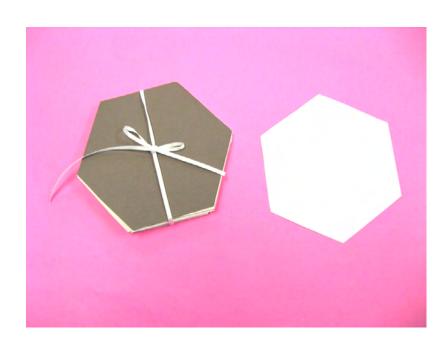
# Accordion-folded Free-form Book with "Congruent Clusters"



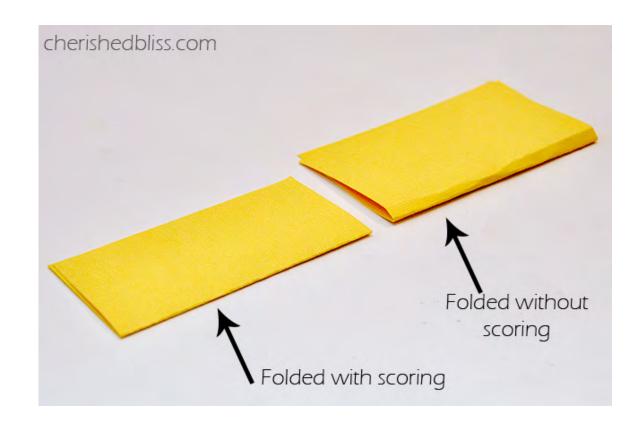


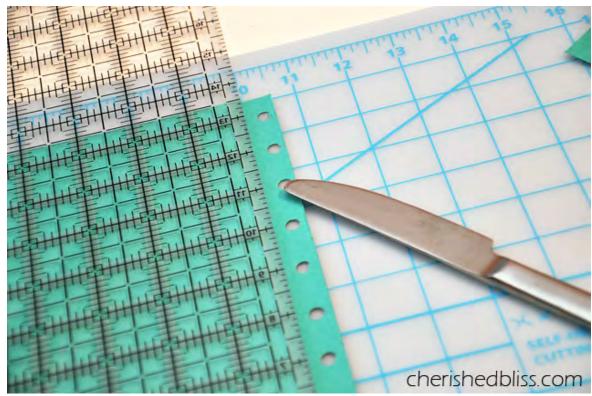
# **Accordion-folded Radial Book-Variation on Congruent Clusters**



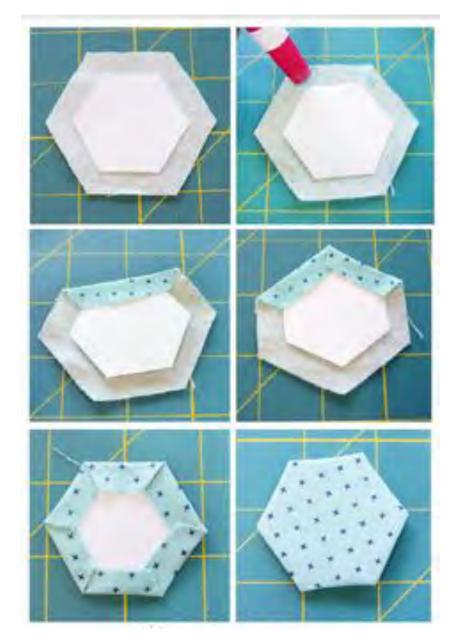


### **Scoring your hexagon folds**





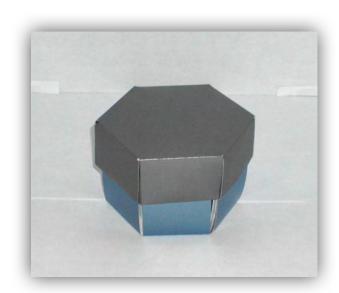
Covering your Cover.... Make cover cardboard slightly larger than your book.



### **END PAPERS:**

Then, either use the first and last pages of your book as end papers and glue OR use separate hexagon end paper and add a "tab" to connect to your back and front book pages





## Expand Your World- Hexagon Box Project What is the Hexagon Project? by Christina Martin

Check out this website- http://www.hexagonproject.org

Respond creatively to the many themes of global interdependence-real-world issues-and become a part of an international movement to create a more civil, peace-minded and just world. This project is a meaningful vehicle for allowing young people to think and respond about issues of personal and global importance.

Lesson-Create an Exploding Hexagon Box using Photoshop and a simple three layer grid template. The theme for this assignment is the Hexagon Project as described above. You are to design a box incorporating three distinct layers, each with a different theme.

Layer 1-All about me! You can include images of you, your friends, your hobbies, family, etc.

Layer 2-Issues you are concerned about, worldwide or local.

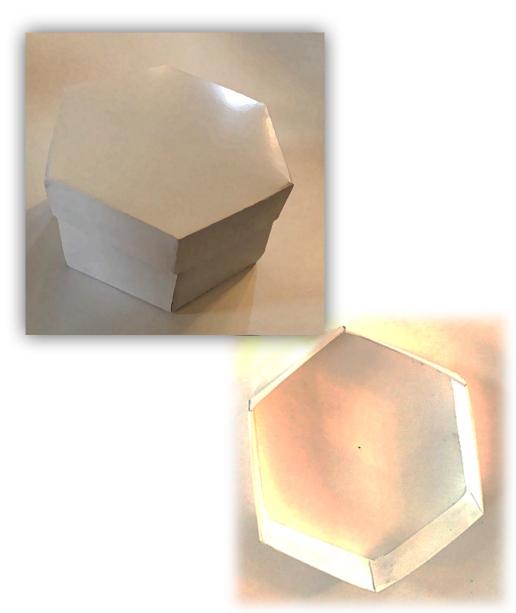
Layer 3-What can I do to make a change-Images that represent what you can do to make a change for the better.

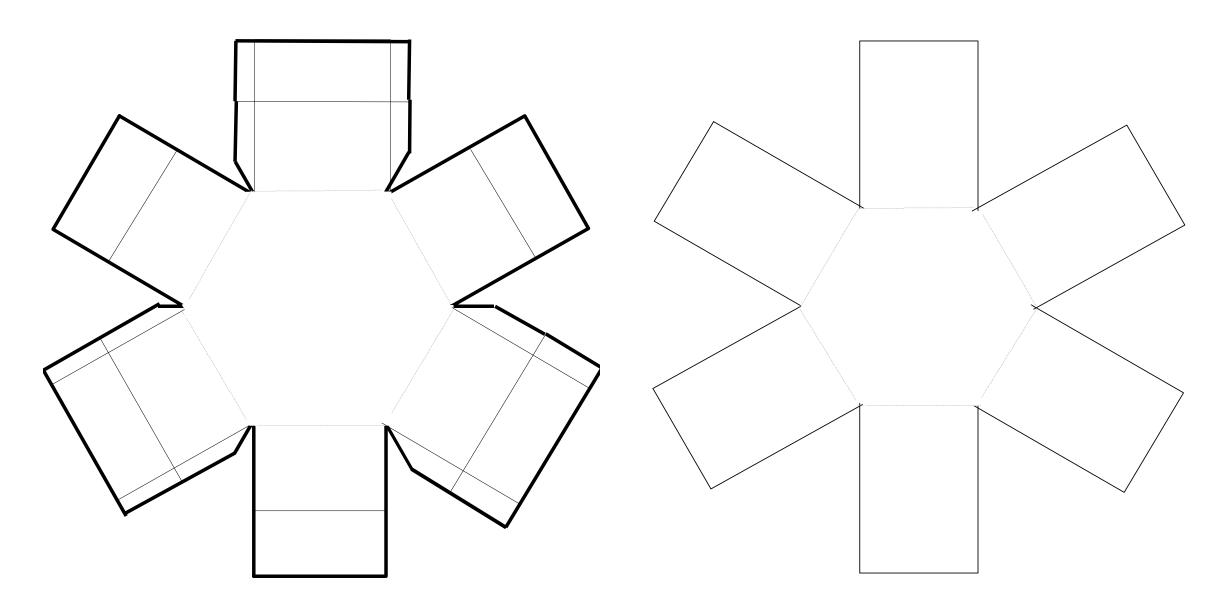
Collect photos or images from home that you would like to incorporate in this project and bring them in after the Easter break.



Find "Expand Your World" on <a href="https://www.hexagonproject.org">www.hexagonproject.org</a> and other box ideas on Beth Burkhauser's Pinterest Site: " 3-D Hexagonal Sculptures"









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VA:Pr 5. Develop and refine artistic techniques and work for presentation

