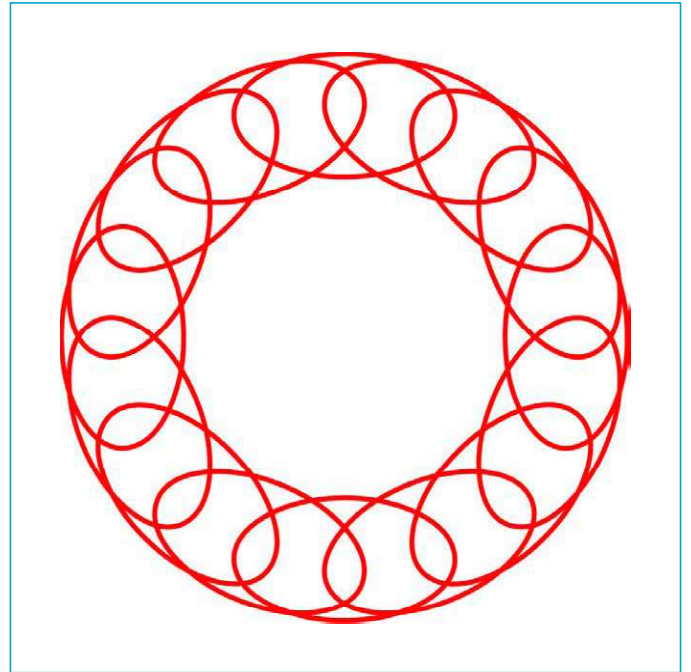
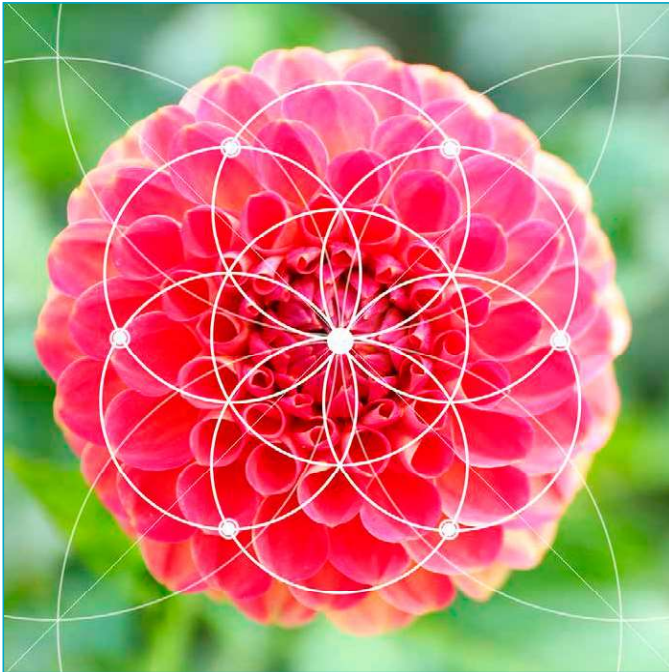


Maker Connect – Make a Repeated Pattern

We live in a world full of symmetry and math. From this, many artists and designers find inspiration.

Look at the images below.

- What can you see?
- What patterns can you see?
- How did these patterns occur?
- What new design opportunities are there?



Student Worksheet – Make a Repeated Pattern

Name(s): _____ Date: _____

Defining the Problem

What problems can you see in the pictures? Pick one problem and explain it below.

Brainstorm

Individual work: Now that you have defined a problem, take three minutes to generate ideas for solving it. Be prepared to share your ideas with your group.

Group work: Share and discuss your ideas for solving the problem.



Documenting your work is very important during the design process. Record as much as you can through sketches, photos and notes.



Use LEGO bricks and sketches to explore your ideas.



Sometimes simple ideas are the best ideas.



Define the Design Criteria

You should have generated a number of ideas. Now select the best one to make.

Based upon your brainstorming discussion, write down two or three specific design criteria that your design must meet:

1. _____
2. _____
3. _____

Go Make

It is time to start making. Use the components from the LEGO® set to make your chosen solution. Test and analyze your design as you go and record any improvements that you make.

Review and Revise Your Solution

Have you managed to solve the problem that you defined at the beginning of the lesson? Look back at your three design criteria.





How well does your solution work? Use the space below to suggest three improvements to your design.

1. _____
2. _____
3. _____

Communicate Your Solution

Now that you have finished, make a sketch or take a photo of your model, label the three most important parts, and explain how they work. You are now ready to present your solution to the class.

Assessment

	 BRONZE	 SILVER	 GOLD	 PLATINUM
GOALS				
Maker Task: _____ _____	• We drew and labeled the parts of our design.	• We met Bronze and we identified the location of the key component parts responsible for the pattern we observed.	• We met Silver and we included a diagram showing the pattern we observed.	• We met Gold and we used words and a diagram to explain how this new design caused the pattern we observed.
Obtaining, Evaluating and Communicating Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Well done! What will you make next?

◀ **Design criteria example:**
The design must...
The design should...
The design could...



◀ Print your photos and attach all of your work to a legal size sheet of paper or card stock.

