

## Unit Essential Question

*How do we work productively in groups?*

## Introduction

As a student or being in the workforce, it is necessary to communicate and collaborate well when working in groups. Each member of a group needs to be able to explain their ideas and to ask questions to learn more about what other group members are thinking. It is also important to learn how to help other team members learn how to do things for themselves.

The Master Designer activity illustrates three new Behavior Norms that help groups work together efficiently and effectively.

- Explain by telling how.
- Listen and pay attention to what is being said.
- Help others do things for themselves.

During the Master Designer activity, each group member has a set of seven geometric shapes known as tangrams. One student is the Master Designer who creates a design with the shapes. The Master Designer then explains to the other students how to replicate the design without showing the design to them. Group members cannot see what the other members are doing, but they may ask questions of the Master Designer until their design is correct. After the Master Designer determines that a group member has successfully replicated the design, they may help explain the design to other group members. Then another student becomes the Master Designer and the rest of the group tries to replicate a second design.

## Objectives

Students will be able to

- Describe a design in different ways to help others make the design.
- Use the Behavior Norms provided by their teacher to successfully complete the task.
- Reflect and share about when their group used the Behavior Norms and how the group can improve.

## Academic Vocabulary

- tangram

## Language of Instruction

- design
- Builder
- Master Designer

## Timing

This task can be completed in 2 class periods (based on 45-minute periods).

- Part I • Playing Master Designer (1 class period)
- Part II • Reflecting on the Master Designer Task (1 class period)

## Student Materials

per student

- File folders, empty binders, cardboard, or other dividers that can stand vertically on a table



### NOTE

Each player should be able to see the other group members over the divider but should not be able to see what the others are doing with their tangram pieces.

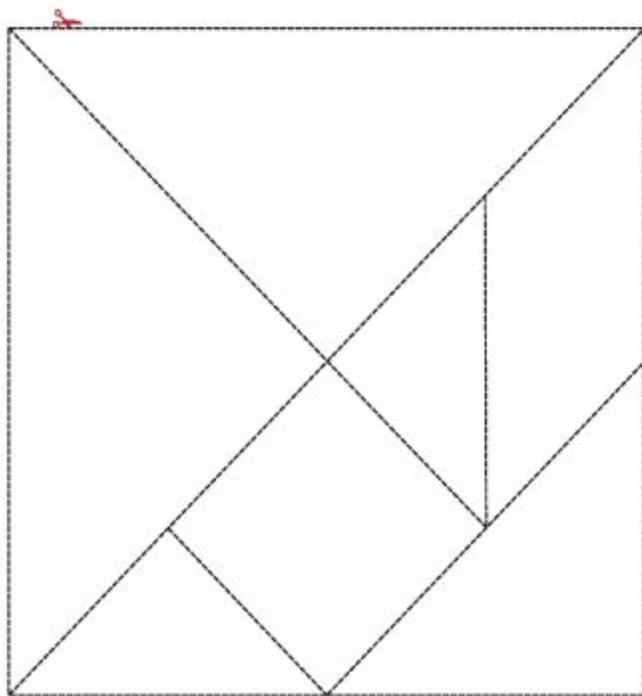
- Envelope containing the tangram pattern pieces
- Optional: Observer Notes found at the end of Task 3

### Tangram Pattern Preparation

- Tangram Pattern (use Tangram Pattern at the end of Task 3)
- Card stock
- Scissors
- Envelopes

Each group member needs a complete tangram pattern. A small version of the tangram shapes is shown below.

1. Copy the tangram shapes from the end of Task 3 onto card stock.
2. Cut apart the shapes and put the pieces in envelopes so that each envelope has a complete set of tangram pieces.



## Teacher Materials

- Behavior Norms poster from Task 1

## Part I • Playing Master Designer

1. Divide the class into groups of four to five.
2. Put envelopes with tangram cards and barriers on the tables.
3. Assign group roles to individuals in each group. Give students time so that each individual can review their role.
4. Ask the Facilitators to read the two job descriptions in the Master Designer activity. This is good practice; it helps instill the idea that the groups can read directions themselves and that other group members should listen. Here are descriptions of the two jobs.
  - **Master Designer**  
This student makes a design with tangram pieces (all or part of them) behind a divider so that no one else can see the design. The Master Designer cannot see or touch the Builders' tangram pieces. The Master Designer can use gestures and verbally instruct the other players about how to replicate the design. This role illustrates an important new Behavior Norm: **Explain by telling how.**
  - **Builders**  
These students will be building copies of the Master Designer's design. The Builders may not look at the Master Designer's design, nor may they look at what other Builders are doing. The Builders may only ask the Master Designer questions about the design and listen to instructions. Each Builder depends on the Master Designer to get a clear understanding of what they should build. This role illustrates the second new Behavior Norm: **Listen and pay attention to what is being said.**  
When a Builder feels that they have figured out the master design, the Master Designer should check the solution. If the Master Designer says it is correct, then that Builder is allowed to help others in the group, but only by explaining how, not by touching any tangram pieces. This role illustrates another important new Behavior Norm: **Help others do things for themselves.**



### LANGUAGE SUPPORT STRATEGY

Offer a sample question that might be asked, such as "Should the square piece be placed in the center, on the left, or on the right?"

Explain that *replicate* means to recreate or copy something exactly.

5. Review the Behavior Norms for the activity. Refer to the Behavior Norms poster as you discuss each one.
  - Explain by telling how.
  - Listen and pay attention to what is being said.
  - Help others do things for themselves.
6. Formatively check for understanding of the job descriptions.



### LANGUAGE SUPPORT STRATEGY

Check for understanding by having students hold up five fingers if they completely understand, three to four fingers if they understand well enough to try, one to two fingers if they need to have more clarification from the teacher or a peer (five-finger students can explain it).

7. Ask for clarifying questions about the rules and directions.
8. Make sure all students have their barriers up so that no student can see another student's work.
9. Have students begin designing and building. Give the groups approximately 20 minutes to work on replicating the design after the Master Designer has finished making the design. Announce the start and stop times.

10. Debrief the round by asking students to discuss and identify examples of when they saw or heard the Behavior Norms being used.
11. After everyone in the group has completed the correct design, have students select a new Master Designer and new Builders. Encourage all students—not just the natural leaders—to play the role of Master Designer.
12. Another option is to do an extension of the activity by assigning the Master Designer to a student who can speak another language besides English, and ask them to only give directions in their alternative language or by assigning a class Observer. See instructions for extension options below.

## Part II • Reflecting on the Master Designer Task

1. At the end of the task, ask the groups to reflect on the following questions. Then use the same questions to debrief as a whole class, calling on different groups to share their experiences and/or ideas.
  - Describe how your group worked together to complete the task. Explain your group’s successes and challenges when trying to copy the Master Designer’s design.
  - Describe what happened when your group used the Behavior Norms successfully and what happened when you forgot to use the Behavior Norms.
  - Discuss how using the Behavior Norms can be helpful throughout the year.
2. **Extension Options**

### ***Non-English Speaking Master Designer***

Before class, ask students that speak a non-English language if they would be willing to be Master Designers and say all their directions in the non-English language. Assign the Master Designer job to a student who can speak a non-English language. Follow all the previous directions except specify that the Master Designer can only give directions with gestures or using their native language (non-English). Debrief by asking how the Master Designer and Builders felt in this new situation. Specifically, ask students what it was like to listen to directions in a language other than English.

### ***The Observer***

An Observer could be assigned for each group to watch the group dynamics and take notes on what they hear and see. The Observer watches the groups and keeps a tally of the number of times a Behavior Norm is used on the Observer Notes found at the end of Task 3. It is not so important that the Observer correctly records every time the Behavior Norm happens. The fact that someone is watching for and checking off Behavior Norms helps to objectify the behaviors and will assist the whole group in recognizing such behaviors when they occur. According to principles of social learning, the Observer role teaches students to recognize new Behavior Norms when they occur and to discuss them with the correct terms. The Observer also records specific examples of times when they saw group members using the Behavior Norms listed in the chart and when group members could have used the Behavior Norms more effectively.



#### **NOTE**

It is important to prepare the Observers for their role. You cannot assume that students will automatically be able to recognize the new Behavior Norms. Discussing what the Behavior Norms are and how to look for them is an essential step if everyone is to gain a needed awareness of what Behavior Norms are going to be identified. Since this is the first time students have ever been asked to observe, you will need to discuss how a person would know that a student is “telling how” and “helping others.”