

## Concept Reinforcement Activity for Elementary Math Lesson 2

### NCSC UDL Unit Concept Reinforcement Activity for Elementary Math Lesson 2

*If the student has not had experience (or has had very little experience) with the concept of area or the skill of calculating area (including complex shapes), it might be helpful to provide instruction using this Concept Reinforcement Activity (CRA) before the Introduction to Lesson 2. It might be helpful to provide the exploratory activity both before starting Lesson 2 and again after the Introduction of Lesson 2. Provide the scripted activity and data collection prior to the Body of Lesson 2. Just as with any other student, it is unlikely that he/she will learn these concepts or skills after being instruction only once so you can provide this activity at other times during the unit. But do not expect or require mastery of this CRA before the student takes part in the unit. The CRA is supplemental instruction and should only be provided **in addition to** the instruction in the unit; it does not take the place of the unit.*

*\*If during the course of your instruction, you find that the student could use more instruction on finding the area of a 2-dimensional rectangular shape (that would include calculation of area using a formula and understanding the concept of area), refer back to the scripted activity about area in the elementary school unit Concept Reinforcement Activity.*

**Key Vocabulary:** The following key vocabulary terms are used in the reinforcement activities and the unit. It is important to provide these terms in the student's communication system and describe the meaning using the definitions in the unit as provided or paraphrased as needed. The purpose is to build understanding of the terms rather than teaching the student to recite the definitions. For example, when identifying the area of each simple shape consistently state, "This is the area, the space inside the edges of a figure." Model the use of the communication system when talking about area and complex shapes.

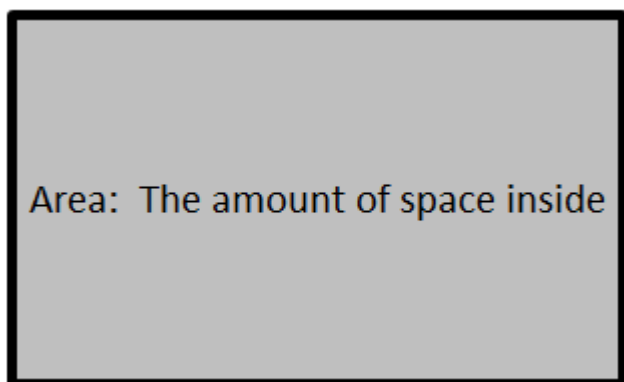
<b>Unit Definition</b>	<b>Possible Paraphrased Definition</b>
<b>Area</b> – the amount of space an object occupies	<b>Area</b> – the space inside the edges of a figure
<b>Complex shape</b> - combined parts or all of simple shapes	<b>Complex shape</b> – two or more shapes put together
<b>Rectangle</b> – a four sided figure with four right angles	<b>Rectangle</b> – a shape that has four sides and each corner is a right angle
<b>Square</b> – a rectangle that has all its sides congruent	<b>Square</b> – a special kind of rectangle that has all four sides the same length

## Concept Reinforcement Activity for Elementary Math Lesson 2

### Exploratory Activity

*Purpose: The orientation activity is designed to build an understanding of area of complex shapes.*

1. Review the description of area verbally and in some type of concrete representation (e.g., drawing of a rectangle with the edges being one color or texture and the middle being a different color texture; label each part of the rectangle)



**Figure 1 Example of representation of area**

2. Provide the student multiple opportunities to identify different size rectangular shapes including squares.
3. Place two shapes together to form a complex shape that is not a rectangle and explain that this is now a complex shape. Refer to the definition or paraphrased definition. If the student is using an AAC system, include the vocabulary term and refer to it.
4. Allow the student to practice the concept of complex shapes by providing:
  - a. Two (or more) rectangular shapes and allow the student to combine the shapes with assistance as needed. Reinforce that the student has now made a complex shape.
  - b. Two (or more) pictures of familiar objects (e.g., L shaped pool, floor of room), precut into the simple shapes. Allow the student to separate or decompose the complex shapes into rectangles.
5. Review how to measure area (see Elementary Lesson 4 CRA)
6. Model how to decompose a given complex figure (e.g., drawing a line to divide each figure, cutting the figures apart, and coloring in each simple shape a different color).
7. Model how to measure each simple shape and combine to find the area.
8. Use systematic instruction (see NCSC Instructional Resource Guide) to have the student decompose the complex figure and measure each simple shape, and add together to find the area.

## Concept Reinforcement Activity for Elementary Math Lesson 2

### Scripted Activity with Data Collection

*See applicable steps in Scripted Activity with Data Collection in Lesson 3 for use in measuring area of complex shapes.*

### Transition Activity: Back to the UDL Lesson

To help the student develop an understanding of area of complex shapes and to work within the UDL unit, it might be helpful to provide the exploratory activity both before starting *Lesson 2* and again after the *Introduction of Lesson 2*. Have the student complete the activities in the Introduction and the *Body* using:

- appropriate systematic instruction as needed;
- communication system terminology or symbols;
- representation of area used in the orientation activity; and
- Additional Considerations for Emerging Readers and Emerging Communicators provided at the end of the lesson (e.g., using a grid so student can count vs. calculate).