Shapes and Sizes

Grade Level: First Grade

Unit Theme: Shape and Size (big, medium and small)

Ohio Standards Connection: Foreign Language

Standard: Communication: Communicate in languages other than English

Benchmark A: Ask and answer questions and share preferences on familiar topics.

Indicator 1: Ask and answer simple questions about personal information and other familiar topics (e.g., family members, weather, today's date, pet, school supplies).

Benchmark F: Identify people and objects based on descriptions.

Indicator 7: Identify people and objects based on detailed oral or signed descriptions (e.g., Pint to a tall man,/Montre-moi un grand homme. Find the red apple./Finde den rotten Apfel.).

Standard: Connection: Connect with other disciplines and acquire information.

Benchmark A: Describe concepts and use skills from across disciplines.

Indicator 5: Identify elements (e.g., shape, color) in their own and others' artwork.

Unit mode(s) of focus: Interpretive and Interpersonal

Unit Description

In this multiple-day unit, students will gain the ability to use the terms big, medium and small correctly to modify objects, and to say the name of shapes accurately. Each student will make a shape book and will spend time actively manipulating shapes by making a square out of a rectangle, making a round out of a square and making a triangle out of a round shape of paper. Students will not only gain the ability to exchange information about shapes, but will also understand the characteristics of shapes in the target culture. At the conclusion of this unit, students will share information about shapes by using sentences and phrases learned from this unit while also incorporating vocabularies studied from previous units (e.g., colors, numbers).

Performance Outcomes

Students will be able to:

- Say five shapes and three sizes;
- Describe the shapes;
- Say the name of objects that resemble the shape;
- Ask and answer questions about shapes;
- Differentiate the usage of angle (角 jiǎo) in shape and as an animal's horn;

• Understand and write the word sharp (尖 jiãn), formed by characters small (小 xiǎo) and big (大 d à).

Time Frame/Estimated Duration: *Eight classes / Four hours*

General Tips from the Writers

- To help students retain previously learned vocabulary that is related to shapes, it is advisable to recycle the vocabularies from Kindergarten topics of "Numbers", "Pet and Animals", "Colors and Fruits", plus first-grade topic "Things in My Backpack".
- Provide guidance for students who are ready to learn more expanded words and a longer sentence structure, as those pre-learned basic words are essential in building longer sentences. However, this extended learning should not be included in the assessment.

Feedback from Pilot Teachers

- We made Bingo boards with shapes and enjoyed the "find a shape" game. The winners got to practice sentences, such as "I have ...shapes". Students also enjoyed identifying shapes in the classroom. We made additional shape-count games as well.
- We added in many additional visual displays and made connections to the shapes in the classroom.
- The students enjoyed the unit with shapes. I cut out for them to come to front and name the items and pass on to the next person.

Pre-Assessment

The Pre-Assessment is intended to evaluate student recall of colors and counting (1-10) while also evaluating their ability to pronounce and recall new vocabulary on shapes and sizes.

- Have available several sizes (big, medium, small) and colors of all the shapes to be taught in this unit. Also, have available different colored shapes within shapes for use throughout the unit to support the math concept of composing and decomposing geometric shapes.
- In a dramatic way, present different shapes to the class. Each time you present a shape, outline/trace it with your finger and ask, "這是什麼形?(这是什么形?)" (What shape is this?). Students may respond in English, but then provide the correct response in a complete sentence: "這是(这是)_____." (This is _____.). Encourage them to repeat the names of the shapes. First split a blue triangle out of a yellow circle, second split a yellow circle out of a green square, third take a green square out of a brown rectangle, then present a red star.
- While showing each shape, review the name of the color as well. Observe student pronunciation and recall of the name of shapes and colors.
- Next, show pictures of different sized animals, such as an elephant, a tiger and a mouse. Use body language to express big, medium and small sizes. Say the size vocabulary while showing an appropriate visual: "大" (big), "中" (medium), "小" (small). Observe student pronunciation and recall of the name of sizes. Remind students that they learned the words for big and small in the children's song Light Rain "小雨长大 xiǎo yǔ, zhāng dà" and with the rhyme counting knuckles "一月大,二月小 yí yuè dà, èr yuè xiǎo first

- month is big, second month is small". They also learned the word "medium" from the Mid-Autumn Festival "中秋节 zhōng qī u jié."
- Finally, have students count aloud the quantity of each shape to review their numbers. For example, hold up three triangles and ask, "這裡有幾個三角形?" (How many are there?). Students can count aloud while also demonstrating the culturally appropriate way of counting with their fingers. Consider having students come to the front of class to hold the shapes while the class counts aloud together.
- Recap the vocabulary by asking individual students to come forward and indicate the shape or size visual you say aloud. For example, say, "指出三角形" (Point to/Show me the triangle.). Assist students as necessary in indicating the correct image.

Pre-Assessment Scoring Guidelines

The Pre-Assessment shall not be scored. Use the students' performance to inform your instructional decisions.

Unit Assessments and Scoring Guidelines

Interpretive Assessment

Students will identify (point to or touch) shapes of certain sizes and colors from visuals (e.g., artwork, pictures) based on descriptions given by the teacher.

Interpretive Assessment Scoring Guidelines

Use the following rubric to assess student performance:

- 4 Student able to accurately identify shapes and colors from visuals as described by the teacher all of the time.
- 3 Student able to accurately identify shapes and colors from visuals as described by the teacher most of the time.
- 2 Student able to accurately identify shapes and colors from visuals as described by the teacher some of the time.
- Student unable to accurately identify shapes and colors from visuals as described by the teacher.

Interpersonal Assessment

Partners will be given visuals and will ask each other about shapes and sizes in those visuals. Questions they should ask each other include: "What is it?" The teacher will then ask each student: "Is it (the shape) small/medium/big?" and "How many corners/angles does this shape have?" about the visuals. Students should respond appropriately to the questions posed.

Interpersonal Assessment Scoring Guidelines

Use the following rubric to assess student performance:

- Student able to accurately ask and answer about shapes, number of corners, and sizes all of the time
 - Good pronunciation of vocabulary and expressions
- 3 Student able to accurately ask and answer about shapes, number of corners, and sizes most of the time

- 2 Student able to accurately ask and answer about shapes, number of corners, and sizes some of the time
 - Poor pronunciation with quite a few tone problems
- Student unable to accurately ask and answer about shapes, number of corners, and sizes
 - Needs remediation

Vocabulary and Structures

• This is + name of the shape.

zh è sh ìyu án x ng

This is square. 這(这)是 正 方 形。

zh è sh ìzh èng fāng x ng

This is rectangle. 這(这) 是 長(长) 方形。

zhè shìch áng fāng x íng.

This is triangle. 這(这) 是 三 角 形。

zh è sh ìsān jiǎo x íng.

This is star. 這(这) 是星形。

zh è sh ìxīng x ńg.

• This is + size + name of the shape.

zhè shì dà sān jiǎo x ng.

zh è sh ìzhōng sān jiǎo x íng.

This is small triangle. 這(这) 是 小 三 角 形。

zhè sh ìxiǎo sān jiǎo x íng.

• The usage of 角(corner, angle)

Triangle has 3 angles. 三角形有三個(个)角。

sān jiǎo x ng yǒu sān ge jiǎo

zhèng fāng x ng yŏu sì ge jiǎo

Rectangle has 4 corners. 長 方 形 有 四 個 (个) 角。

cháng fāng x ng yŏu sì ge jiǎo

Star shape has 5 sharp angles. 星 形 有 五 個 (个) 尖 角。

• The moon on the Mid-Autumn Festival is big and round.

中 秋節(节)的月 亮 又 大又 圓(圆)。 zhǒng qiū ji é de yu è li àng y òu dà y òu yu án.

Materials, Resources and Useful Web Sites

- Baggies with shapes for each child, laminated for protection.
- Blue, brown, green, yellow and red construction paper, scissors, glue, and white paper.
- Pictures or objects that resemble the five shapes, such as:
 - Full moon, cherry, orange, ball, bagel, doughnut, the traditional Hakka castle in Fu-Jian province;
 - Textbook, pencil case, tissue box, TV or computer screen;
 - Salt crackers, yellow square traffic signs;
 - Traffic "Yield" sign, ball rack of the billiard game;
 - Pyramid, birthday party hat, ice-cream cone, Christmas tree, the structure of the Bank of China building in Hong Kong;
 - Stars in the flag, a sheriff or police badge, Christmas cookies;
 - Shaped and sliced fruit and vegetable tray for the end-of-unit party (e.g., watermelon, pineapple, pear, carrot, cucumber).

Sequence of Activities

Day One

- Have available several sizes (big, medium, small) and colors of all the shapes to be taught in this unit. Also, have available different colored shapes within shapes for use throughout the unit to support the math concept of composing and decomposing geometric shapes.
- In a dramatic way, present different shapes to the class. Each time you present a shape, outline/trace it with your finger and ask, "這是什麼形?(这是什么形?)(What shape is this?). Students may respond in English, but then provide the correct response in a complete sentence: "這是(这是)_____." (This is _____.). Encourage them to repeat the names of the shapes. First split a blue triangle out of a yellow circle, second split a yellow circle out of a green square, third take a green square out of a brown rectangle, then present a red star.
- While showing each shape, review the name of the color as well. Observe student pronunciation and recall of the name of shapes and colors.
- Next, show pictures of different sized animals, such as an elephant, a tiger and a mouse. Use body language to express big, medium and small sizes. Say the size vocabulary while showing an appropriate visual: "大" (big), "中" (medium), "小" (small). Observe student pronunciation and recall of the name of sizes. Remind students that they learned the words for big and small in the children's song Light Rain "xiao yu, zhang da" and with the rhyme counting knuckles "yi yue da, er yue xiao". They also had learned "medium" from the Mid-Autumn Festival "zhong qiu jie."
- Finally, have students count aloud the quantity of each shape to review their numbers. For example, hold up three triangles and ask, "這裡有幾個三角形? 这里有几个三角

- 形?) "(How many are there?). Students can count aloud while also demonstrating the culturally appropriate way of counting with their fingers. Consider having students come to the front of class to hold the shapes while the class counts aloud together.
- Recap the vocabulary by asking individual students to come forward and indicate the shape or size visual you say aloud. For example, say, "指出三角形" (Point to/Show me the triangle.). Assist students as necessary in indicating the correct image.
- Adjust instruction as needed based on the students' performance with new and old vocabulary as well as with pronunciation.

Day Two

- Read a big book (either purchased or made) on shapes. This book should show the shapes and state their names (e.g., This is a triangle.), and present sizes. This book can also serve as a model for the students' final shape book project.
- Show visuals of a rectangle (e.g., textbook, pencil case, door, tissue box). Say the name of the shape in the target language: "zhèshìch áng fāng x íng. 這 是 長 方 形。"(This is rectangle shape.). Have students repeat as a group and individually.
- Describe the shape by saying, "chèng fāng x ng yǒu s ìge jiǎo. 正 方形有四個角。" (Square has 4 corners.). Ask students to repeat this phrase after you several times.
- Distribute to each student a piece of paper pre-cut in the shape of a rectangle. On the back of the rectangle have a dotted line already marked for students to use as a guide when cutting the rectangle into a square.
- Show students visuals of squares (e.g., saltine crackers, yellow square traffic signs). Say the name of the shape in the target language: "zhèshìchèng fāng x ńg,這(这) 是正 方形。" (This is square shape.). Have students repeat as a group and individually.
- Describe the shape by saying, "cháng fāng x ng yǒu s ìge ji**ǎ**o. 長(长) 方 形 有 四 個(个) 角" (Rectangle has four corners.). Ask students to repeat this phrase after you several times.
- Next, have each student write his or her own name twice on the paper: once on the square, and also on the smaller rectangle.
- Then have everyone hold up the paper and say, "zhèsh ìch áng fāng x íng. 這(这) 是 長 方 形。" (This is rectangle shape.).
- Next, have everyone fold along the dotted line and say, "zhèshìchèng fāng x ńg.這(这) 是 正 方 形。" (This is square shape.).
- Distribute scissors and have everyone cut the paper along the dotted line. Ask students to turn in both shapes.
- Introduce the question particle (嗎(吗)? ma) and "有 you(have)" or "没有 měi yǒu (don't have)" sentence.
 - Question sentence pattern: Pronoun "you" + have + shape + question particle (嗎 (吗)?) "nǐ yǒu ch áng fāng x íng ma? 你有長(长)方形嗎(吗)?"(Do you have rectangle?).

Model possible responses for students such as:

- I have a rectangle. 我有長(长) 方形。 wǒ yǒu ch áng fāng x íng
- I don't have a rectangle. 我没有長(长)方形。 wǒ měi yǒu ch áng fāng x íng
- I have a square. 我有正方形。 wǒ yǒu ch èng fāng x ńg
- I don't have a square. 我没有正方形。 wǒ měi yǒu chèng fāng x ng
- Ask individual students if they have rectangles and squares. Assist students as necessary with pronunciation and in responding in complete sentences.

Day Three

- Quickly review the shapes of rectangle and square including the name of each and the number of corners each has. Ask the class if they have each shape. Ask individual students the same question. Then direct students to turn to the classmate on either side of them and ask each other if they have or don't have each shape.
- Give each student a piece of paper pre-cut into the shape of a square with dotted lines already marked on the back to serve as a guide when cutting the square into a circle.
 Present the vocabulary word for circle: "Zhè shìyuán x ng. 這是圓(圆)形。" (This is round shape.). Ask students to repeat this phrase several times.
- Distribute scissors to the students. Have students write their names on the circle, cut it out, and turn it in to you.
- Next, discuss objects, foods and buildings in the shape of a circle, such as: the full moon, Mid-Autumn Festival moon, cherry, orange, ball, the traditional Hakka castle in Fu-Jian province. Show visuals of the items you discuss while stating sentences such as: "Jú zi shì yuán de. 橘 子是 圓 (圆) 的。" (Orange is round.); "Yīng táo shì yuán de. 櫻 (櫻) 桃 是 圓 (圆) 的。" (Cherry is round.); "Zhōng qiū jié de yuè liàng yòu dàyòu yuán. 中 秋 節 (节) 的 月 亮 又 大 又 圓 (圆)。" (The moon on the Mid-Autumn Festival is big and round.). Ask students to look around the classroom for things that are circular or that have a circle shape in them (e.g., door knob, roll of tape).

Day Four

- Quickly review all shapes, colors, and the structures for "Do you have...?" and "I have/don't have...". Ask questions of the class and individuals. Have students ask the same question of classmates to their right and left.
- Give each student a piece of paper pre-cut into a circle with dotted lines already marked on the back to serve as a guide when cutting the circle into a triangle. Present the vocabulary for a triangle: "Zhèshì sān jiǎo x íng. 這(这) 是三角形。" (This is triangle shape.).

- Describe the shape by saying, "Sān jiǎo x ng you sān ge jiǎo. 三 角 形 有 三 個 角。." (Triangle has 3 sharp angles.). Ask students to repeat this phrase after you several times.
- Distribute scissors to the students. Have students write their own name on the triangle, cut it out, and turn it in to you.
- Next, discuss objects, foods, or buildings that have a triangle shape. Have available several visuals of such things as: a traffic "Yield" sign, ball rack of the billiard game, pyramid, birthday party hat, ice-cream cone, Christmas tree, the structure of the Bank of China building in Hong Kong. Ask students to look around the classroom for things that are triangular or that have a triangle shape in them (e.g., company logo on glue bottle).
- Review the words for big, medium and small. Use visuals and gestures. Have individual students come forward when you say, "指出「大」". (Point to/Show me 'big'.).
- Then, show three different sized triangles and make a statement about each size. Have students repeat the phrase after you several times to work on pronunciation and to practice the expression: "Zhè shì dàsān jiǎo x íg. 這(这) 是 大 三 角 形。." (This is a big triangle.); "Zhè shì zhong sān jiǎo x íg. 這(这) 是 中 三 角 形。." (This is a medium triangle.); "Zhè shì xiǎo sān jiǎo x íg. 這(这) 是 小 三角 形。." (This is a small triangle.).
- Quickly review all the shapes learned thus far. Ask students questions about the sizes and colors, and ask if they like or dislike them.

Day Five

- Read the shape book together as a class.
- Give each student a piece of paper pre-cut in the shape of a circle with dotted lines already marked on the back to serve as a guide when cutting the circle into a star. Present the vocabulary for the shape: "zhè shì xīng x íng.. 這 是 星 形。." (This is star shape.).
- Describe the shape by saying, "xīng x ng yǒu wǔ ge jiān jiǎo. 星 形 有 五 個 尖 角。" (Star has five sharp angles.). Ask students to repeat this phrase after you several times.
- Distribute scissors to the students. Have students write their own name on the star, cut it out, and turn it in to you.
- Ask students if they like or dislike the star shape. Encourage students to respond in a
 complete sentence. Have students ask the same question of classmates to either side of
 them.
- Next play "Go Fish" in groups of three or four. Have available enough sets of cards for the number of groups of players. Each deck should have multiple pairs of all of the shapes learned (rectangle, square, circle, triangle, star). Include shapes of different sizes so students will be able to demonstrate their knowledge of this vocabulary. Students will ask each other, "你有大圓(圆)形嗎(吗)?" (Do you have a big circle?), to which

they will respond by either giving the card with the named shape, or "沒有." (No.), at which time the student who asked for the card must draw another card. The objective of the game is to match all of your cards until you have none left. The student who does this "wins."

• Practice asking the question "你有____嗎(吗)?" (Do you have ____?) several times with the class before allowing them to play on their own. Circulate to assist students in their pronunciation or with vocabulary. Use this as an opportunity to evaluate whether more review of the phrases or vocabulary is needed prior to assessing the students.

Day Six

- Review previous learned vocabularies and sentences using visuals as a class. Ask individuals to come forward to indicate a shape, size or color you designate by saying, " 岩出 ." (Point to/Show me .).
- Read the big book on shapes as a class.
- Introduce the project of making individual shape books to the class. Explain what the students will do in the target language. Use lots of visuals and gestures so students will understand.
- Redistribute the shapes the students cut out, have them color each shape, and glue it to the appropriate page (see Attachment A, Shape Book Pages), but do this one shape at a time. Begin with the rectangle. Have crayons or markers available. Have students color the shape any color they desire.
- Once everyone has finished coloring, have students glue the shape to the appropriate page.
- After everyone has completed the first page, direct students to continue working on their own. Have their pre-cut shapes separated by shape and have the appropriate pages separated by page number so students will be able to work independently while you conduct the interpretive and interpersonal assessments. Have the big book available for reference as well.
- Call pairs of students to a table and conduct the interpretive assessment first. Then have the pairs of students interact for the interpersonal assessment.
- Score the students according to the Scoring Guidelines.

Day Seven

- Play the "Shape Personification" game. Have students use body language to act one of the following characters for other students to guess the shape:
 - A professor, Judge, accountant, or a well-disciplined person is like a square.
 - A sales person, politician, or some articulate smooth talking person is like a round shape.
 - A creative artist, idealist, radicals, or a picky person is like a triangle.
 - An ordinary, flexible or a tolerant person is like a rectangle.
 - A successful or showy person is like a star.
- Have students continue to work on their shape books as you continue to conduct the interpretive and interpersonal assessments.

Day Eight

• Finish any books or assessments.

- Review the shapes one final time by presenting shaped fruit and vegetables.
- Share the food and each other's books to celebrate what the students learned in this unit.

Differentiated Instructional Support

Instruction is differentiated according to learner needs to help all learners either meet the intent of the specified indicator(s) or, if the indicator is already met, to advance beyond the specified indicator(s). Different learning needs and different learning styles can be accommodated in group activities.

- The Chinese character 角(jiǎo) has more than one meaning. It could mean corner, angle, horn and ten cents. To heritage students they might hear different version of usages in their daily life. If time permits, this is good chance to expand student's vocabulary with 角(jiǎo), such as cow horn (牛角 niú jiǎo), deer horn (鹿角 lù jiǎo), pentagon house (五角大廈 wǔ jiǎo dà xià), or one dime (一角 yī jiǎo).
- Students can learn and share the cultural meaning and history of Chinese characters. The official name of square in Mandarin is 正方形 (zhèng fāng x ́ng) instead of 方形 (fāng x ́ng). The word 正 (zhèng) has the meaning of correct, right, positive and principal. Character 正 has five strokes which is often used to calculate the ballot. By writing one stroke for one ballot, then counting how many of character 正, people in a meeting can easily figure out the vote. Square has four equal sides and equal corners. Therefore, square is "right" square 正方形 when compared with rectangle, which is a "long" square, 長方形.
- If time permits, recycle previously learned vocabulary with the shapes to practice the following sentence pattern: I like + color + shape + object, and I have + shape + object.
 - I like a square eraser. 我喜歡(欢) 圓(圆) 形的橡皮擦。

Wǒ xǐ huān yu án x ng de xiàng pí cā.

• I have a rectangle pencil case. 我有長(长) 方形的鉛筆(铅笔)盒。

Wŏ yŏu cháng fāng x ng de xi àngp í hé.

Extensions and Home Connections

- Students can share their learning by teaching family and friends the names of shapes in the target language. See Attachment C, Speaking Extension Activity #1.
- Students can share their learning by completing a simple survey of family members' favorite shapes. See Attachment D, Speaking Extension Activity #2.

Technology Connections

- Window XP
 - Chinese Language setting: from Control Panel, click "Regional and Language options", then follow the instructions to add Chinese as an alternative language.
 - - Using MS Word to type Chinese characters: recommended Font is SimSun.
 - - Four tone marks in Pinyin can be found under "Insert Symbol"
- Twin Bridge is a Chinese language software. Recommended Fonts are:
 - TSC UKai M TT

• TSC USong S TT

List of Attachments:

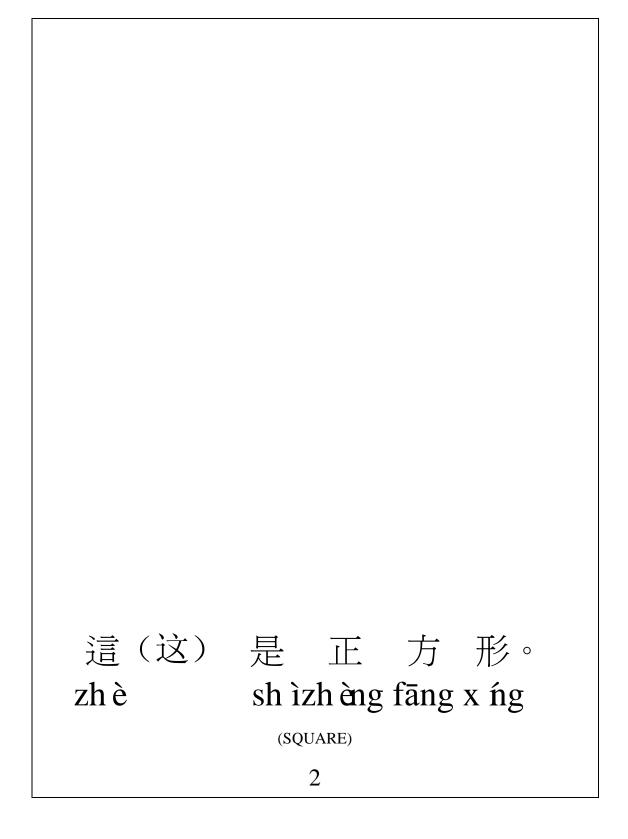
Attachment A, Shape Book Pages

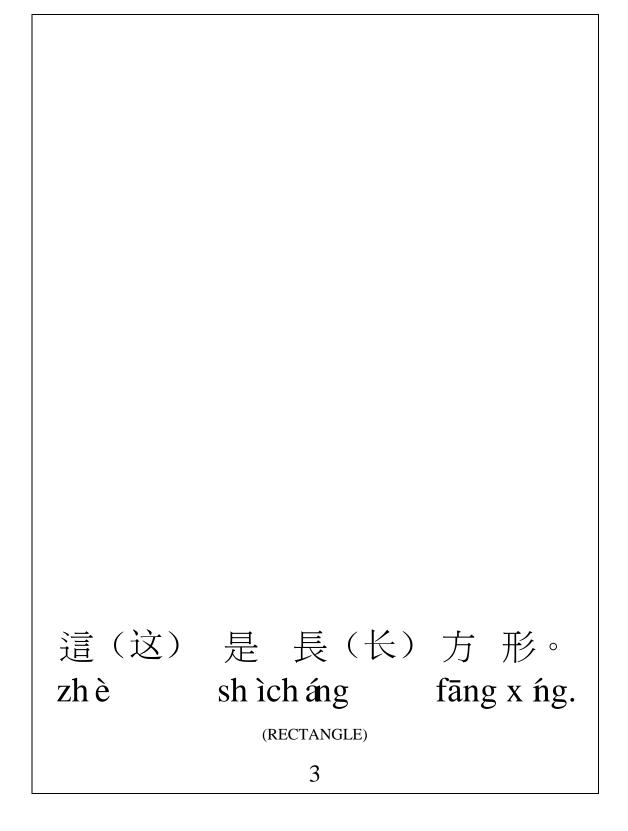
Attachment B, Student Checklist

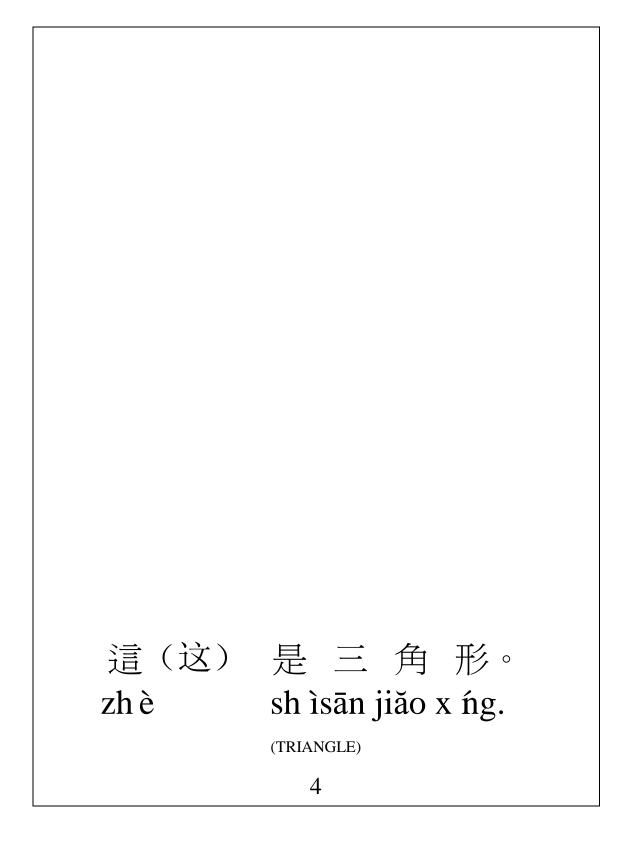
Attachment D, Speaking Extension Activity #1
Attachment D, Speaking Extension Activity #2

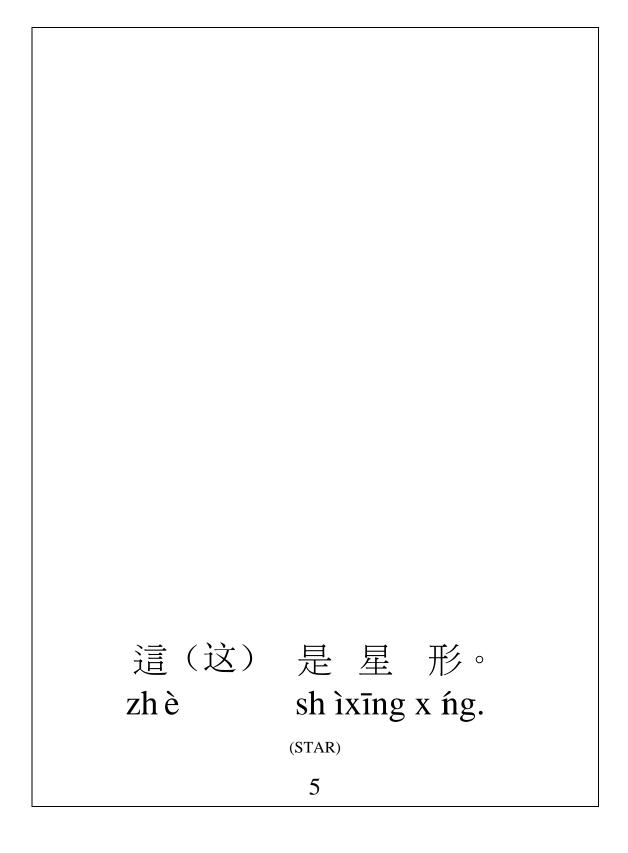
Attachment AShape Book Pages

這(这)	是 圓(圆)	形。			
zhè		x ńg			
(CIRCLE)					
1					









Attachment B Student Checklist

Student Name	Identify and say the name of shapes and number of corners/angles	Asking and Answering question with "有 have" or "没有 don't have"	Identify Elements in Artwork/Visuals

Attachment C

Speaking Extension Activity #1

In our Mandarin language class, we have recently been learning about shapes. I am encouraging the students to teach family members and friends about these five shapes. Here are the phrases we have learned.

		是 長(长) sh ìch áng	方形。 fāng x ńg. (This is rec	angle.)
	_	是 正 方 : sh ìzh èng fāng x i	形。 ńg. (This is square.)	
	_	是 圓(圆) sh ìyu án	形。 x ńg. (This is round sha _l	pe.)
	_	是 三 角 形。 sh ìsān jiǎo x ́ng	. (This is triangle.)	
	_ ′	是星形。 shìxīng x ńg.(Th	nis is star shape.)	
things that surr	round you e	-	oors, windows, hats, wh	iding the shapes in those eels). Then, please sign
Thank you for	supporting	our language pro	ogram.	
Xièxie! (Thank you!)				
Student Name:	:			
Parent Signatur	re			Date

Attachment C

Speaking Extension Activity #2

In our Mandarin language class, we have recently been learning about shapes. We are asking for your help in completing a simple survey about shapes.

你有 ______ 形 嗎(吗) ?(Do you have + name of shape?)

The sentence pattern for asking and answering questions about one's possession(have) toward the shape is:

Nǐ yǒu ____ x ng ma?

You have + name of shape + ma? (question particle)

Q:

A: I have/o		没有ě	形。(I ha x ŕ		e+ name of shape.)
	erviewed by yo Draw an O for		e ask your child thon't have.	ne same questi	ons by repeating
Name	Rectangle	Square	Round	Triangle	Star
名字	長(长)方形	正方形	圓(圆)形	三角形	星形
Father 爸爸					
Mather 媽媽(妈					
妈)					
I					
我					
return it to the			ach other about sh	apes, please s	ign this form and
Xièxie! (Thank you!)					
Student Name:					
Parent Signatu	re			Date	