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# Brick by Brick 1 - Project 2

## Units 3 and 4

### Build a Playground

#### Objectives and Learning Outcomes

- Build a model playground to accompany the model school built in Units 3 & 4.
- Count and add the pieces of playground equipment.
- Work together and collaborate on the building process.
- Work with a number code.
- Evaluate the pieces.

#### Materials Needed

- Pictures of playground equipment in books, or on the Internet.
- Soft cardboard, cardstock, or recyclable paper boxes.
- Toothpicks (or small pieces of straws pre-cut to equal lengths).
- Modeling clay, rolled into small balls for sticking things together. (Soft play dough is not recommended because it's too soft to stick).
- Scissors.
- Masking tape.
- Straws.
- Ice cream pop sticks.
- Paper tubes (from toilet paper and paper towel rolls).
- String.
- Strong, short, circular plastic containers (more wide than deep, if possible).
- Balloons.
- Rubber bands.
- Markers or crayons for drawing.
- Small coins or paper clips (optional, for extra weight to test the playground equipment).
- The tip of a water bottle, one per pair, cut off from the rest of the bottle, with the cap.

#### Target Language

Playground equipment: *slide, seesaw, swing, monkey bars, trampoline, merry-go-round*; also *ladder and handles*.

Identifying playground vocabulary: *What's this? It's a \_\_\_\_\_!*

Numbers 1-5, simple statements of addition.

Language for collaboration and cooperation: *Let's...; Sure; It's my turn.*

Basic feelings: *happy, sad, angry, OK*.

Verbs for playground activities: *jump, spin, go up/down, slide down, swing, climb*.

Names of materials: *scissors, tape, straws, sticks, cardboard, string, paper tubes, etc.*

## Timeline for the Project

Number of lessons: 5

Warm up: Lesson 1 – Review vocabulary for playground equipment in a Total Physical Response activity (5-15 minutes).

Development: Lesson 1 – Look at pictures of playground equipment, distinguish between the actions *go down / climb up* (5-15 minutes), build monkey bars (15-25 minutes), make a paper person (5-10 minutes); Lesson 2 – Play a game with numbers and movements (10-15 minutes), plan, build, and test slide (30-40 minutes); Lesson 3 – Play a game with a code and movements (5-10 minutes), make and test a seesaw (15-25 minutes), make and test a trampoline (15-25 minutes); Lesson 4 – Play another game with code and movements (10-15 minutes), make and test a swing (15-25 minutes), make more paper people, count and test (10-20 minutes); Play one more game with code and movements (10-15 minutes) make a spinning merry-go-round (25-35 minutes).

Review/Conclusion: Lesson 5 - Play with the playground, moving the figures and pieces, and evaluate the equipment in a worksheet. (10-20 minutes).

Assessment: Students will be able to use expressions for cooperation and collaboration as they experiment with building techniques. They will be able to name the playground equipment and identify corresponding actions. They will be able to use the numbers 1-5 in different code combinations.

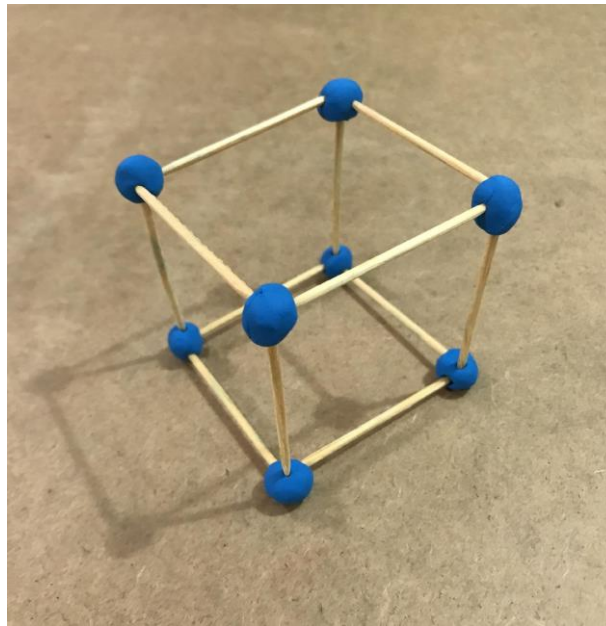
## Lesson 1

Warm up by reviewing playground vocabulary in a Total Physical Response activity. Say “Let’s play on the slide!” Students, as a group, act out climbing up and going down a slide. Continue with the other playground equipment: “Let’s play on the seesaw/swing/monkey bars/trampoline/merry-go-round!” For each one, students, as a group, find a way to act out the activity, even with no actual equipment.

Have students sit in a circle or in work places where the center is easily seen. Walk around the circle and show pictures of playground equipment. For each one, ask “What’s this?” Guide students in responding “It’s a [*slide/swing/merry-go-round/trampoline/seesaw*].” (In the case of *monkey bars*, which is plural, have students simply drop the “it’s.”) Teach the action *go down*, showing the motion. Ask students which playground equipment lets you *go down*, and elicit *slide*. Teach the action *climb* or *climb up*. Ask students which playground equipment lets you *climb up*, and elicit *monkey bars*. Drill *climb up* and *go down*, motioning up and down with your hands, or acting out the motion, with students responding with the action. Perform the actions yourself, each time asking “What’s this?” and eliciting the new vocabulary. Tell students they are going to make a model of playground equipment to climb up today, and in the next class, a model of equipment to go down.

Pair students up and provide them with some *toothpicks* and *clay*, and teach them both words. Roll a ball of clay and ask how the toothpicks can be put together. Have students try sticking two toothpicks together with the clay. Draw a square on the board and ask if they can make a square. Next, help them see how a square can be made into a cube. Tell students that cubes can be put together to make monkey bars, referring again to the picture from before. Students can refer to the picture in the book for ideas. After students get comfortable building with squares, ask if they can make a triangle. Ask if they can connect more than one triangle together. Together, pairs work on making cubes, triangles, and any other shapes they can come up with, connecting them together to make monkey bars. Challenge them to see how big or how high they can make their monkey bars.

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As students finish, provide them with some small pieces of recyclable paper. Have them draw a child and cut it out, and then see if it can climb on the monkey bars. They may wish to use tape to attach it.

Have one side of the room say the invitation "Let's play on the monkey bars!" The other side will say the response: "Sure!" Switch sides and switch groups so that everyone drills the invitation and response multiple times.

Ask students what they made by asking "What's this?" (Monkey bars.) Ask them what they do on the monkey bars, and elicit the action. (Climb up.) Elicit the opposite action. (Go down.) Elicit the playground equipment that lets them go down. (Slide.) Have students put their models in a safe place, and tell them they will make a slide in the next class.

## Lesson 2

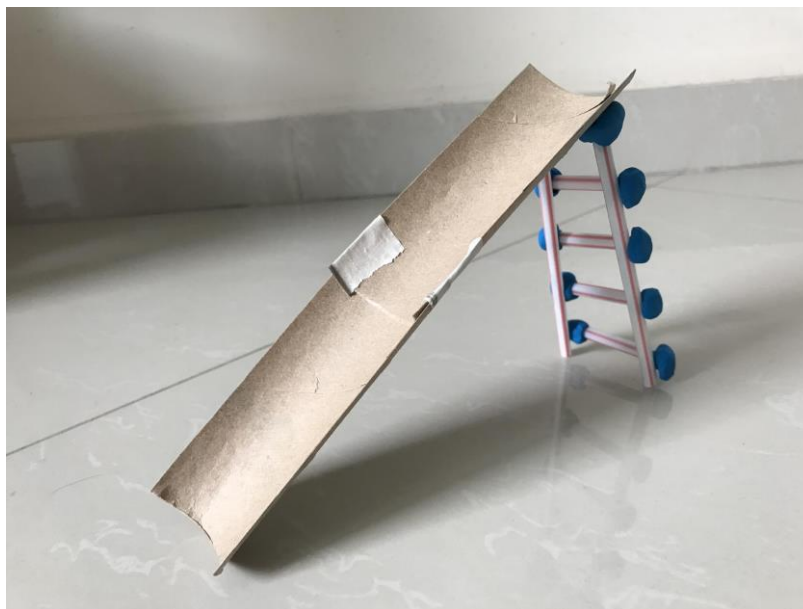
Label certain stations in the classroom with the numbers one through five. Play a game. The teacher says "Let's go!" The students respond "Sure!" and move to any number. Choose a random number. If there is more than one student in that spot, for example, spot 4, point to each one and count, 1-2-3-4, coming back to the first child to count higher, if needed. If there are two students in that spot, the second one is 4, and the one chosen. If there are three students in that spot, the first one is number 4, and chosen. If there are four students, the fourth one is chosen. If there are five (or more), count to four twice, thus choosing the third student. Each time a different student is chosen. The chosen student will make a funny walk that everyone has to imitate as they move in the next round. Once more, say "Let's go!" The students respond "Sure!" This time, everyone moves to any number, imitating the funny walk or movement that the first person does. Do this several rounds, trying to allow for every student to get a chance to be chosen. Encourage students to count with you each time. End the game by having students walk from one to five, doing actions for "climb up," counting the numbers as they go. Then, have them go back from five to one, acting out "go down," as in "go down a slide," also counting as they go.

Have students settle into a circle or into workspaces. Show a paper tube, and have students suggest a few ways it could work as a slide (It might be a tube slide, or it could be cut lengthwise in half and each piece could be a slide.). Remind students that on a slide you also have to climb up. How do you climb up? Elicit the idea of a *ladder*, and teach the word. Show some straws and pieces of cardboard or recycled paper material, cut into small strips. Ask how they can make a ladder, and have students put some pieces together in the shape of a

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ladder. Show how they can be connected, either with bits of clay as before, or with tape. Provide students with paper tubes, both from toilet paper and paper towel rolls. Give them scissors, tape, pieces of strong paper (a cut up recycled box works great), straws, and, if they want it, clay balls for sticking. Ask students if they think there is only one way to make a slide. (There are many ways!) Remind students that they can use *Let's...* to make suggestions. Give them the expression "*Let's try this!*" This activity will be more challenging than yesterday's, especially building the ladder and finding a way to make it stand upright and support the slide. The slide may also need a small, supportive base at the bottom. Encourage students to cut the paper to get the shapes they need, using pictures of slides as reference. Walk around and make suggestions, but let them do the majority of the problem solving. Encourage them to say "*Let's try this,*" as they offer solutions. Students can test their slide with an eraser.

To wrap up, review the vocabulary, *climb up*, *ladder*, *go down*, and *slide*. Have them take their little paper person from the previous class and say "Let's go down the slide!" Let them try it out (If the person is too light, add some weight by taping them to a coin or attaching a paper clip.).



### Lesson 3

Write "1\_3\_5," on the board. Have students name the missing numbers. (2, 4) Tell students that on two and four they go down, and on one, three, and five they climb up. Have everyone march around the room. Count slowly from one to five. Students should act out climbing up, then going down, then up, then down, then up again. On the next round, count backwards, slowly, from five to one. Have students do the same actions. Ask them if the code was the same in reverse (It was.). Now count from one to four, and then from four, backwards to one. Ask students if the code was the same or different in reverse (It was different this time.). Do the same, counting from one to three and backwards, and then from one to two and backwards.

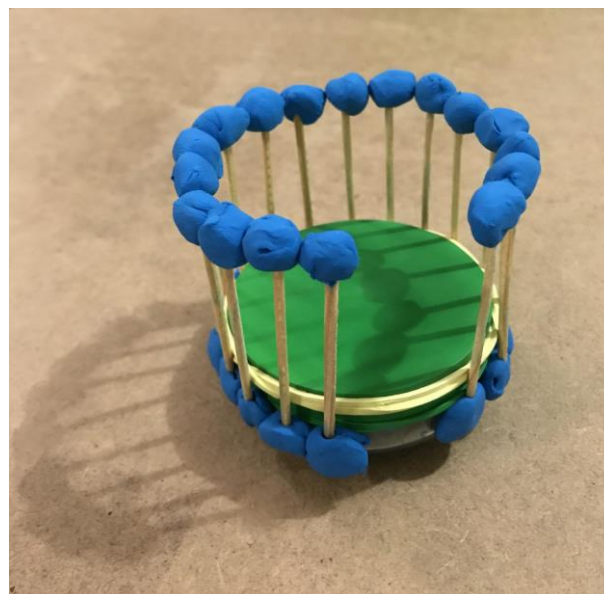
Have students settle into their places. Ask them what other playground equipment goes up and down. Elicit *seesaw* and *trampoline*. Tell students they are going to make both today.

Provide ice cream pop sticks, masking tape, straws, toothpicks, and pieces of cardboard or strong, recyclable paper. Ask "What's this?" and make sure they know the words *sticks*, *straws*, *tape*, and *paper*. Tell students that the seesaw has to move up and down. Tell students they can use any of the materials. They don't have to use all of the materials. Each seesaw will be different. Ask students the expression they learned to offer ideas, and remind them to say "Let's try this!" As before, allow time for trial and error, and make suggestions as necessary.

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When students have finished and tested their seesaw with their paper people, invite them to come get the equipment for the trampoline. Provide them with a round plastic container, the round part of a balloon, cut in half (you might save the tip for another activity, such as in Brick by Brick 4) a rubber band, some toothpicks, scissors, string, and tape. Leave some clay balls available, too. The idea is that students place the balloon tightly over the container, using a rubber band to secure it if needed. Let them try and figure this out on their own. If they think they are finished at this point, ask if they think the trampoline is safe. Encourage them to make a fence around it, using toothpicks and string, attaching them with tape and/or clay. As with the other equipment, let them test it with the paper person they made, with extra weight added, if needed. Make sure they know the word *jump*.



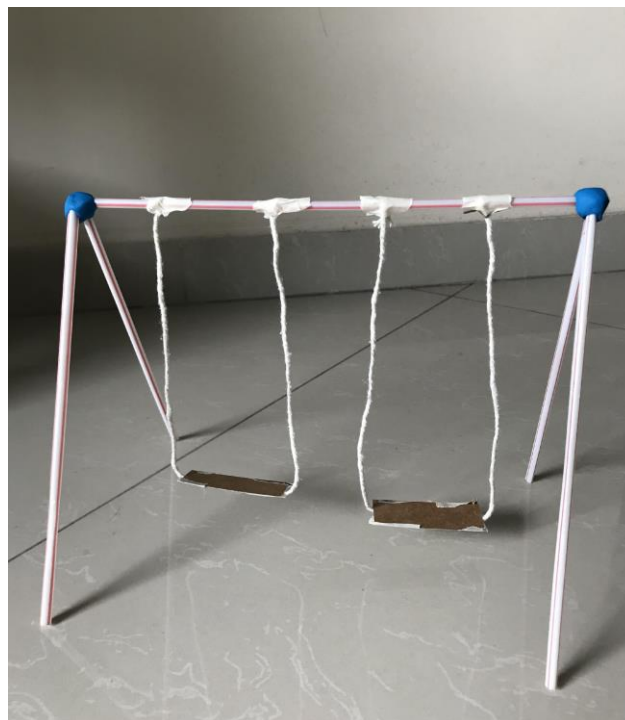
## Lesson 4

Play a number code game once again. Assign a number, one through four, to each of the playground equipment made so far, such as 1, monkey bars, 2, slide, 3, seesaw, 4, trampoline. Assign 5 to swing, which students will make today. Have them march around the room again as you say different number combinations. On each number, students act out playing on that equipment. Go in normal counting order at first, 1, 2, 3, 4, 5; then backwards, 5, 4, 3, 2, 1. You might pause before the last number or the third number and see if students can

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guess what's coming next. Try doing the same with other combinations, such as 1, 3, 5 and 2, 4, 2, 4, and the reverse, pausing to see if students can guess the final number.

Bring students together into a circle or workplaces. Show a picture of a swing, and help students notice the shapes that make up a swing. They should notice that the sides of the swing are almost a triangle, or an upside-down V. They might also notice the rectangles that make the swing seats. Provide students with straws, tape, clay balls, string, and strong paper. Ask "What's this?" for each one to see if they remember the names of the materials. Let students work in pairs as before to build their swing. They will have to figure out how to stick the straws together to make the shape of the swing set, likely with clay, but tape is OK, too. Then they will put a few swings on, likely made of paper, attached to string. Taping it to the top might be easier than tying. Remind students to use "Let's try..." to offer suggestions. As they finish, let them test the swing with their paper person. It might be necessary to tape it onto the swing before swinging it.



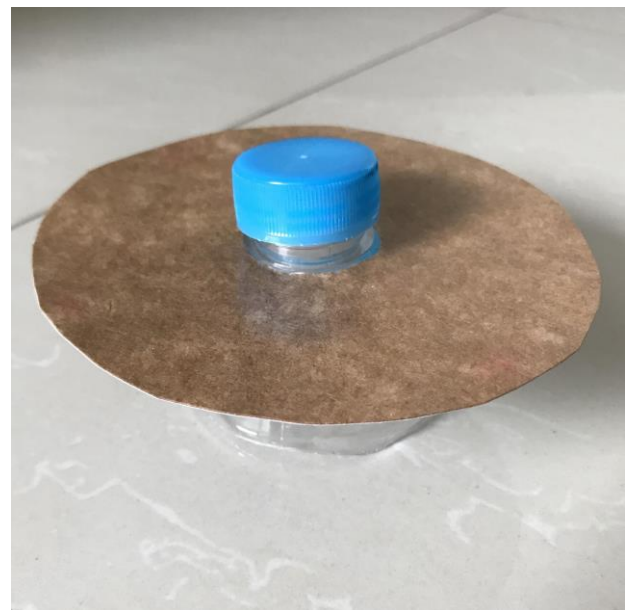
Have kids make four more paper people, one for each playground piece they've made. After drawing and cutting out their people, challenge kids to see how many ways they can add to five. They can play with the paper people, counting them in different arrangements, and then write the equations on a piece of paper. ( $1+4=5$ ,  $2+3=5$ , and the reverse,  $4+1=5$ ,  $3+2=5$ ) Let students who finish first take turns writing on the board. Remind them of the expression "It's my turn," from the book, and encourage them to use it. To wrap up, let students and their partners play with their paper people on the playground, saying "Let's play on the..." "Sure!" and "It's my turn," "OK."

## Lesson 5

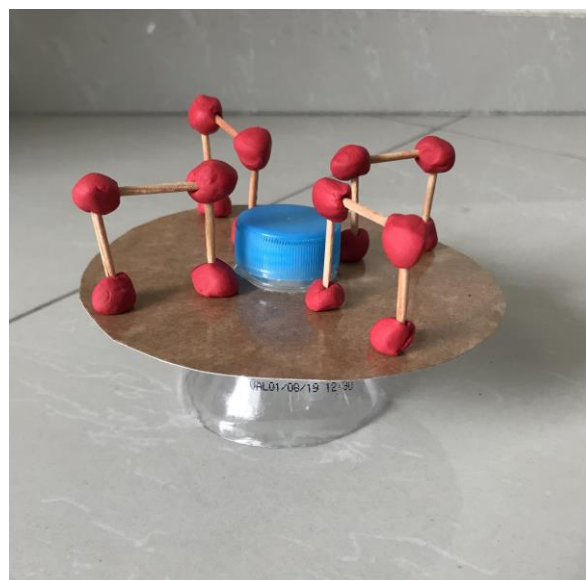
Play one final number game. Tell students that 2 and 4 are rainy days, and 1, 3, and 5 are sunny days. Ask them to name the playground equipment that they made so far. (Monkey bars, slide, seesaw, trampoline, and swing) Ask them to name the other piece that they learned in the book. (Merry-go-round) In this game, you will play track 19 with the "Itsy Bitsy Spider," as students walk around in a circle, acting out a merry-go-round. As in freeze dancing, stop the music suddenly. Students must stop and listen for a number. Say a number one through five. If it's 2 or 4, a rainy day, they have to stay frozen. If it's 1, 3, or 5, a sunny day, they have to act out another kind of playground equipment. If a student is too slow to respond, they are out, but they can still perform any motions they want on the side. Start the music again and play for a few rounds.

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Now it's time to make a merry-go-round that spins! The first part, you may want to have done prior to class. Make a circle on cardboard or strong recyclable paper by tracing a roll of tape. Cut it out (or have students cut on the line). Measure the center of the circle and trace a bottle cap there, cutting out a hole in the middle. For the center of the merry-go-round, you will need only the tip of a plastic bottle, cut off, as well as the bottle cap. Remove the cap and place the neck of the bottle inside the inner circle of the paper. Place the cap on top, screwing it slightly so that it stays on while allowing the circle to spin. If it doesn't spin easily, cut the center circle a little wider. Teach the word *spin*. As you come around to help the kids with this part, model the expression "It's my turn." Students should understand that it's your turn to add something, and they can wait for their turn, just like on the playground. Encourage students to use this expression for the next step.



After the circle is attached to the center, and able to spin, ask kids if they think it's safe for kids to sit on. Similar to the trampoline, they will notice that it needs some kind of support. You may teach the word *handles*. Provide students with toothpicks or bits of straws, and clay to stick together in balls. They will make handles for the merry-go-round. Because they are working in pairs, and because the space is small, they will have to add one handle one at a time. Remind them to say "It's my turn," and to take fair turns accordingly.



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When the merry-go-round is finished, students may take one of their paper figures and place it on the merry-go-round and give it a spin, saying “Let’s play on the merry-go-round.”

Next, help students put their playground pieces all together. If time allows, give them a few minutes to play with their paper people, saying “Let’s play on the…” and naming each piece as they play on it and test it. Next, give students the **worksheet** to reflect on the experience. They will draw a face with an emotion showing how they feel about each piece of their playground. You might give them words for basic feelings—*happy*, *sad*, *angry*, *so-so*. Some pieces may have been more successful than others, and sometimes frustration comes when making something doesn’t come out exactly as planned. Help students name these feelings and draw a face. The next part of the worksheet involves ranking the playground activities from 1-5, with the student’s favorite being 1. Help them understand that the seesaw and trampoline are put together because in both of those, the person goes up and down.

Wrap up by pointing to different pieces of playground equipment in the models and asking students “What’s this?” Students should reply “It’s a [swing/seesaw/trampoline/merry-go-round/slide]” or “Monkey bars!” Review the actions done on each one and have students give a number on their fingers showing how much they like that activity (with one being their favorite as in the worksheet).



Image by Brick by Brick Vol. 1.

Playground equipment	Action
Monkey bars	Climb up
Slide	Climb up & go down
Seesaw	Go up / go down
Trampoline	Jump (up and down)
Swing	Swing
Merry-go-round	Spin

Students should be able to name the playground equipment, identify and mime the action done on each one. They should be able to use the expressions *Let’s...*, *Sure*, and *It’s my turn* to cooperate. They should feel comfortable naming numbers in different combinations, both in equations and in code.