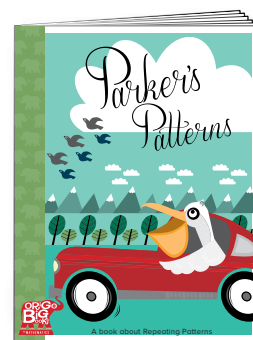


Parker's Patterns

A book about Repeating Patterns




Aim

Parker's Patterns introduces algebraic thinking language (making statements and asking questions). Students explore concrete and pictorial representations by finding, identifying and extending patterns when they state what part of the pattern is repeating and ask, **What comes next in the pattern?**

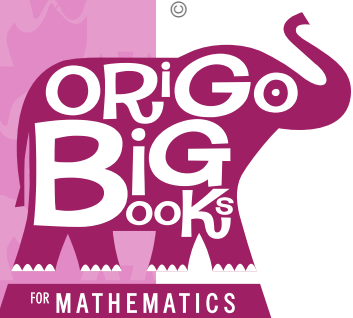
These whole-class/large group and small group activities provide students with the opportunity to:

- listen to a story about repeating patterns
- listen to the accompanying story tune
- use materials to explore repeating patterns
- use the teaching tool to analyse, extend and create repeating patterns
- describe repeating patterns in the environment by making statements and asking questions about repeating patterns

Activities

1. Listening to the story
2. Listening to the tune
3. Using puzzle pieces to act out the story
4. Using the teaching tool to match, describe and extend patterns 
5. Teddy tie patterns
6. Parker's present patterns
7. Sand play patterns
8. Cookie playdough patterns
9. Parker picks patterns
10. Parker's bike wheel patterns
11. Memory pattern game

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I. Listening to the story

Resources

- *Parker's Patterns*

Activity

Display the cover of the book. Before reading ask for predictions, **What do you think this story is going to be about? What can you see on the front cover? What do you notice about the way the mountains have been illustrated? What about the birds? Can you see any other objects that make a pattern?** Read the story. After reading the story, ask for possible extensions to the ending. Use questions such as, **After the fair, where could Parker go to see more patterns? If Parker came to our classroom, what patterns would he see?** Read the story again, pausing to ask questions during the story about the meaning of words or the name of the pictures that might need clarification, including *seaside, low tide, fish frenzy, frame, shovel, pitch fork, hay bales* and *windmill*.

2. Listening to the tune

Resources

- *Parker's Patterns*
- Big Book Tune *Parker's Patterns*

Activity

Play the Big Book Tune while following along with the Big Book. Encourage a student to volunteer to turn the pages of the book along with the song. They can also point to the characters of the book as they are mentioned in the song. Play the song again, encouraging the students to engage in one or more of the following ways:

- singing along with music
- a group of volunteers replicate the pattern of objects in the story with their own body movements or positions (e.g. a group of six students position their bodies to match the sandcastle pattern: large sandcastle; small sandcastle, large sandcastle, small sandcastle, large sandcastle, small sandcastle) for the song.

3. Using objects to act out the story



Resources

- *Parker's Patterns*
- Objects from the story

Preparation

Encourage students to be involved with the preparation for this activity by bringing in objects from home (e.g. hats, umbrellas, shells found at the beach, patterned towels, toys such as bears, cars, boats, marbles and construction blocks, sports equipment, and plants or flowers from their garden). In craft activities, have students make kites, balloons with faces or shapes drawn on them, or pinwheels.

Activity

Ask for a volunteer to act as the character Parker. Ask for volunteers to hold the other objects from the scene. Read the story, with Parker and the students standing in front of the class, holding the matching objects from a scene. Encourage the student playing Parker to look at the pattern and say the pattern (e.g. red kite, blue kite, red kite, blue kite, red kite, blue kite). Then have another student be Parker and a new group of students show objects from the next scene. Repeat for all scenes. After reading the story, allow the students to create dialog for Parker. For example, before stating each pattern, Parker may recite:



Patterns here, patterns
there, I see patterns
everywhere. I see...



4. Using the teaching tool to match, describe, and extend patterns

Resources

- *Teaching Tool*
- *Parker's Patterns*



Activity

- Read each scene and have a student place objects on the work area to match a pattern in the scene. Have the student describe the pattern.
- The teacher creates a pattern (with two repeats) on the workspace. The teacher invites a student to match and describe the pattern on the workspace.
- The teacher creates a pattern (with two repeats) on the workspace. The teacher invites a student to match, describe, and extend the pattern on the workspace.
- The teacher asks a student to create a pattern (with two repeats) on the workspace. The teacher invites another student to match, describe and extend the pattern on the workspace.
- The teacher asks a student to create a pattern (with two repeats) on the workspace. The teacher matches and describes the pattern using different objects on the work space (e.g. the student creates a pattern red kite, blue kite, red kite, blue kite, red kite, blue kite on the workspace. The teacher matches and describes the pattern using car, truck, car, truck, car, truck, car, truck on the workspace).

5. Teddy tie patterns

Resources

- Supports 1 and 2 (2 pages) — see attached

Preparation

Print copies of Support 1 so each pair of students has 6 bears. Cut out bears and laminate.

Print enough copies of Support 2 for the number of students involved in the activity. Cut out and colour the ties.

Activity

Separate students into pairs, and each pair collects 6 bears. Each student collects 3 ties that are the same but are different from their pair's. Each pair of students decides on the tie pattern they will make using the ties they collected. Students create the repeating pattern by placing one tie on each bear (e.g. star tie, spot tie, star tie, spot tie, star tie, spot tie). Students share their tie patterns with the whole group. Take a photograph of the bear tie patterns. On another day, give each pair of students a copy of another pair's photograph and ask them to match and describe the pattern. On another day, students create six ties of their own design for teddy using craft material, or drawing shapes on the blank tie outlines.



6. Parker's present patterns

Resources

- Various sized empty boxes from household items (3 boxes the same size per student)
- Gift-wrapping paper (different colours and designs), ribbon (different colours, designs, and widths), stick-on birthday trim such as bows or rosettes

Preparation

Prior to this lesson, craft activities may include students creating gift-wrapping paper designs using paint and shape stamps, and making bows or rosettes. Each gift-wrap design is used to cover three boxes. Students could cover the boxes on a day before this activity.

Activity

Students choose three boxes that have the same gift-wrap paper. Each student then chooses three lengths of ribbon or birthday trim that are the same. Each student decorates their three boxes with the ribbon or birthday trim. When students have completed trimming the boxes, ask for two volunteers to create a pattern using both sets of decorated boxes. Ask the students to describe their pattern. Repeat until all students have created and discussed a pattern.

7. Sand play patterns

Resources

- Trays filled with sand, or use an outdoor sand pit
- Beach toys (e.g. sand castle pails, spades, cups, variety of moulds of crabs, shells, castles, etc.)
- Real-life beach objects (e.g. shells, driftwood)
- *Parker's Patterns*

Preparation

Place the beach toys and real-life objects in the center of the table. Place the trays of sand around the toys and objects.

Activity

Open *Parker's Patterns* to the beach scene and ask, **What patterns can Parker see on the beach? How could we make patterns using the sand, beach toys, and objects?** Discuss students' ideas. Students make repeating patterns using the beach toys to make sand moulds. Students may use the real-life objects as part of their pattern. Students share and describe their pattern to another student. Take a photograph of the sand play patterns. On a different day, give each student a copy of another student's photograph and ask them to match and describe the pattern.



8. Cookie playdough patterns

Resources

- Cookie cutters of various shapes and sizes
- 1 rolling pin per student
- Playdough or plain cookie dough
- Support 3 — see attached

Preparation

Print 1 copy of Support 3 per student and 1 copy (laminated) for the teacher. Prepare playdough or plain cookie dough.

Activity

Separate the students into small groups. Select a portion of playdough, and demonstrate how to roll it out. Then choose two cookie cutters and make three shapes with each cutter. Give each student a portion of playdough and ask them to each select two cookie cutters. The students roll out their playdough and make three shapes with each of their cutters. The teacher places their cookie shapes in a repeating pattern (e.g. star, heart, star, heart, star, heart) on the support page. The students place their cookie shapes on their 'baking tray' to match the teacher's repeating pattern. Repeat with the teacher creating a different pattern to be matched.

Optional: Students can make their own repeating pattern on the third line of their 'baking tray', and describe it to another student. They can also record their repeating pattern by drawing it on the support page. As an alternative to playdough, real cookie dough can be used. The cookies can be baked in the oven and decorated when cooled.



9. Parker picks patterns

Resources

- 1 craft stick per student
- Support 4 — see attached
- Paints or crayons
- Craft materials for decorating (e.g. colour tissue paper, glitter, buttons, stickers of various shapes and colours)
- Glue or sticky tape
- Sticky tack
- Three egg cartons (turn over each carton and pierce the bottom of each egg compartment so that a craft stick flower can be inserted to stand up)

Preparation

Print copies of Support 4 onto thick card (enough for one flower per student). Each student chooses a flower outline and decorates it using craft materials prior to this activity. Help students to attach their flower to a craft stick. At a later time, this resource can be used with patterns drawn onto the craft sticks (e.g. strips, dots, spirals, stickers and other decoration materials).

Activity

Place egg cartons upside down so the lids are flat on the table and end to end.

Have all the decorated flowers lying flat and face up on the table. Ask for a volunteer to be Parker, who creates a repeating flower pattern (e.g. 🌻, 🌻, 🌺, 🌻, 🌻, 🌺) by choosing six flowers and placing each flower in an egg compartment. Parker describes the pattern. Ask Parker to turn around so they can not see the flowers. Another student picks one of the flowers and hides the flower behind their back. Parker turns around and tells the group what flower type is missing. Repeat until all the students have had a turn being Parker and a turn at hiding the flower.



10. Parker's bike wheel patterns

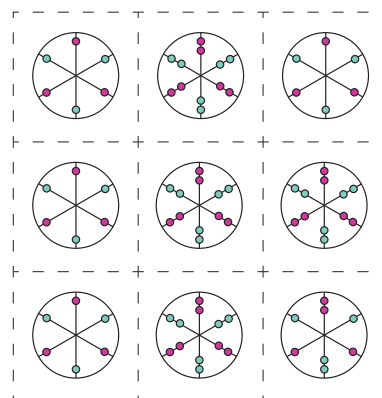
Resources

- Support 5 and 6 — see attached
- Threading materials (e.g. beads, buttons, pasta, straws, etc.)
- Coloured counters (extend the activity by using bears, buttons, bottle lids, wooden shapes, shells, coins)
- Optional: 6 shoelaces per copy of Support 6 (for fine-motor activity)

Preparation

Print enough copies of Support 5 so each student has a card. Cut out the cards, and colour beads to match image on right before laminating them. Print and laminate 1 copy of Support 6 per student.

Alternative fine-motor activity: Copy Support 6 onto thick card and make a hole at the end of each spoke and in the centre. Thread a shoelace into each of the holes in the spokes and tie a knot in each lace at the rear of the card.



Activity

Place the Support 5 cards face up in the center of the group. The teacher takes a card and uses the counters to demonstrate how to match the pattern on the spokes on Support 6. Each student takes a card from the center and matches the pattern on their Support 6 spokes. Give each student the opportunity to describe their repeating pattern. Ask students to return their cards and choose a different pattern, or exchange cards with another student. Repeat until students have matched and described three repeating patterns. On another day, extend the activity by giving students other objects to match and describe repeating patterns displayed on the cards. An alternate activity may be used as a threading fine-motor activity while revising repeating pattern concepts.



II. Memory pattern game

Resources

- Support 7

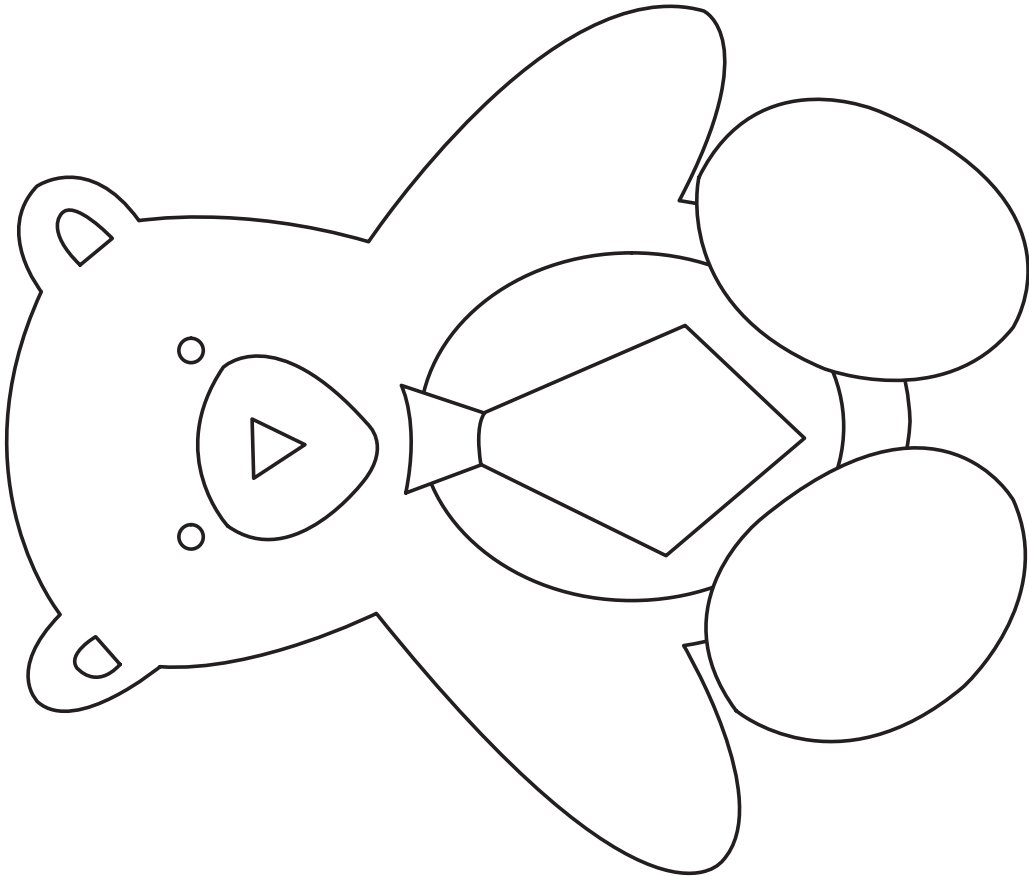
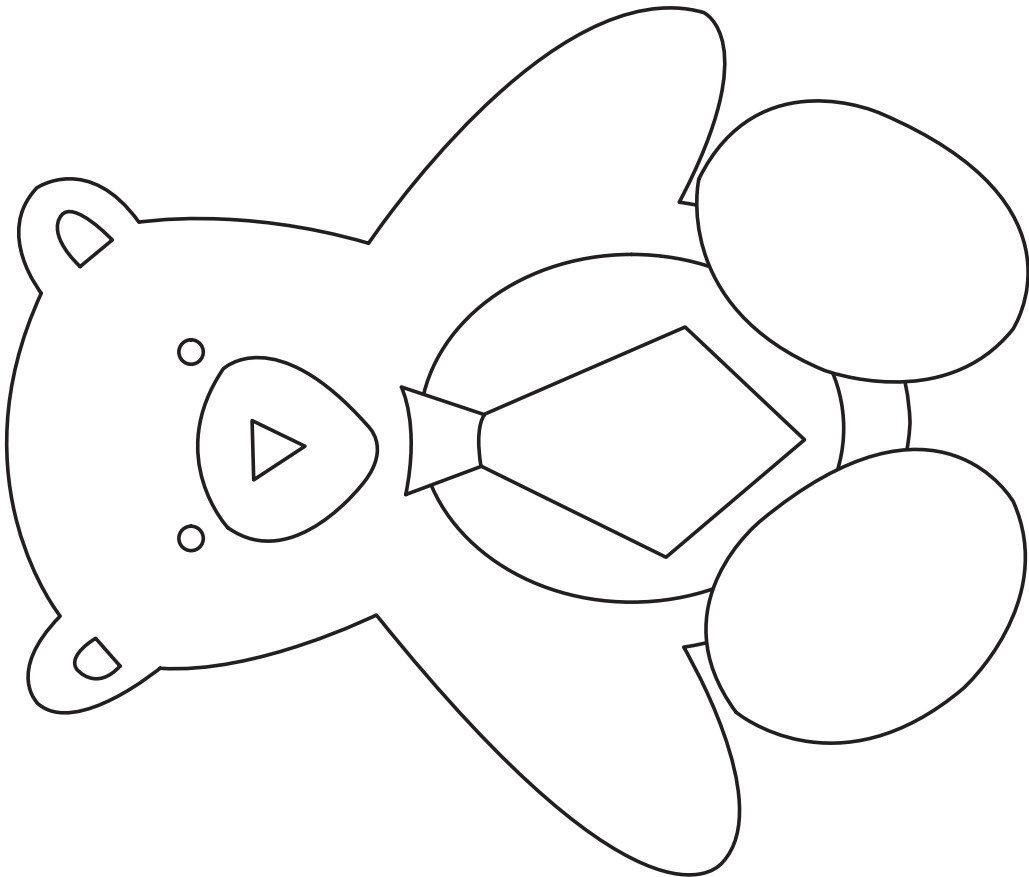
Preparation

Print 2 copies of Support 7 and cut out the cards.

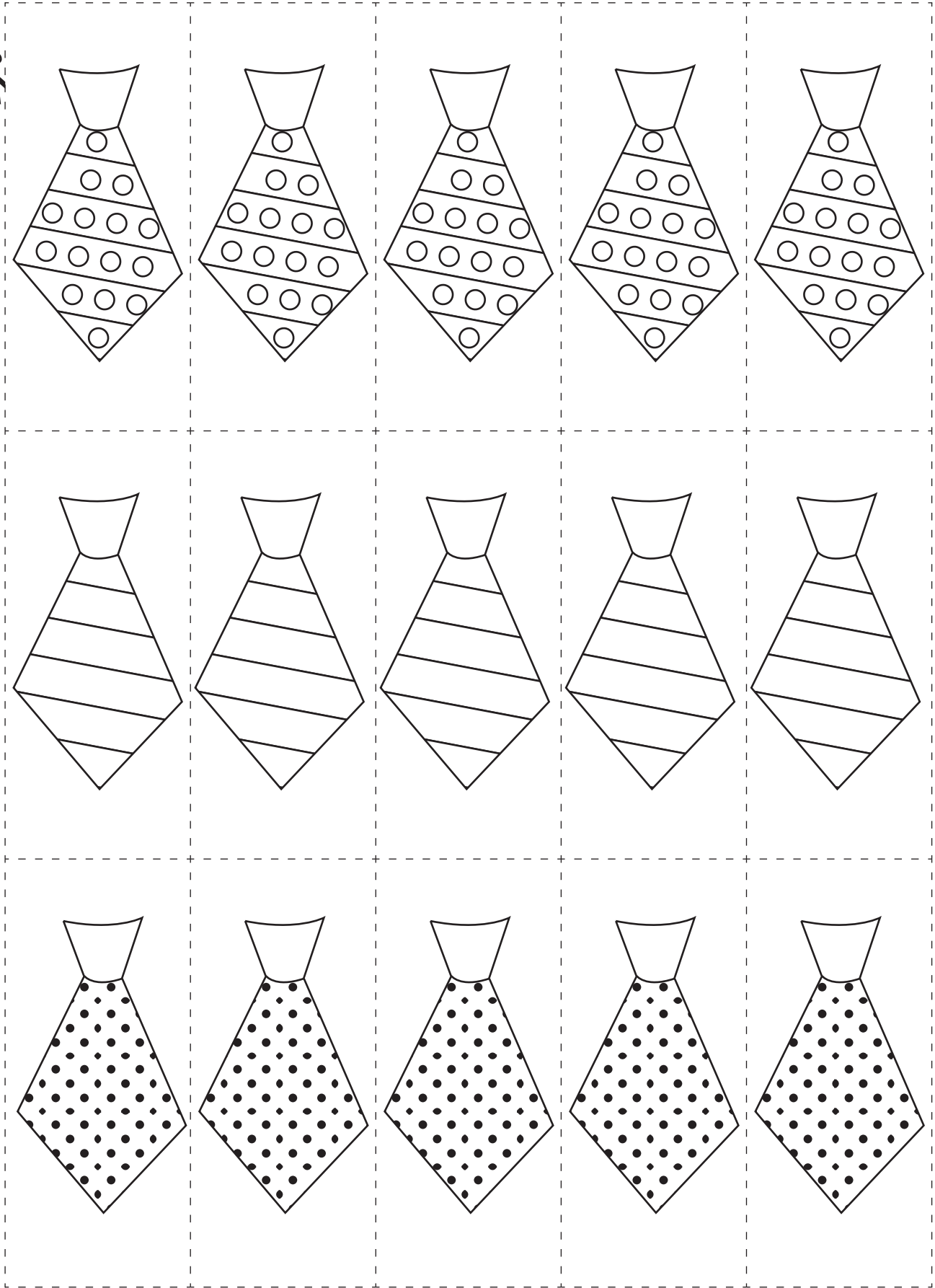
Activity

Shuffle the cards and place them facedown in an array on a table. The first student turns over two cards and places them face up on the table. A match occurs if the same repeating pattern is shown on each card. Ask each student to describe the patterns. If the cards do not match, the student returns the cards facedown in their original position. The next student chooses two cards. Play continues until all the pairs of matching repeating pattern cards have been found. To extend the activity, have the students use other objects (e.g. bears, buttons, bottle lids, wooden shapes, shells, coins) to create a matching repeating pattern that is then drawn on the blank back of a pattern card. Take photographs of created object patterns to include in the card set.

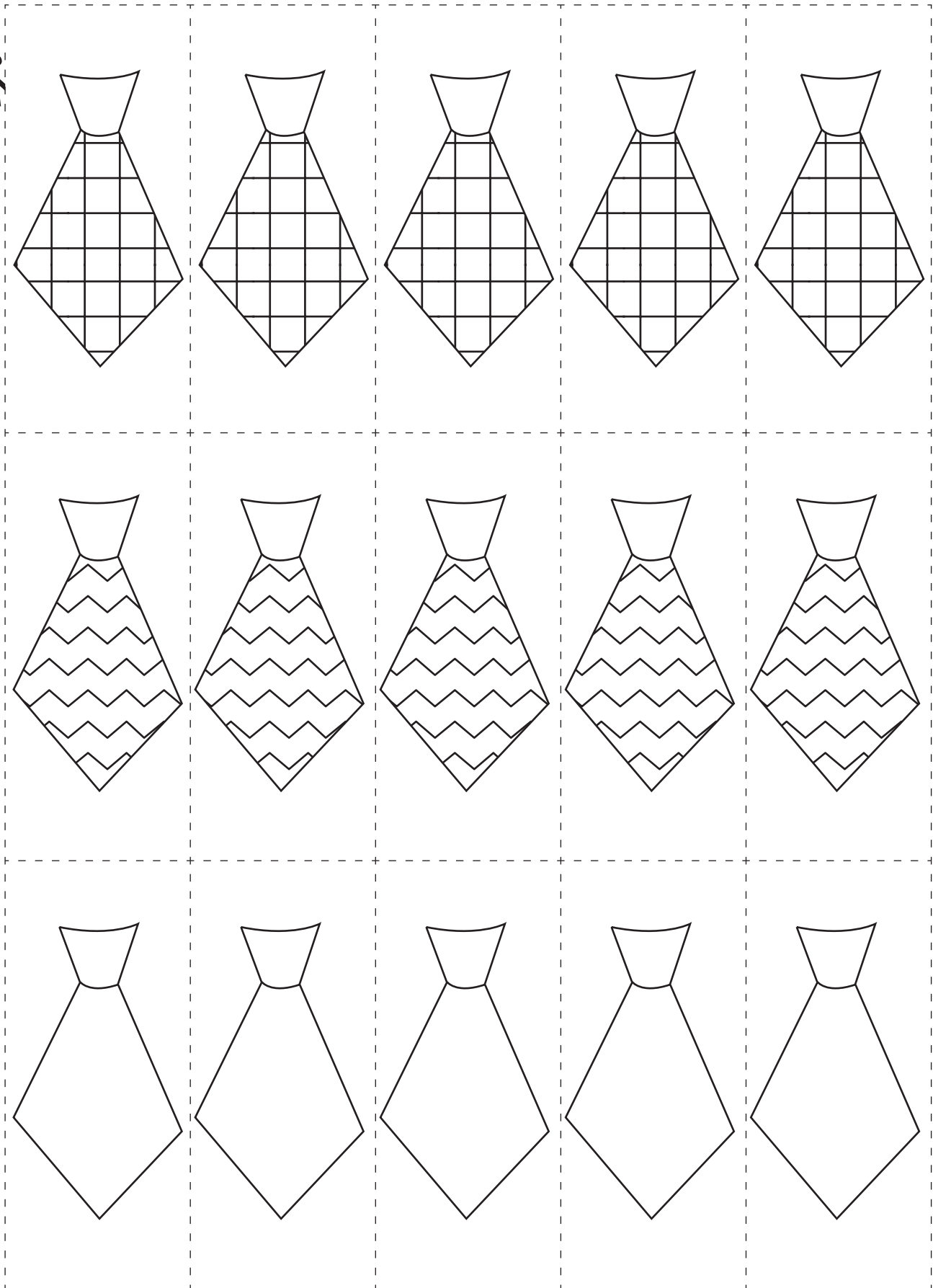




Tie Patterns

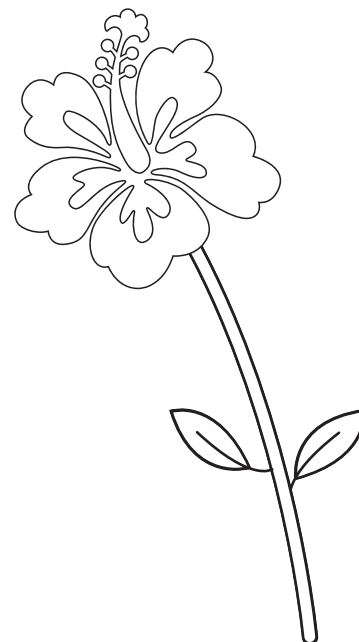
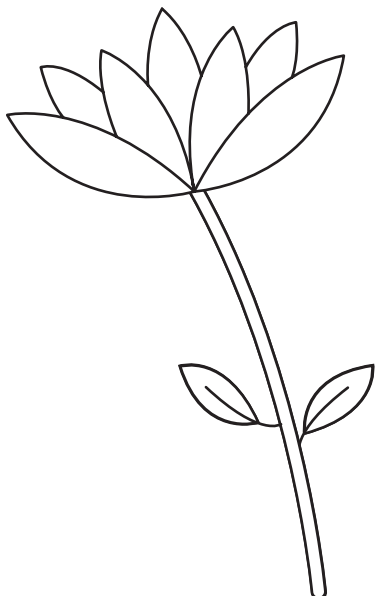
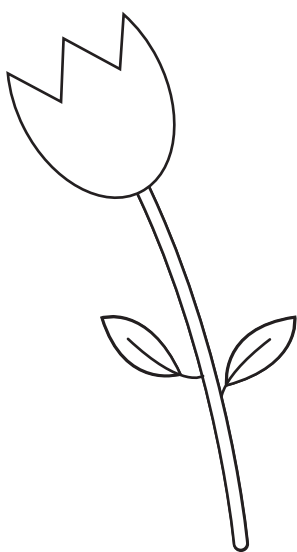
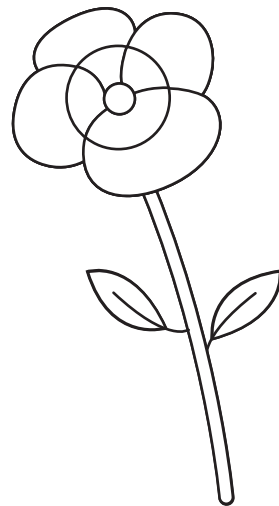
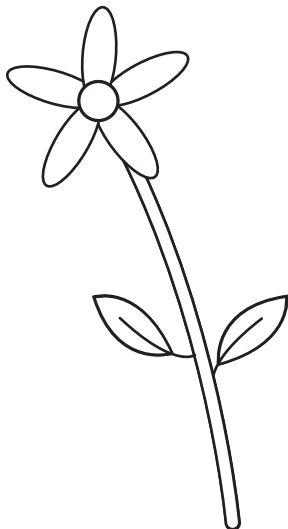
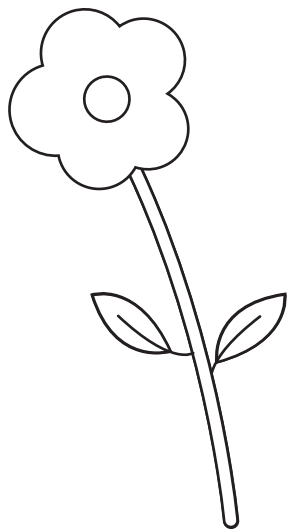


Tie Patterns

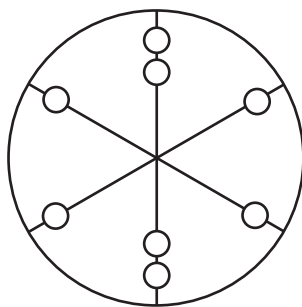
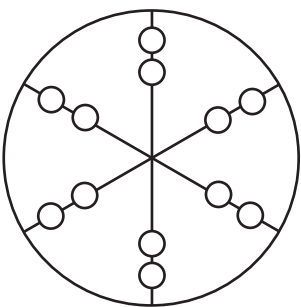
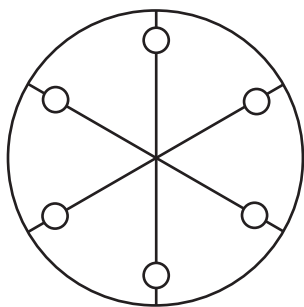
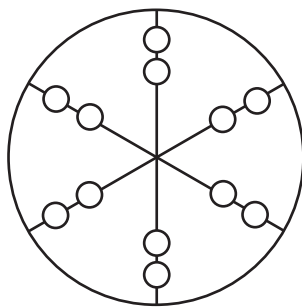
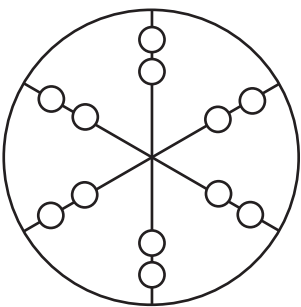
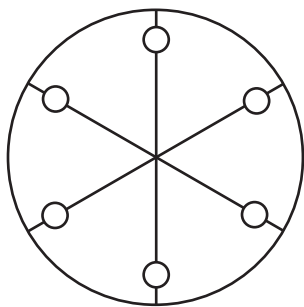
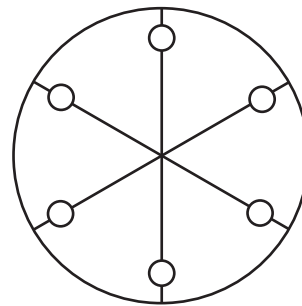
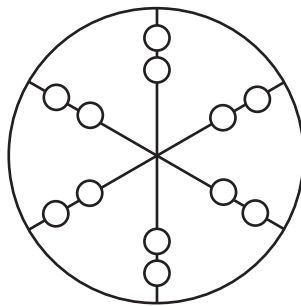
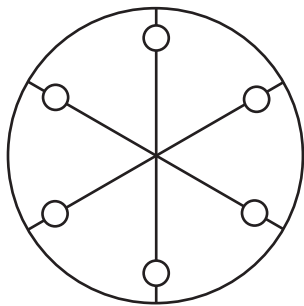


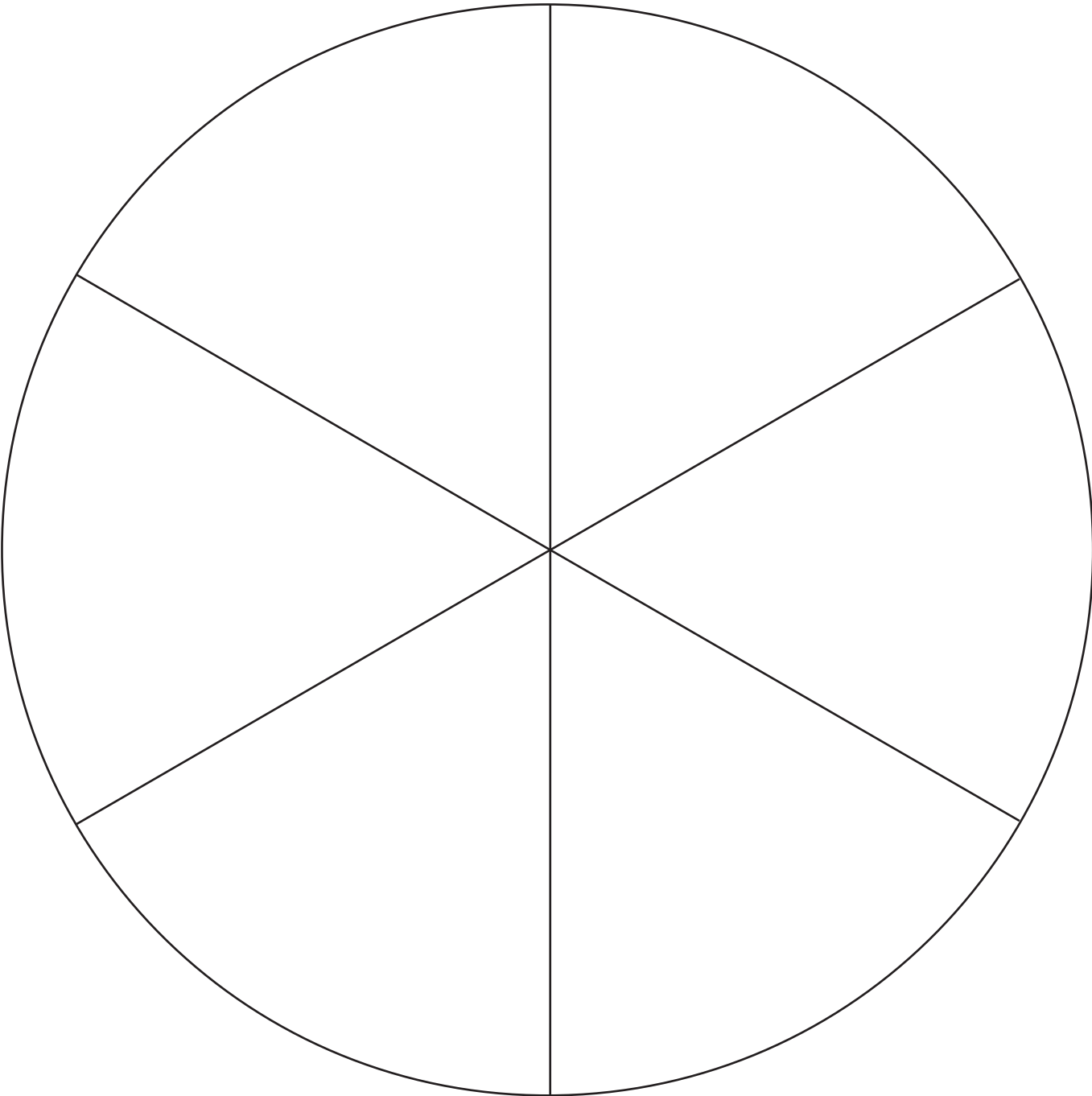


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Wheels and Beads Pattern Cards





Pattern Cards

