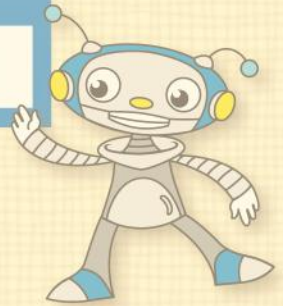


# QUICKCHECK™

## MATH



### PATTERNING AND ALGEBRA

Identify, Describe and  
Extend Repeating Patterns

Strand

K/E KINESIS  
EDUCATION

### QUICKCHECK™

#### MATH



Book title


K/E KINESIS  
EDUCATION

Grade level  
Grade 1

K/E KINESIS  
EDUCATION

K/E



The title of the resource relates to an Overall Expectation of the Math Curriculum. 

Student Activities

**Colour can be repeated and extended in a pattern**

- Match each AB pattern by colour ..... 1
- Connect each AB pattern to its extension ..... 2
- Compare each AB pattern to its differently-oriented match ..... 3
- Connect each AABB pattern to its extension ..... 4
- Connect each ABBA pattern to its extension ..... 5

**Shape can be repeated and extended in a pattern**

- Connect each AB pattern to its extension ..... 6
- Connect each AABB pattern to its extension ..... 7
- Connect each ABBA pattern to its extension ..... 8

**Size, thickness and orientation can be repeated and extended in a pattern**

- Use size to connect each AB pattern to its extension ..... 9
- Connect each pattern to its extension using orientation ..... 10
- Connect each pattern to its extension ..... 11

**Number is an attribute of objects that can be repeated and extended in a pattern**


- Relate each pattern to its extension ..... 12
- Connect each pattern to its representation as numerals ..... 13
- Connect each pattern to its representation as numerals ..... 14
- Connect each pattern that uses 1 and 0 hats to its representation ..... 15
- Compare each numeric representation to its pattern using 1 and 0 hats ..... 16


**Describe patterns**

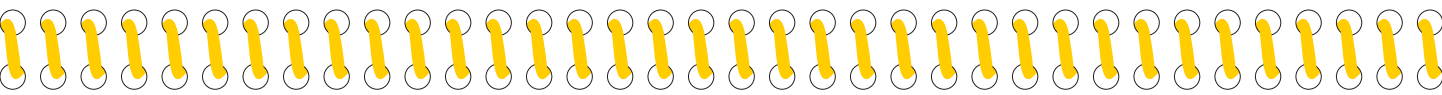
- Connect each colour pattern to its rule ..... 17
- Connect each shape pattern to its rule ..... 18
- Connect each size, thickness and orientation pattern to its rule ..... 19
- Connect each number pattern to its rule ..... 20

**Repeating patterns can be represented**

- Connect each pattern to its representations ..... 21
- Connect each pattern to its representations ..... 22
- Connect each pattern to its representations ..... 23
- Connect each pattern to its representations ..... 24

Groups of activities are organized around key Math concepts as they relate to the expectation noted in the title. 

The learning outcome for each activity is listed. This makes it easier for teachers to target specific concepts for **teaching, diagnostic** or **formative** assessment purposes. 



Teacher Section

**How to Use QUICKCHECK Math and Tips for Success** ..... 25

**Learning Connection Activity Suggestions**  
 Mathematical Process Expectations:  
 Problem Solving and Communicating ..... 26

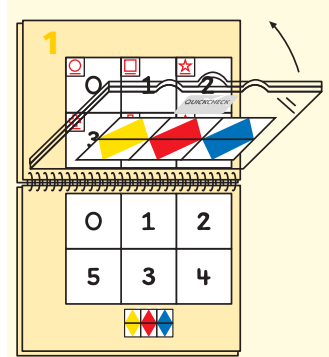
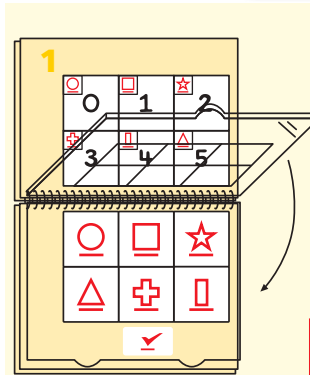
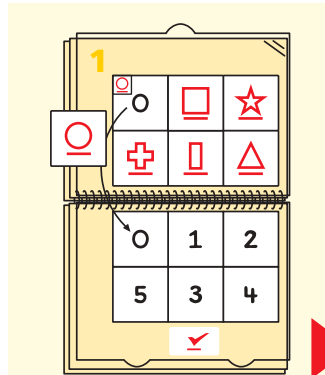
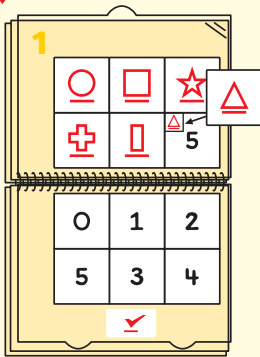
How to use



**GETTING READY TO USE QUICKCHECK**

You need a Student Resource and a case with six tiles

Teachers will find helpful tips and Learning Connections Activity Suggestions at the back of each resource. 



- Open the Student Resource to Activity 1.
- **Put the empty tile case over the Student Resource.**
- The CHECKMARK will cover the answer key.
- There are six squares in the top section.
- Place each tile on the square that has the same icon.

- Lift each tile to reveal the image underneath.
- Transfer each tile to its corresponding image below.

- Close the cover of the tile case.

- Flip the tile case up.
- The answer key will appear.
- The tile pattern should match the answer key.

• Watch students using **QUICKCHECK Math** on our website at [www.ebbp.ca](http://www.ebbp.ca). Click on **QUICKCHECK Math in Motion**. 

# 1

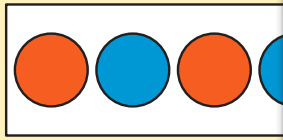
## Match each AB pattern by colour.

■ This activity is the first in a series of 5 that looks at colour as an attribute of objects that can be repeated and extended in a pattern.

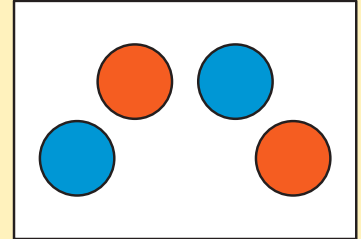
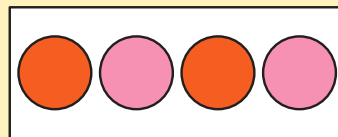
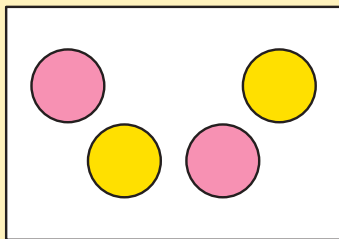
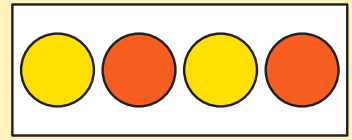
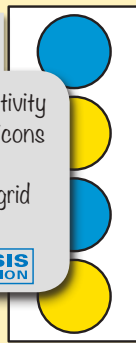
The activity extension provides new information for teachers or, ideas for further development of the activity.



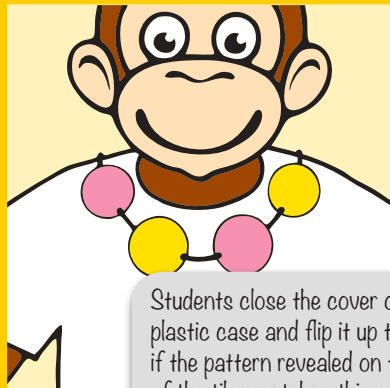
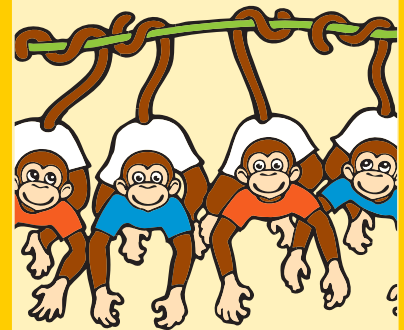
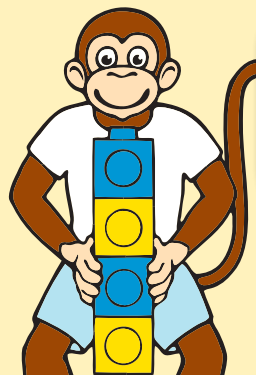
The activity title states the targeted learning outcome: Teachers know the purpose of the activity at a glance.



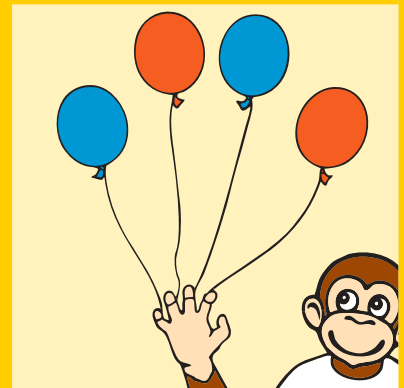
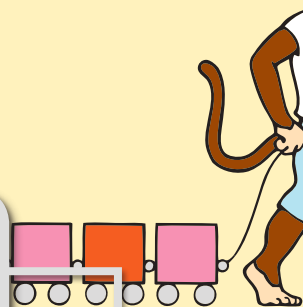
Students begin each activity by matching the shape icons on the tiles, to those in the squares of the top grid of the resource.



Students move each tile from the top grid to the correct square in the bottom grid until all the tiles have been transferred.



Students close the cover of the plastic case and flip it up to see if the pattern revealed on the back of the tiles matches this answer key.



If ■ appears below the activity title:

Educators will then find new information or ideas for further development of the activity.



+ 23 activities



**How to Use QUICKCHECK Math**

Additional proposals for the teacher



1. Use QUICKCHECK Math with your students whenever you would normally use a worksheet or workbook.
  - Use it at any point in your math lesson:
    - Before/getting started
    - During/working on it
    - After/practice and consolidation.
  - You can use QUICKCHECK Math as a small group or guided activity, in pairs to promote discussion, or as an independent activity in a Math Centre.

2. Use QUICKCHECK Math as an assessment tool. The Student Activities found on the cover list learning outcomes that will help target specific concepts for **diagnostic** or **formative** assessment purposes. This Student Resource is used in conjunction with the QUICKCHECK Math Grade 1 Ongoing Assessment Teacher Resource.

**Activity Extension:**

**If ■ appears below the activity title:**

Educators will then find new information or ideas for further development of the activity.

**Tips for Success**

Review "Getting Ready to Use QUICKCHECK" on the first page of this book.

The CHECKMARK ✓ at the bottom of the plastic tile case shows students how to orient the case as they place it on the book on top of each activity.

To teach your students how to use QUICKCHECK Math, try a three-step approach.

1. **Match:** Place all the tiles in the top grid by matching icons.
2. **Think and Play:** Lift each tile to reveal the image beneath and then transfer the tile to the corresponding image in the lower grid.

3. **Check:** Close the case cover. Flip the case up and check that the tile pattern matches the answer key.

When information appears below the title of an activity, use it to guide instruction and discussion, or to provide a hands-on extension of the activity.

Fold the Student Resource in half or stand it up and use the visual information as the stimulus for activities you create on your own.



See Activity 14

**LEARNING CONNECTION ACTIVITY SUGGESTIONS**

**Mathematical Process Expectations: Problem Solving and Communicating**

**Identify and extend geometric, repeating patterns involving**

Teacher Prompt: "Make a repeating pattern using the same red and blue blocks. Show your pattern to a partner. Did your partner's pattern that was different than what you made? Try your partner's pattern. Now come up with a new pattern together using sounds; or colors already done."

These learning connection activity suggestions are organized around the same key math concepts addressed in the 24 activities. They relate to some of the Mathematical Process Expectations used in the Math Curriculum.



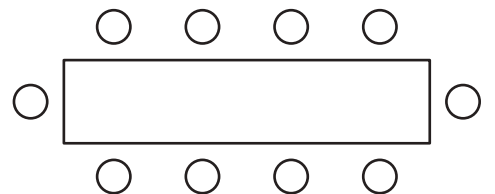
**Identify and extend numeric repeating patterns**

Teacher Prompt: "Print as many repeating patterns as you can using the numerals one and two. How many did you make?"

**Represent a repeating pattern in a variety of ways and identify a rule to describe your pattern**

There are 10 people coming to my birthday party: 5 boys and 5 girls. Use a repeating pattern to seat my guests around the table. What pattern rule did you use?

Hint: use red for "boys" and blue for "girls". Try another way.





**Represent a repeating pattern in a variety of ways and identify a rule to describe your pattern**

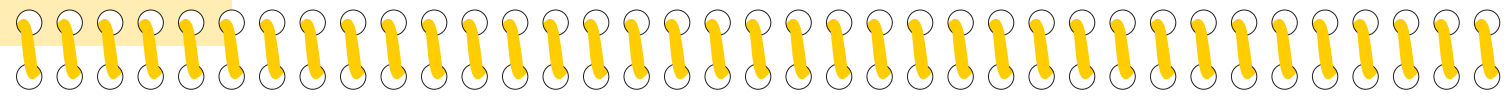
Have students demonstrate repeating patterns using their bodies: Clap, clap, patch, patch, clap, clap, ... or jump, clap, jump, clap, jump, ... Students can work in partners or small groups if they choose. Before students perform remind them that they need to know their pattern rule — they may want to write it down. After each performance, have the groups ask their classmates if they can guess the pattern rule they followed.

Using pattern blocks have your students express an ABA repeating pattern. Teacher Prompt: "What pattern did you make?" It is not necessary for students to use ABA in their answer as long as their repeating pattern follows the ABA rule. Have them draw the pattern they made — they can trace the shapes they used if needed.

Repeat above for a variety of repeating pattern rules: AABB, ABBA, ABC, AABBCC, ...

<p><b>Challenge</b></p> <p>For students who want to go further have them make up their own pattern rules using orientation and numerals.</p>
--

Using Bingo dabbers, have each student make a pattern book. When all the student books are completed, have students try finding other students whose books used the same pattern rule/s as theirs. Discuss similarities and differences in pairs, small groups, or as a class.



**Canada**

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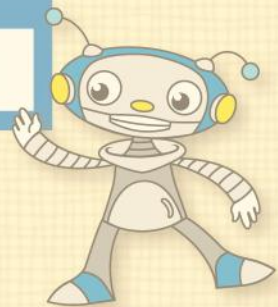


Credits page




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