Year 3: Patterns

45 MINS

Strand: Number and Algebra

Substrand: Patterns and Algebra

- Outcome:
- Describe, continue, and create number patterns resulting from performing addition or subtraction. (ACMNA060)

Introduction to Lesson

() 10 MINS

Teacher Background:

Provide students with manipulatives and ask them to create patterns. Ask, What kind of patterns can you create? Give students some time to create and discuss their patterns.

On the whiteboard, write down the term Increasing Patterns and ask what they think this might mean. How can we create increasing patterns or growing patterns? Create a pattern on the interactive whiteboard showing the first two figures and ask if they know how to find the next two figures.

Challenge students by asking:

- Are there other attributes we can use to create increasing patterns?
- How can we create increasing patterns with numbers? with sounds?
- Do you see any increasing patterns in the classroom?

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ITEMS NEEDED

- ✓ Interactive whiteboard
- ✓ Mathletics teacher login
- Student handouts from eBooks
- Student Mathletics logins
- Classroom manipulatives
- Computers/tablets
- Maths journals (if implemented by teacher)

C ASSESSMENTS

- Observation and participation
- Reviewing completed worksheets or reviewing journaling responses
- Group participation
- Curriculum activities results within Mathletics

ACCOMMODATIONS/ MODIFICATIONS

- Allow student to access manipulatives to help create patterns.
- Encourage students to click on "Something Easier" and "Something Harder" within Mathletics curriculum activities.
- ✓ eBooks from Year 2 or Year 4 for Patterns

EXTENSION OF LEARNING

- Problem solving from the student Mathletics centre
- Curriculum activities
- Explore Rainforest Maths (Year 3, Patterns and Algebra) within Mathletics
- ✓ Students can play Live Mathletics.

Year 3: Patterns

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The Lesson

Centres

• Background for teacher—You can add more centres to the ones indicated below. For the eBook centre, please review which pages you would like the students to complete. Depending on how much work students can get done with each centre, you can rotate about every 10 minutes. Groups will vary depending on class size.



- o Centre 1: Rainforest Maths— On the interactive whiteboard, go to Teacher Console
 > Demonstrations > Rainforest > Maths > Grade 3 > Algebra > Patterns > 10s;
 100s; and other number patterns. These show patterns using numbers. Have students take turns answering the questions on the whiteboard. Students record the questions and answers in their journals.
- o **Centre 2: Computers/tablets**—Students are to work in their Mathletics Student Console to complete pattern curriculum activities. Suggested activities under Patterns and Algebra include: Count Forward Patterns, Count Back Patterns, Describing Patterns.
- o **Centre 3: eBooks**—Students complete the pre-selected pages. Teachers can place manipulatives to help support various learning styles. Students can complete the recommended eBook pages, "Patterns and Algebra," pages 1–9, in pairs or individually.
- Extra-time activity/cross-curriculum activity: Things That Grow—Students create artwork of things that grow. Students can paint or use construction paper to display this artwork. They are to create a few stages of the thing, to show how it's growing. For example, a student can display the first stage of a flower growing without petals, the next image with 3 petals, the next image with 6 petals and so forth.

After the lesson

- Discuss some of the patterns students came across during today's lesson. What are some strategies you used to help you solve the questions?
- Exit card: Have each student create an increasing body percussion pattern as they leave the room.



For more information contact our friendly team... Email: customerservice@3plearning.com.au | Tel: 1300 850 331 5 MINS

Year 3: 3D Objects

45 MINS



Mathletics

Strand: Measurement and Geometry

Substrand: Shape

Outcome:

• Make models of three-dimensional objects and describe key features. (ACMMG063)

Introduction to Lesson



Teacher Background:

Recall prior information by having a class discussion about 3D objects and their characteristics. Questions to prompt prior learning, I am shaped like a soccer ball, or, I have a pointy top and I can roll. What am I? On the board write down faces, edges and vertices. Ask, Does anyone know what these words mean?

On the interactive whiteboard, bring up Concept Search, located under

Teacher Console > Demonstrations > Concept Search > Concept Search.

Click on Concept Search and search the words Edges, Faces, Vertex. Each slide will explain a definition along with pictures. Discuss while viewing all slides, or have students write down the definitions in the Math dictionaries.

Questions to ask:

- How are the shapes similar or different?
- What 2D shapes do you see in these objects?
- How can you describe a face, edge, or vertex to a partner?
- How many vertices, edges and faces does a sphere have? cylinder? cone?

ITEMS NEEDED

- ✓ Interactive whiteboard
- ✓ Mathletics teacher login
- ✓ Mathletics student logins
- ✓ eBook student pages from Year 3, Space and Shape
- ✓ Shape manipulatives/nets
- Maths journals (if implemented by teacher)
- Computers/mobile devices

C ASSESSMENTS

- Observation and participation
- Reviewing completed student worksheets
- Results from the Mathletics curriculum activities, located under Reports in Teacher Console
- eBook assessment page 35 from teacher book

ACCOMMODATIONS/ MODIFICATIONS

- Provide students with manipulatives
- Provide students with extra worksheets from Year 2 or 4 Shape and Space; 3D shapes.
- Encourage students to click on "Something Easier" and "Something Harder" within the Mathletics curriculum activities.

EXTENSION OF LEARNING

- Curriculum activities
- Explore more in Concept Search and Rainforest Maths
- Live Mathletics



The Lesson

Rainforest Maths

- Investigate: "Rainforest Maths"—Students are to investigate further within "Rainforest Maths." Have students work with partners.
- Teachers can encourage students to record their information in the maths journals.
- Direct them to click on Rainforest Maths > Grade 3 > 3D shapes.
- There are several options for them to explore. Students can review 3-D shapes first by clicking on the "3D" and "About" icons on the left side and then carrying on with the other areas.
- After students have had time to explore, have them share the information they found with the class.
- Apply: eBooks—Have students complete the student pages within the **eBooks** > Year 3 > Space and Shape. Recommended pages are 14–24.
- **Reinforcement:** : Using computers or mobile devices. Students complete curriculum activities in the Student Console.

Suggested activities in Space and Shape are:

- Collect the Objects 2
- How many faces?
- How many edges?
- How many corners?
- What pyramid am I?
- What prism am I?
- Extra-time activity/cross-curriculum activity: Nets—Students can create 3-D nets to further their extension. Students can label and record all the edges, faces, and vertices.

After the lesson

- Hold up objects found in the classroom and have the students identify where the edges, vertices, and faces are. They can select one to draw and label.
- Have students bring in disposable objects from home that are three dimensional. Students will disassemble the boxes that were brought from home. This will allow students to view the structure of these objects and analyze the edges, faces, and vertices.





() 30 MINS



Year 3: Data

45-50 MINS



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Strand: Statistics and Probability

Substrand: Data representation and interpretation

Outcome:

- Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording. (ACMSP068)
- Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies. (ACMSP069)
- Interpret and compare data displays. (ACMSP070)

Introduction to Lesson

() 10-15 MINS

Teacher Background:

This lesson will allow students to research, collect, record and share. Please have various resources for the students to explore along with their student Mathletics accounts.

If teachers have not introduced the term Data, the concept can be reviewed within the Demonstrations tab from the Teacher Console.

Ask students:

- What are some ways we can display data?
- How can we collect the data?
- What are some types of graphs?

The graphs the students are going to research are tally marks, charts, lists, bar graphs, and line plots. Have the students fill out a KWL chart before they start.

ITEMS NEEDED

- ✓ Interactive whiteboard
- ✓ Mathletics teacher login
- ✓ Mathletics student logins
- Classroom manipulatives
- Computers/tablets
- ✓ KWL chart handout
- ✓ Resources for students to explore
- ✓ Poster paper

C ASSESSMENTS

- ✓ Observation
- ✓ Participation
- ✓ Group work
- Completion of the research project
- Reviewing the KWL chart
- ✓ Extra assessments are within the teacher eBooks "Chance and Data"pages 26–32.

ACCOMMODATIONS/ MODIFICATIONS

- Create mixed ability groups and assign students with certain roles.
- Provide students with certain resources to limit research.
- Provide visual models of the graphs and questions.

EXTENSION OF LEARNING

- ✓ eBooks for Year 3 "Chance and Data" pages 10−21.
- Curriculum activities
- Explore Rainforest Maths, Year 3: graphs.

Year 3: Data

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The Lesson

() 30-40 MINS

Research

- **Background for teacher**—The first part of the lesson will introduce the graphs/charts that students will research. In the second part of the lesson, students will collect and create a chart based on the types researched.
- Before starting the lesson: Discuss ways students can display their research, such as posters, journals, pictures. For this project teachers can implement requirements for students: for example, they need to define all the charts, must have pictures, indicate what data is best represented in each chart. Students can work in pairs or groups.
- o For the research, students can explore within Mathletics Student Console. Encourage students to research in the Mathletics Student Console under **Concept Search** and **Animated Maths Dictionary**.
- o In the second part of the lesson, students collect data and represent that data in one of the charts they researched. They must create a question about Mathletics.
 For example What is your favorite parts of Mathletics? What is your favorite item to buy with credits? What countries have you played against in Live Mathletics? What Times Table Toons video do you like the most? What types of certificates have you earned?



- o Show and share after all charts and data are completed.
- **Reinforcement:** Student can work on curriculum activities within Mathletics. Suggested activities in Chance and Data are: Coloumn Graphs, Reading from a column graph. Suggested activities in "Something easier" are: Who has the Goods?, Sorting data. Suggested activities in "Something harder" are: Picture graphs, Making graphs.
- Extra-time activity/cross-curriculum activity: Provide each group of students with a bag or M&M's or Skittles. Have the students sort and display their data in the graph they think would work best.
- Ask students to devise some questions about the data, then swap the questions with their peers. For example, how many more red ones were there than green ones.

After the lesson

• Discuss with students: What are some interesting facts they learned during their research? Do they have similarities or differences? Students can finish KWL chart.



5 MINS