LESSON PLANS: ALBERTA
Grade 6: Patterns and Relations
Patterns

50 MINS

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General Outcome:
• Use patterns to describe the world and to solve problems.

Specific Outcomes:
• Represent and describe patterns and relationships, using graphs and tables.
• Demonstrate an understanding of the relationships within tables of values to solve problems.

Introduction to Lesson — 10 MINS

Teacher Background:

Play the Marian Small video "Pyramid Prediction." Log in to your

Teacher Console > eBooks > Grade 6 > Marian Small's Pyramid Prediction > Videos.

This video has two parts. Play part 1 of this video, stopping at each section for questioning. Play part 2 of the video and pause for students to investigate and calculate possible answers for the patterns.

Prompting Questions:
- What is happening in this row/section of the pyramid?
- How do you know the pattern rule?
- Can you determine what the top number would be without filling in the other rows?

ITEMS NEEDED
✔ Interactive whiteboard
✔ Mathletics teacher login
✔ Computers/tablets
✔ Marian Small's Pyramid Prediction handout
✔ Math journals/blank paper

ASSESSMENTS
✔ Observations
✔ Discussion during Guided Math Group time
✔ Collect and assess journal responses

ACCOMMODATIONS/ MODIFICATIONS
✔ Leveled or ability groups for guided math time
✔ Scaffold during guided math

EXTENSION OF LEARNING
✔ Curriculum activities
✔ Grade 6, Rainforest Maths
✔ Have students find real-life examples of when they would need to use a number pattern or have seen/used a growing/ shrinking pattern in their lives.
✔ Write a journal response on where they have used a table of values before. When can it be used? What professions would use this type of table?
✔ Create your own math game/math brain twister using a table of values or pyramid.

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The Lesson   🕐 35 MINS

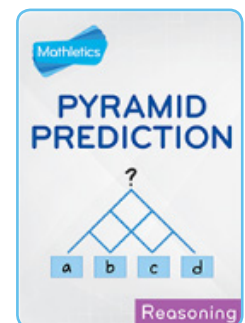### Shared Math Activity

Pyramid Prediction Interactive

• Go to the Marian Small eBook "Pyramid Prediction. On the right side of the screen, click on Interactive. Display this problem on your interactive whiteboard. Have students choose the numbers to put in the bottom row. Click on the connector boxes.
Ask students: What has happened to the numbers? What rule/pattern can you come up with? Can we predict what the next row of numbers will be? Can we predict the number at the top of the pyramid? How do you know this?

Guided Math Group

Teacher-Led Pyramid Handout

• In leveled/ability groups, teachers should designate a table or spot in the classroom to call over groups to work with them on the Pyramid Prediction handout sheet found in Marian Small's eBook "Pyramid Prediction." Work with groups to scaffold student learning, and determine how your students are grasping this concept. Have students complete three different pyramids (worksheet found with Teacher Notes) and explain to you their steps in completing the question. Stop students during their work and ask them to predict what the top number would be. Guide student learning using the questions found in the Teacher Notes section of this Marian Small eBook.

Independent Math Activity

Concept Search/Journal

• Have students log in to their **Student Console > Concept Search.** Type table of values into the Search bar. Students should investigate this concept and how it is similar to and different from the pyramid patterns.
Prompting questions to post: How are the pyramid and table of values similar? Can you determine a pattern rule using a table of values? Can you determine a pattern rule using a pyramid? Which method do you find easier?

Students should journal their response and show an example of both ways to describe and represent growing and shrinking patterns. If your students do not have math journals, they can use a math response sheet or loose-leaf paper to express their ideas.

After the lesson   🕐 5 MINS

Live Math
• Give students time at the end of class to play Live Math against other students in their class. Each round is 60 seconds; you can allot 5–10 minutes for this activity. Add "Top Live Mathlete of the Day" to your board for the person who received the greatest number of points.