10 Ways to Use Inquiry-Based Learning in Mathematics

Case Studies

In this chapter, we'll provide a series of ten activities for high school English learners to use to help them understand the importance of tracking expenses responsibly. For each activity, we'll provide a Global Concept as well as a 4 C cycle of inquiry learning. Learners are inspired to be curious, connect, communicate, and create about fiscal responsibility.

Case Study 1: Scavenger Hunt

Global Concept: Understanding shapes to the world around them

Cycle of Inquiry:
- Understand: Students notice various shapes on the contours of the real-world environment. They are taught that different shapes have different properties.
- Question: Students are asked to compare the shapes on the card to the contours of the real-world environment.
- Inquiry: Students are challenged to determine how many sides each shape has, what type of angles they have, and what the perimeter and area of each shape is.
- Connect: Students are encouraged to draw or print a simple picture on a piece of graph paper and place it on a bulletin board.
- Communicate: Students are asked to explain the properties and characteristics of the shapes they identified.
- Create: Students are asked to create their own geometric shapes and share their creations with the class.

Case Study 2: Name That Shape

Global Concept: Understanding shapes to the world around them

Cycle of Inquiry:
- Understand: Students are taught that different shapes have different properties.
- Question: Students are asked to name and identify the shapes they see in the real-world environment.
- Inquiry: Students are challenged to determine how many sides each shape has, what type of angles they have, and what the perimeter and area of each shape is.
- Connect: Students are encouraged to draw or print a simple picture on a piece of graph paper and place it on a bulletin board.
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Case Study 3: Scavenger Hunt

Global Concept: Understanding shapes to the world around them

Cycle of Inquiry:
- Understand: Students notice various shapes on the contours of the real-world environment. They are taught that different shapes have different properties.
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- Inquiry: Students are challenged to determine how many sides each shape has, what type of angles they have, and what the perimeter and area of each shape is.
- Connect: Students are encouraged to draw or print a simple picture on a piece of graph paper and place it on a bulletin board.
- Communicate: Students are asked to explain the properties and characteristics of the shapes they identified.
- Create: Students are asked to create their own geometric shapes and share their creations with the class.

Case Study 4: Name That Shape

Global Concept: Understanding shapes to the world around them

Cycle of Inquiry:
- Understand: Students are taught that different shapes have different properties.
- Question: Students are asked to name and identify the shapes they see in the real-world environment.
- Inquiry: Students are challenged to determine how many sides each shape has, what type of angles they have, and what the perimeter and area of each shape is.
- Connect: Students are encouraged to draw or print a simple picture on a piece of graph paper and place it on a bulletin board.
- Communicate: Students are asked to explain the properties and characteristics of the shapes they identified.
- Create: Students are asked to create their own geometric shapes and share their creations with the class.

Case Study 5: Scavenger Hunt

Global Concept: Understanding shapes to the world around them

Cycle of Inquiry:
- Understand: Students notice various shapes on the contours of the real-world environment. They are taught that different shapes have different properties.
- Question: Students are asked to compare the shapes on the card to the contours of the real-world environment.
- Inquiry: Students are challenged to determine how many sides each shape has, what type of angles they have, and what the perimeter and area of each shape is.
- Connect: Students are encouraged to draw or print a simple picture on a piece of graph paper and place it on a bulletin board.
- Communicate: Students are asked to explain the properties and characteristics of the shapes they identified.
- Create: Students are asked to create their own geometric shapes and share their creations with the class.

Case Study 6: Name That Shape

Global Concept: Understanding shapes to the world around them

Cycle of Inquiry:
- Understand: Students are taught that different shapes have different properties.
- Question: Students are asked to name and identify the shapes they see in the real-world environment.
- Inquiry: Students are challenged to determine how many sides each shape has, what type of angles they have, and what the perimeter and area of each shape is.
- Connect: Students are encouraged to draw or print a simple picture on a piece of graph paper and place it on a bulletin board.
- Communicate: Students are asked to explain the properties and characteristics of the shapes they identified.
- Create: Students are asked to create their own geometric shapes and share their creations with the class.

Case Study 7: Scavenger Hunt

Global Concept: Understanding shapes to the world around them

Cycle of Inquiry:
- Understand: Students notice various shapes on the contours of the real-world environment. They are taught that different shapes have different properties.
- Question: Students are asked to compare the shapes on the card to the contours of the real-world environment.
- Inquiry: Students are challenged to determine how many sides each shape has, what type of angles they have, and what the perimeter and area of each shape is.
- Connect: Students are encouraged to draw or print a simple picture on a piece of graph paper and place it on a bulletin board.
- Communicate: Students are asked to explain the properties and characteristics of the shapes they identified.
- Create: Students are asked to create their own geometric shapes and share their creations with the class.

Case Study 8: Name That Shape

Global Concept: Understanding shapes to the world around them

Cycle of Inquiry:
- Understand: Students are taught that different shapes have different properties.
- Question: Students are asked to name and identify the shapes they see in the real-world environment.
- Inquiry: Students are challenged to determine how many sides each shape has, what type of angles they have, and what the perimeter and area of each shape is.
- Connect: Students are encouraged to draw or print a simple picture on a piece of graph paper and place it on a bulletin board.
- Communicate: Students are asked to explain the properties and characteristics of the shapes they identified.
- Create: Students are asked to create their own geometric shapes and share their creations with the class.

Case Study 9: Scavenger Hunt

Global Concept: Understanding shapes to the world around them

Cycle of Inquiry:
- Understand: Students notice various shapes on the contours of the real-world environment. They are taught that different shapes have different properties.
- Question: Students are asked to compare the shapes on the card to the contours of the real-world environment.
- Inquiry: Students are challenged to determine how many sides each shape has, what type of angles they have, and what the perimeter and area of each shape is.
- Connect: Students are encouraged to draw or print a simple picture on a piece of graph paper and place it on a bulletin board.
- Communicate: Students are asked to explain the properties and characteristics of the shapes they identified.
- Create: Students are asked to create their own geometric shapes and share their creations with the class.

Case Study 10: Name That Shape

Global Concept: Understanding shapes to the world around them

Cycle of Inquiry:
- Understand: Students are taught that different shapes have different properties.
- Question: Students are asked to name and identify the shapes they see in the real-world environment.
- Inquiry: Students are challenged to determine how many sides each shape has, what type of angles they have, and what the perimeter and area of each shape is.
- Connect: Students are encouraged to draw or print a simple picture on a piece of graph paper and place it on a bulletin board.
- Communicate: Students are asked to explain the properties and characteristics of the shapes they identified.
- Create: Students are asked to create their own geometric shapes and share their creations with the class.