DANCE GRAPHS
Grade Band: K-1
Content Focus: Dance & Math

LEARNING DESCRIPTION

Students will interpret data on graphs and use the information to explore dance composition, form, and order of choreography.

LEARNING TARGETS

Essential Questions	"I Can" Statements
How can dance and movement be used to demonstrate understanding of graphs and data interpretation?	I can group and interpret data. I can recognize different types of graphs. I can interpret data in a graph to create choreography.

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GEORGIA STANDARDS

Curriculum Standards	Arts Standards
Kindergarten: MGSE2.MD.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. **Grade 1:** MGSE3.MD.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.	**Kindergarten:** ESDK.CR.1 Demonstrate an understanding of the choreographic process. ESDK.CR.2 Demonstrate an understanding of dance as a form of communication ESDK.PR.1 Identify and demonstrate movement elements, skills, and terminology in dance. ESDK.RE.1 Demonstrate critical and creative thinking in dance ESDK.CN.3 Identify connections between dance and other areas of knowledge **Grade 1:** ESD1.CR.1 Demonstrate an understanding of the choreographic process. ESD1.CR.2 Demonstrate an understanding of dance as a form of communication ESD1.PR.1 Identify and demonstrate movement elements, skills, and terminology in dance. ESD2.CN.3 Identify connections between dance and other areas of knowledge.

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SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
Kindergarten: K.MDA.3 Sort and classify data into 2 or 3 categories with data not to exceed 20 items in each category. K.MDA.4 Represent data using object and picture graphs and draw conclusions from the graphs.	**Anchor Standard 1:** I can use movement exploration to discover and create artistic ideas and works. **Anchor Standard 2:** I can choreograph a dance. **Anchor Standard 3:** I can perform movements using the dance elements. **Anchor Standard 5:** I can describe, analyze, and evaluate a dance.

Grade 1:	Anchor Standard 7: I can relate dance to other
1.MDA.4 Collect, organize, and represent data with up to three categories using object graphs, picture graphs, t-charts and tallies. 1.MDA.5 Draw conclusions from given object graphs, picture graphs, t-charts, tallies, and bar graphs.	arts disciplines, content areas, and careers.

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
Graph - A diagram that shows the relationship between two or more things. Data - A collection of individual facts or statistics Analyze - Examine a subject methodically and in detail, typically in order to explain and interpret it.	Choreography - The art of composing dances and planning and arranging the movements, steps, and patterns of dancers. Choreographer - A person who creates dances. Level - The vertical distance from the floor that a dancer occupies during a movement Plane - An imaginary flat surface running through the body.

MATERIALS

- Music source and speakers
- Graphs/Data, printed or projected

INSTRUCTIONAL DESIGN

Opening/Activating Strategy
Teacher tallies the number of students born each month. Students group birthdays into seasons. As a group, lead students in a warm up that includes these dance elements: - Levels, body shapes, plane - Locomotor and non-locomotor movements - Identify these dance elements so that students learn dance vocabulary.

Movement Discovery:
Look at a variety of types of graphs and discuss:
- The basic, overall shapes of each graph, i.e., a bar graph may be described as rectangular while a pie chart may be called a circle
- Looking inside the graphs, how different shapes and symbols express data in each example, i.e., a pie chart contains angles while a picture graph may contain hearts and stars.

Collaboration:
- Divide the class into small groups and assign either a picture or a bar graph to each group, using various examples of graphs.
- Students describe the graph form (overall form and form of value symbols) using the dance vocabulary and concepts from warm-up
- Students assign dance movements to the visual expression of the form of the graph, i.e., bars on a bar graph may be jumps; stars on a picture graph may be spins.

Choreographic Process:
- Students analyze the data that the teacher gathered at the beginning of class: How many students have birthdays in each season?
- Students draw the data in their assigned graph.
- Create a graph dance by sequencing the movements from the previous step so that they reflect the data, i.e., a bar graph with data of 5 and 2 may include a person standing on their toes and extending their arms overhead 5 times and another person repeating the movement 2 times.
- Students decide how to order the data, such as least to most or progression of seasons in the calendar year.
- Students decide how to demonstrate the type of graph, as well as data.

Performance and discussion
- Perform each group dance.
- The audience identifies which type of graph the peer group is presenting.
- The teacher asks questions about the data represented in each graph dance.
  - How many…?
  - How many more…?
  - How many fewer…?
  - Which season had more birthdays? the most? fewer? the least?

The audience explains how movement observed represents the form of the graph, as well as the data.

Groups explain why they chose certain movements to express the data and form of their graph.

ASSESSMENTS

Formative
Students engage in a collaborative discussion about movement choices, graph form, and data.
Students correctly use dance vocabulary during the discussion.

Summative
Students correctly interpret their assigned data.
Students present choreography that accurately portrays their assigned data.
Students/audience will accurately identify and interpret the data expressed in peer choreography.

DIFFERENTIATION

Acceleration:
Show dance photos that contain multiple dancers; count the dancers and then express the data in scaled picture or bar graphs. Suggested photos in Additional Resources, below.

Remediation:
Analyze data and draw it in different types of graphs as a whole class and then divide into small groups to create choreographies.

ADDITIONAL RESOURCES

Classroom Tips
Set up chairs and tables in a circular format to maximize students' engagement and ability to see their peers during the activity and performance. Also establish parameters for acceptable movement choices and discuss audience behavior/etiquette with students.

Suggested dance photos for first grade acceleration:
Two dancers:
https://commons.wikimedia.org/wiki/File:MX_MM_BALLET_FOLKL%C3%93RICO_DE_M%C3%89XICO_-_40289925045.jpg

Four dancers
https://commons.wikimedia.org/wiki/File:Ballet_Flamenco_de_Andaluc%C3%ADa19_(48628989227).jpg

Six dancers
https://commons.wikimedia.org/wiki/File:Opening_Performance_and_Address_(52146422509).jpg

Eight dancers
https://commons.wikimedia.org/wiki/File:Dance_Ensemble_Sofia_6_Women.jpg

Ten dancers

This integrated lesson provides differentiated ideas and activities for educators that are aligned to a sampling of standards. Standards referenced at the time of publishing may differ based on each state's adoption of new standards.

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