

A CHRISTMAS CAROL

Costume Construction and Measurement

Grade Level: 7th

Florida Standard:

1. MA.7.G.2.3: Solve problems involving scale drawings of geometric figures.
2. MA.7.G.2.4: Apply knowledge of scale factors and similar figures to solve problems.
3. MA.7.MP.2.2: Reason abstractly and quantitatively.
4. MA.7.MP.5.1: Use appropriate tools strategically.

Duration: 45-50 minutes

Objectives: Students will use mathematical concepts to measure, plan, and understand the construction of the costumes from A Christmas Carol while also analyzing and interpreting costume vocabulary and descriptions.

Procedure:

1. Begin by discussing the importance of costumes in theater and how they help bring characters to life. Review the characters from A Christmas Carol and list details they remember from the play about specific characters' costumes, such as Bob Marley, Mrs. Cratchit, Tiny Tim and Ebenezer Scrooge.
2. Distribute copies of the worksheets and vocabulary to learn and discuss the importance of mathematics in the costuming process.
3. Scale Drawing. Provide students with a worksheet that includes scale drawing problems. Explain the concept of scale drawing and how it relates to costume design. Ask students to use a ruler or measuring tape to measure the dimensions of various costume elements mentioned in the text (e.g., length of a gown, width of a hat).
4. Instruct students to create a scale drawing of the costume using a chosen scale factor. Have the students label the dimensions and components of the costume.

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Conclusion: Review the equations from the worksheet and connect the activity back to the importance of math in real-world applications like costume design and construction.

Assessment:

1. Evaluate students' scale drawings and their ability to accurately use scale factors.
2. Assess their understanding of costume construction principles.
3. Review their presentations for clarity, creativity, and connections to the text.

This lesson plan integrates math, performing arts, costuming techniques and practical skills to engage 7th-grade students in a meaningful learning experience while aligning with Florida Best Standards.

Scale Drawing

Name: _____ Date: _____

Instructions:

Read the descriptions of costume elements from *A Christmas Carol*. Measure the dimensions mentioned in the text and record them in the "Actual Dimensions" column. Choose an appropriate scale factor and calculate the dimensions for the scale drawing in the "Scale Drawing Dimensions" column.

Fun Fact About A Christmas Carol

A Christmas Carol has never been out of print and has been translated into 39 different languages.

1. Costume Element: The Ghost of Christmas Past's Gown

Description: The Ghost of Christmas Past wore a flowing gown that reached down to the floor. It was adorned with shimmering gold sparkles and its width was twice the height of a person.

Costume Element	Actual Dimensions (in inches)	Scale Factor	Scale Drawing Dimensions (in inches)
Gown Height			
Gown Width			

2. Costume Element: Scrooge's Top Hat

Description: Scrooge's top hat was tall and cylindrical. It had a diameter of 8 inches and a height of 10 inches.

Costume Element	Actual Dimensions (in inches)	Scale Factor	Scale Drawing Dimensions (in inches)
Hat Diameter			
Hat Height			

Scale Drawing

Name: _____ Date: _____

3. Costume Element: Tiny Tim's Crutch

Description: Tiny Tim's crutch was a wooden staff that came up to his armpit. It had a horizontal handlebar positioned 6 inches below the top.

Costume Element	Actual Dimensions (in inches)	Scale Factor	Scale Drawing Dimensions (in inches)
Crutch Height			
Handlebar Height			

4. Costume Element: Fezziwig's Vest

Description: Fezziwig's vest was finely embroidered and reached down to his waist. Its length was half of its width of 20 inches. Description: Scrooge's top hat was tall and cylindrical. It had a diameter of 8 inches and a height of 10 inches.

Costume Element	Actual Dimensions (in inches)	Scale Factor	Scale Drawing Dimensions (in inches)
Vest Width			
Vest Length			

5. Costume Element: Mr Marley's Chains

Description: Mr Marley's chains were long and heavy. They measured 24 inches in length.

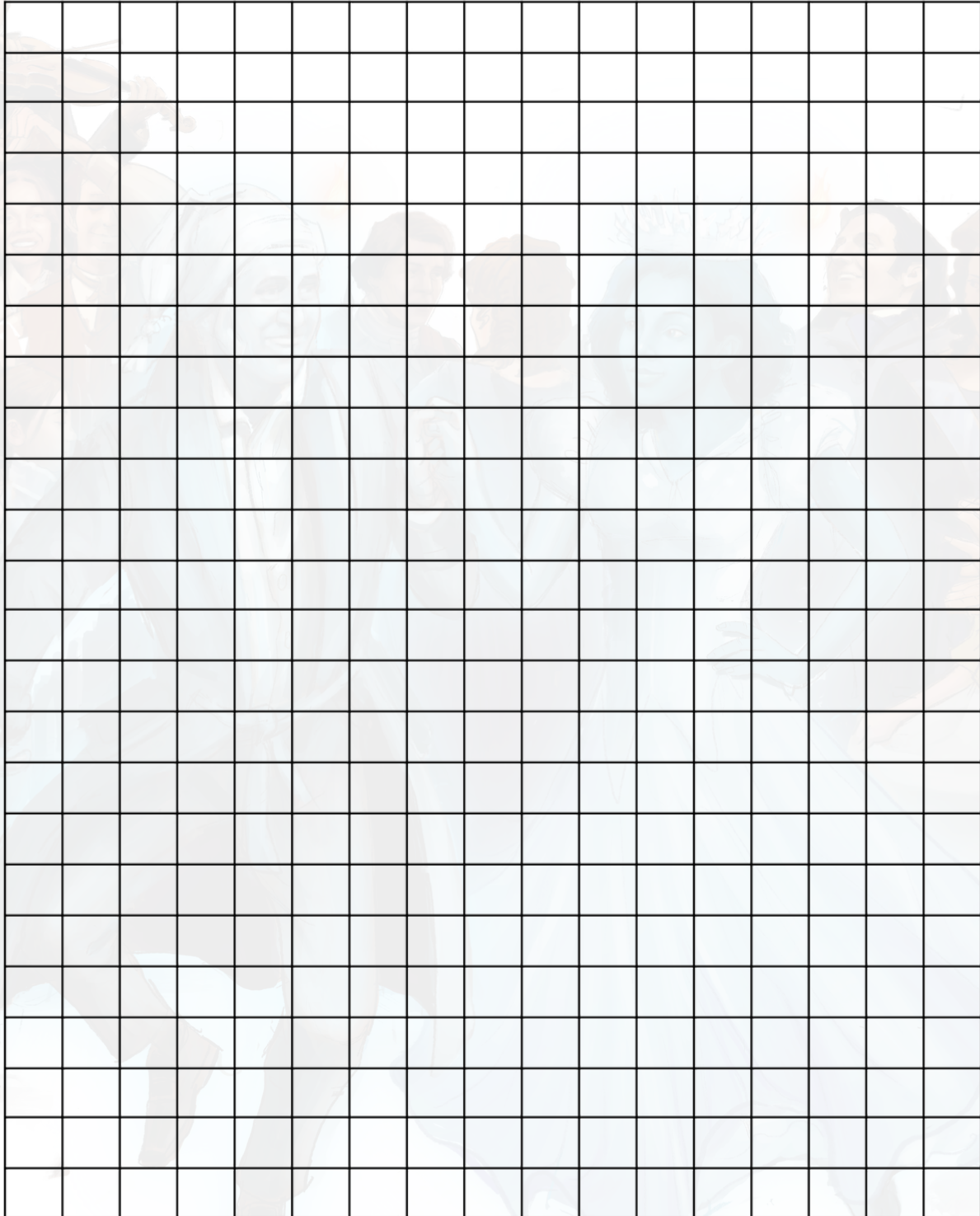
Costume Element	Actual Dimensions (in inches)	Scale Factor	Scale Drawing Dimensions (in inches)
Chain Length			

Scale Drawing

Name: _____ Date: _____

Grid for Scale Drawings:

Create a scale drawing of the costume element on the grid provided. Label the scale drawing with the costume element's name and dimensions. Remember to choose an appropriate scale factor for your drawings.



Scale Drawing **Answer Key**

1. Costume Element: The Ghost of Christmas Past's Gown

Description: The Ghost of Christmas Past wore a flowing gown that reached down to the floor. It was adorned with shimmering gold sparkles and its width was twice the height of a person.

Costume Element	Actual Dimensions (in inches)	Scale Factor	Scale Drawing Dimensions (in inches)
Gown Height	60 Inches	1 inch=6 inches	10 inches
Gown Width	120 Inches (2 x height)	1 inch=6 inches	20 Inches

2. Costume Element: Scrooge's Top Hat

Description: Scrooge's top hat was tall and cylindrical. It had a diameter of 8 inches and a height of 10 inches.

Costume Element	Actual Dimensions (in inches)	Scale Factor	Scale Drawing Dimensions (in inches)
Hat Diameter	8 inches	1 inch = 2 inches	4 inches
Hat Height	10 inches	1 inch = 2 inches	5 inches

3. Costume Element: Tiny Tim's Crutch

Description: Tiny Tim's crutch was a wooden staff that came up to his armpit. It had a horizontal handlebar positioned 6 inches below the top.

Costume Element	Actual Dimensions (in inches)	Scale Factor	Scale Drawing Dimensions (in inches)
Crutch Height	Approx 40 inches	1 inch = 5 inches	8 inches
Handlebar Height	6 inches	1 inch = 5 inches	1.2 inches

Scale Drawing **Answer Key**

4. Costume Element: Fezziwig's Vest

Description: Fezziwig's vest was finely embroidered and reached down to his waist. Its length was half of its width of 20 inches. Description: Scrooge's top hat was tall and cylindrical. It had a diameter of 8 inches and a height of 10 inches.

Costume Element	Actual Dimensions (in inches)	Scale Factor	Scale Drawing Dimensions (in inches)
Vest Width	20 inches	1 inch = 2 inches	10 inches
Vest Length	10 inches	1 inch = 2 inches	5 inches

5. Costume Element: Mr Marley's Chains

Description: Mr Marley's chains were long and heavy. They measured 24 inches in length.

Costume Element	Actual Dimensions (in inches)	Scale Factor	Scale Drawing Dimensions (in inches)
Chain Length	24 inches	1 inch = 4 inches	6 inches

This answer key provides the actual dimensions, the scale factor used, and the corresponding scale drawing dimensions for each costume element. It can be used to check students' work and assess their understanding of scale drawing concepts.

This worksheet will help students practice their scale drawing skills while connecting them to the play's costume design. If students need a refresher on scale drawing, students may refer to this video: https://www.youtube.com/watch?v=Na8-_2MguSE