

Circle Graphs

Lesson Summary Students will gather data, organize it and create a circle graph based on student surveys.

Major Topic and SOL

Math SOL (2009) 6.14.a

Length of Unit 50 minutes

Student Objectives

In Mathematics the student will be able to:

- Gather and organize data
- Graph organized data in a circle graph

In Language the students will be able to:

- Write a descriptive paragraph comparing the parts of the graph to the whole circle graph

21st Century Skills

- Communication
- Creativity and Innovation
- Collaboration
- Information and Media Literacy
- Contextual Learning

Assessment Evidence

- See Attachment D

Supplies/Materials/Technology

- Attachments A, B, C, D
- Construction Paper
- Scissors
- Colored Pencils
- Ruler
- Glue
- Pencils

Lesson Plan

Motivation & Building Background:

- Continuing the unit on graphing, this is an introduction to circle graph.
- As an introductory, have the students search for and bring into class circle graphs they have seen outside of mathematics class.
 - Display several circle graphs used in other content area.
- Discuss how circle graphs are a good visual comparison of parts to the whole.

Presentation

- Gather & organize data :
 - Each student needs to create a survey that is limited to 4 responses and then survey 8 other students for their responses. The students need to fill in the first two columns on the data sheet to organize their data collected (Attachment A).
 - Suggested questions:
 - Favorite candy bar
 - Favorite time of day
 - Favorite soft drink
 - Favorite type of music
 - What season is your birthday?
- Have the students cut out the large circle (Attachment B)
- One sector will represent each person surveyed. Each response should have its own color.
- Students need to color the circle graph as it is represented by their data.
- After all sectors have been colored, the circle graph should be glued to a sheet of construction paper. Students need to title the graph as well as create a color key (Attachment C).
- Have the students complete the remaining columns on Attachment A; documentation of creating decimals and percentages need to be written on a separate sheet of paper and attached to Attachment A.
- Display the graph and charts together in the classroom as a visual representation of the relationships between fractions, decimals and percentages.
- Have the students write and type a descriptive paragraph about their circle graph. Display it with the graph and chart on the wall.
- Differentiated Instruction:
 - Have students calculate the degrees in the circle that represent each sector.
 - Have students create a bar graph that represents the same data.

Name _____

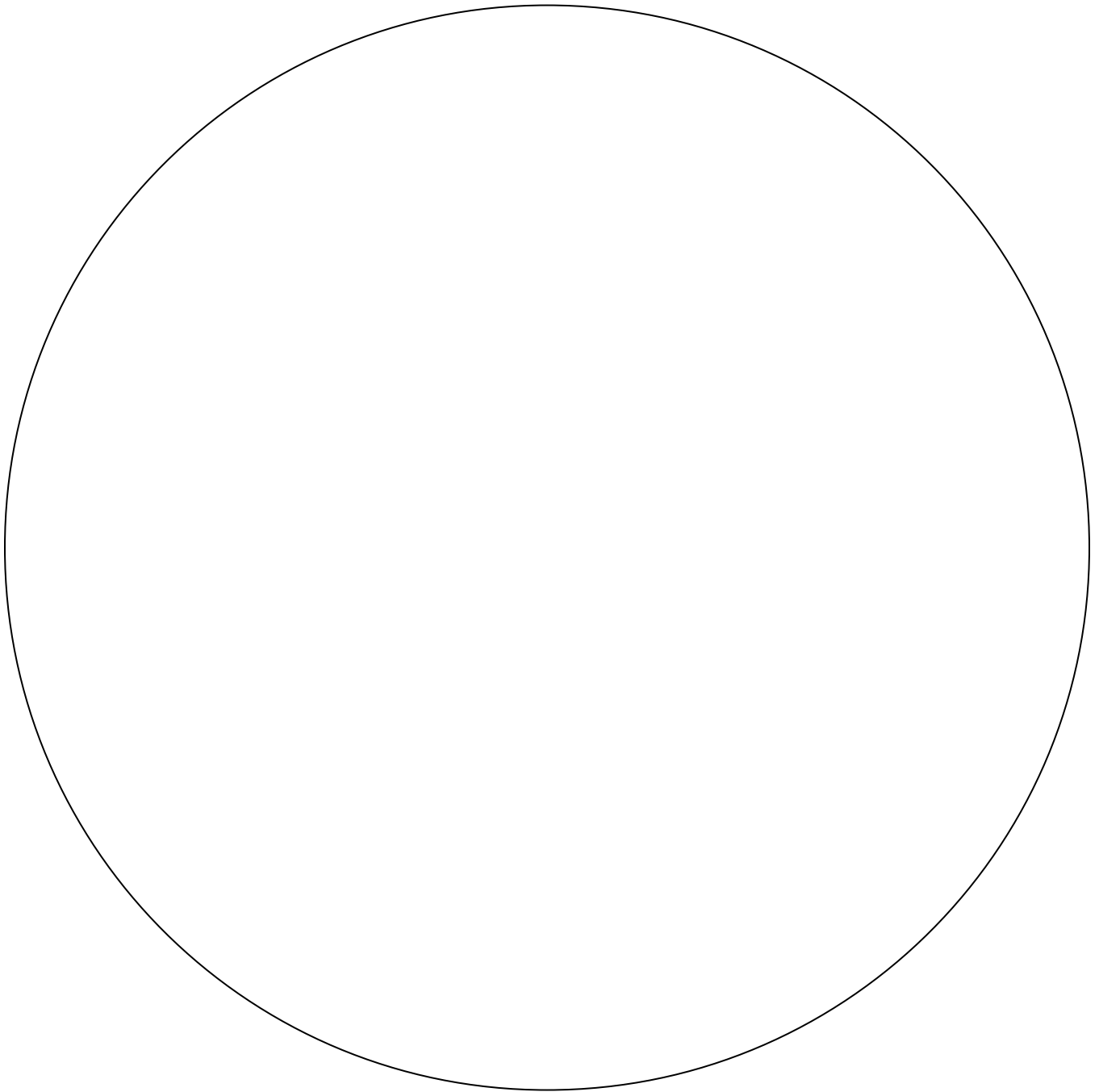
Attachment A

Survey question: _____

Survey responses	Tally marks	Fraction	Decimal	Percentage
Totals				

Attachment B

Cut out circle pattern and fold the pattern in half three times to form eight equal sectors in the paper disk. Use a dark marker to draw along the creases made on the paper.



Attachment C – one Key per graph

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Student

Scoring Rubric

Title	Strong title 3 pts	Weak title 2 pts	No title 0 pts		
Key	Key on construction paper 2 pts	No key 0 pts			
Attachment A completed	No mistakes 5 pts	1 computational error 4 pts	2 computational errors 3 pts	3 or more computational errors 2 pts	
Follow directions	Yes 2 pts	No 1 pt			
Neatness	Yes 2 pts	No pride 1 pt			
Typed paragraph	Yes 2 pts	Hand written 1 pt	None 0 pts		
				Total possible points	/16

Total points	16	15	14	13	12	11	10
Score	100	94	88	82	75	69	63