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Data Management Curriculum Map

The activities introduce students to techniques of interpreting and managing data through graphing and probability studies and presents a sequential program of work. There are 13 graphing and 10 probability worksheets and activities, including surveys, board games, and games of chance, reinforce basic skills, in addition, subtraction, multiplication, and division.

Introduction – Includes Teacher Notes
Answer Key – Includes both graphing and probability

Graphing Activities

Activity 1 School Fund Survey
Activity 2 Nationalities in a Soccer Competition
Activity 3 What's Your Hair Color?
Activity 4 Fractions Test Scores
Activity 5 Calling All Sports
Activity 6 Sibling Survey
Activity 7 Pets
Activity 8 Television Network Ratings
Activity 9 Rainfall
Activity 10 Favorite After School Snacks
Activity 11 Dinosaurs
Activity 12 Favorite Fruits
Activity 13 Culminating Activity

Probability Activities

Activity 14 What's Your Number?
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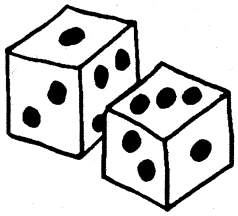
Activity 16 Snakes Eyes
Activity 17 Flip a Coin
Activity 18 Pick a Card, Any Card
Activity 19 Breaking Down the Cards
Activity 20 Ticker Tape
Activity 21 Magic Marbles
Activity 22 Spinners
Activity 23 Eenie, Meenie, Minie Mo



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What's Your Number?

Activity Fourteen

For this activity you need a partner and a regular six-sided die.

Taking turns, roll the die fifty times. Record your results below.

1	2	3	4	5	6

Answer each question with complete sentences.

1. Which number was rolled most often?

2. Which number was rolled the least often?

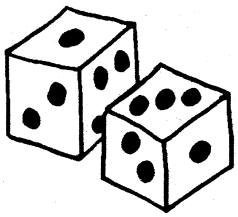
3. Try the experiment again. Do you notice any differences in your results?

4. Compare your results with others in the class. Record the comparisons.

5. What are the chances of rolling a three?

6. What are the chances of rolling a six?

7. How is the data distributed? Is it distributed evenly or unevenly?



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Pair of Dice

Activity Fifteen

With a partner and a pair of six-sided dice, roll the dice a hundred times. Record your results in the chart below.

1	2	3	4	5	6	7	8	9	10	11	12

Answer each question with a complete sentence answer.

1. What number can never be rolled using a pair of dice?

   _____

2. What number was rolled most frequently?

   _____

3. What number(s) were rolled the least often?

   _____

4. What is the only combination possible to roll a two?

   _____

5. What possible combinations can you have to roll a seven?

   _____

6. What possible combinations can you have to roll a ten?

   _____

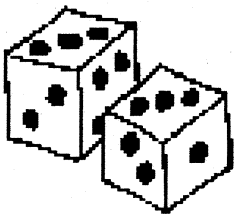
7. What possible combinations can you have to roll a four?

   _____

8. How do your chances of rolling a number change as the number of combinations possible changes?

   _____

   _____



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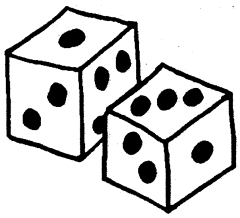


Snake Eyes

Activity Sixteen

With a partner, roll a pair of dice one hundred times.
Record your data in the chart below.

Doubles	Non-Doubles

Answer the following questions with complete sentences.

1. Is it likely or unlikely that you will roll a double on any given throw?

   _____

2. How many times out of a hundred did you roll a double?

   _____

3. What percentage of the time did you roll non-doubles?

   _____

4. Try the experiment again. Did your results change?

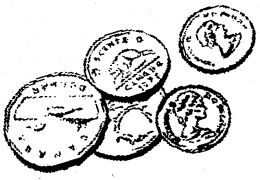
   _____

   _____

5. In games of chance, why is rolling a double more valuable than any other combination?

   _____

   _____



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Flip a Coin

Activity Seventeen

Flip a penny 100 times and record your results on the chart below.

Heads	Tails

Flip a quarter 100 times and record your results on the chart below.

Heads	Tails

Answer the following questions.

1. How many tails did you toss with the penny? _____
2. How many tails did you toss with the quarter? _____
3. What is the likelihood of tossing a head? _____
4. Is there a significant difference between the number of heads and tails tossed with the penny? _____
5. Is there a significant difference between the number of heads and tails tossed with the quarter? _____
6. Try the experiment again. Were there any significant differences the second time around?

   _____

7. Predict the results you might obtain if you used a nickel.

   _____

8. Predict what the results should be if you tossed the penny 1 000 times?

   _____

9. What percentage of your tosses with the quarter were heads? _____
10. What percentage of your tosses with the penny were tails? _____

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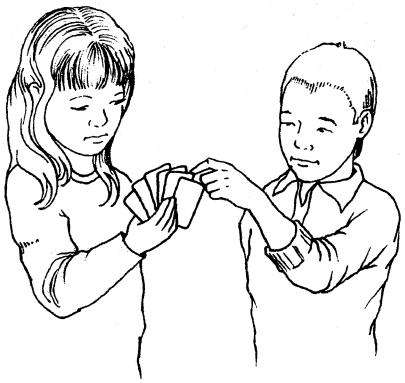
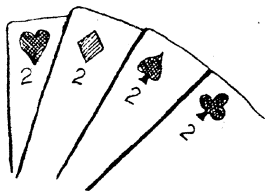




Pick a Card, Any Card!

Activity Eighteen

1. You need a shuffled deck of cards.
2. With a partner, take turns pulling a card from the deck without looking at the card.
3. Place your cards in a pile. When all the cards are drawn, turn your cards over and sort them according to suit.
4. Record your data in the following table.

♥	♦	♠	♣

1. How many cards did each person draw altogether? _____
2. Fill out the following chart, recording both your results and your partner's results in fraction form.

Suit	My Results	My Partner's Results
Hearts		
Diamonds		
Spades		
Clubs		

3. Are there any similarities between your partner's data and your own? Why do you think that is?

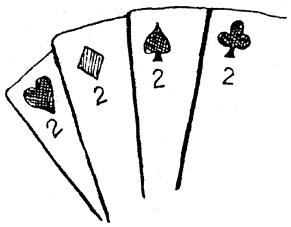
_____

_____

4. What is the probability of drawing a heart from the complete deck of cards? Show your answer in two different ways.

_____

_____



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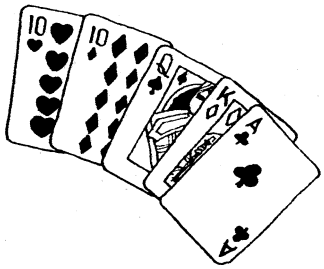
Breaking Down the Cards

Activity Nineteen



Divide the deck of cards into its four suits. Only using one suit answer the following questions.

1. What is the probability of pulling a five from the pile? _____
2. What is the probability of pulling an ace from the pile? _____
3. Is it likely, unlikely or impossible that you will pull a four? _____
4. Is it likely, unlikely or impossible that you will pull a four from a different suit from your pile? _____
5. What is the probability of pulling a face card from the pile? _____

Add another suit to your pile.

Answer the following questions.

1. What is the probability of pulling a five from the pile? _____
2. Have your chances increased, decreased or stayed the same? _____
3. What is the fraction of non-face cards in your pile? _____
4. What is the probability of pulling a face card now? _____
5. If you add another suit, would your results change? Explain why or why not.

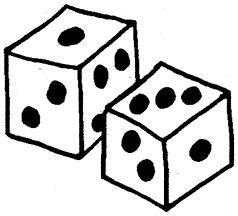
_____

_____

_____

_____

_____



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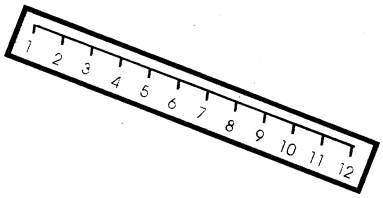
Ticker Tape



Activity Twenty

Number of Players: Two

Equipment: a pair of dice

two number lines numbered from 1 through 12

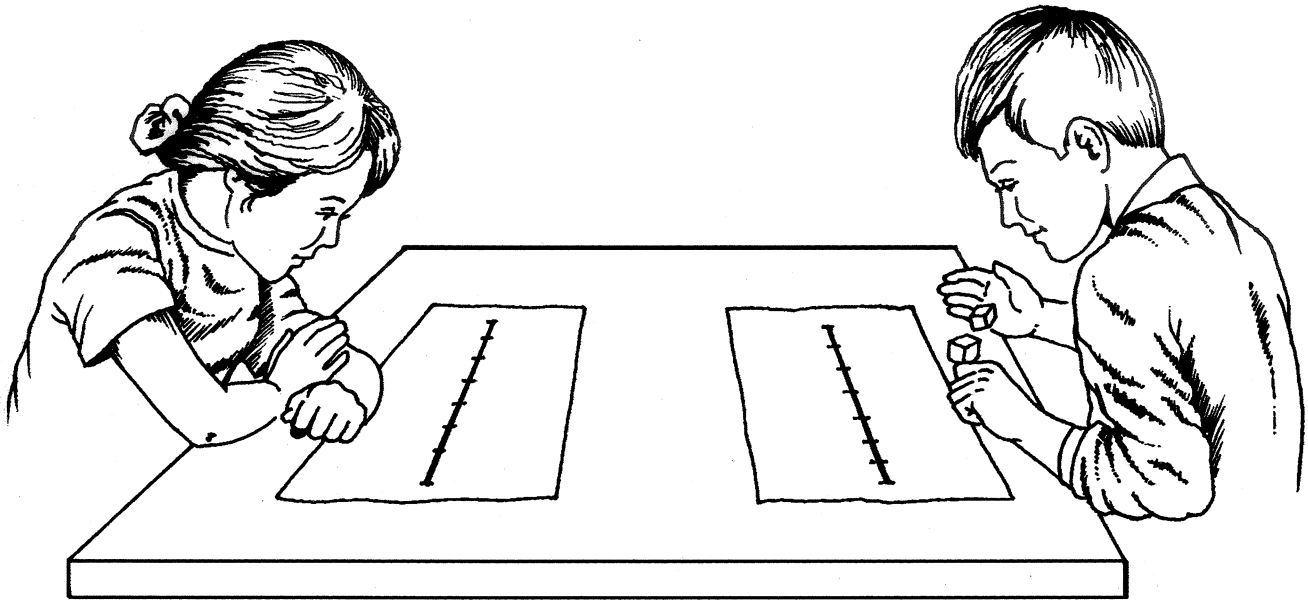
20 chips or game pieces (10 per player)

Object of Game:

Be the first to remove all your playing pieces from the number line.

Rules:

1. Place your chips on your number line, wherever you choose.
2. Player one rolls the dice. If he/she has a game piece on the total value of the dice, he/she may remove one game piece from his number line.
3. Play passes to second player.
4. Continue until one player has removed all his pieces from the board.



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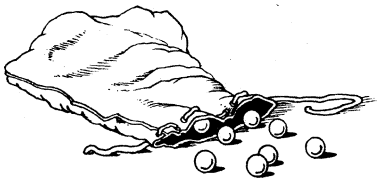
Magical Marbles

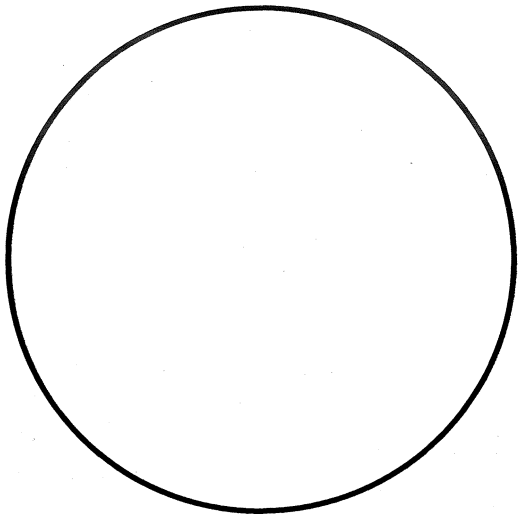


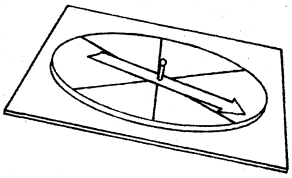
Activity Twenty-One

Johann has a bag of marbles.
In his bag he has 13 yellow marbles,
47 blue marbles and 40 red marbles.

Answer the following questions.

1. How many marbles does Johann have in total? _____
2. Is it likely, unlikely or impossible that Johann will pull out a yellow marble? _____
3. Is it more likely or less likely that he will pull out a red marble than a yellow marble? _____
4. Is it more likely, less likely or equally likely that he will pull out a blue as opposed to a red marble? _____
5. What is the fraction of blue marbles in his bag? _____
6. If Johann pulls out two marbles at a time, what colors will be most likely pulled out? _____
7. Draw a pie chart below showing the fraction of marbles that Johann has in his bag.





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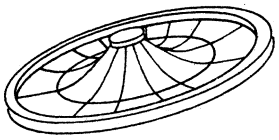
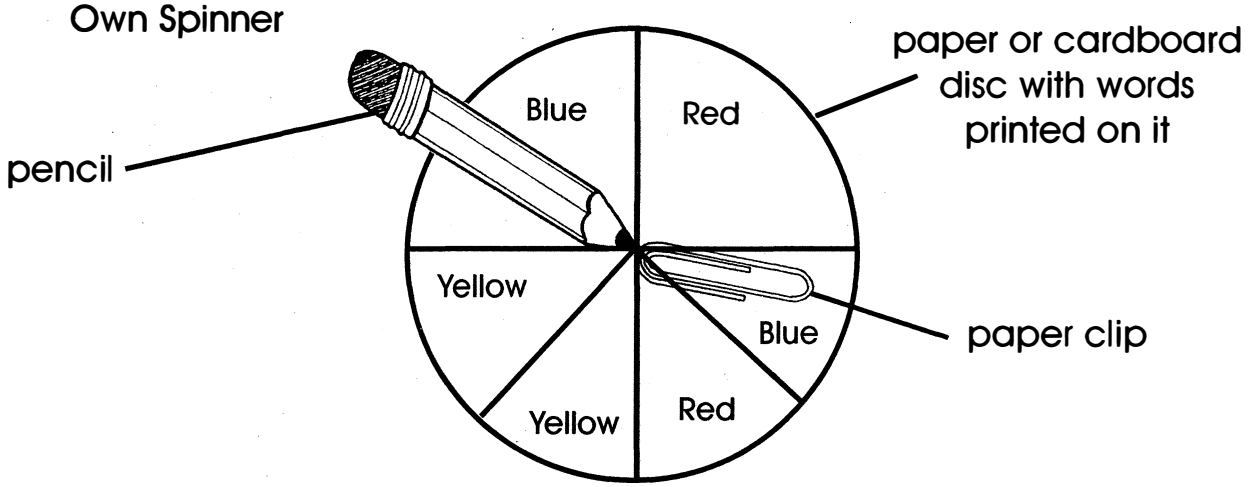


Spinners

Activity Twenty-Two

How to Make your Own Spinner



1. What fraction of the circle is yellow? _____
2. What fraction of the circle is red? _____
3. Are you more likely or less likely to spin blue than yellow? _____
4. What is the probability of spinning red? _____
5. Do ten trials with your spinner. Record the results in the following chart.

Red	
Yellow	
Blue	

6. Did your spins prove or disprove your previous answers? _____
7. Would increasing the number of spins improve the accuracy of your predictions? Explain why or why not?

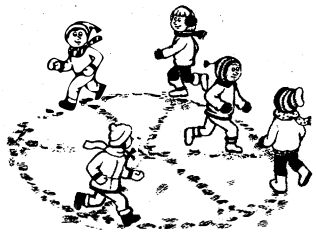
_____

_____

8. What fraction of your trial were yellow? _____
9. Is this a fair spinner? Explain why or why not?

_____

_____



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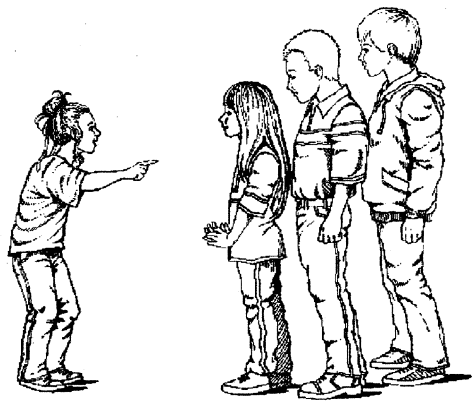
Eenie, Meenie, Minie Moe

Activity Twenty-Three

When children try to decide who will be "it" in the game of tag, they often use the following rhyme,



"My mother says to pick this one right here."

As the child says the rhyme a person is touched each time a word is said.

1. With a partner test the rhyme, beginning with person A. Who did you land on ? _____
2. Say the rhyme again, this time beginning with person B. Who did you land on? _____
3. Is this a fair way to decide who is "it" if only two people are playing? _____
4. Try this with three people. How do the results change? Is it more likely or less likely that you, the starting person, will be picked? _____
5. Do the chances of you being picked increase or decrease as you add more people to the game? _____
6. Is there a point when there will be too many people for this rhyme to work? _____
7. Create your own rhyme to improve the fairness of selection.

_____

_____

_____