

1. Data Management

Probability Gr. 8
D-26, D-29

Materials: toothpicks
chart paper

1. Draw vertical lines on large chart paper exactly 2 toothpick lengths apart.
2. Toss 100 toothpicks randomly on the chart paper.
3. Record any toothpick that touches a line as a “hit”.
4. Calculate the ratio of the number of tosses and the number of hits. Record.
5. Repeat two more times. Record. Compare results.
6. What variables could you change in this investigation to further compare results?
7. Test your ideas and record.

When you have completed this station,
answer sheet in your portfolio.
Label your portfolio entry.

Please tidy up the station.

2. Data Management

Probability Gr. 8
D-26, D-29

Materials: coins

What is the probability of having two boys in a family of five?

Design a simulation using coins to answer the question.

When you have completed this station,
answer sheet in your portfolio.
Label your portfolio entry.

Please tidy up the station.

3. Data Management

**Probability Gr. 8
D-23, D-24, D-26, D-27**

Materials: deck of playing cards

- 1. Draw a card from a deck of playing cards and record its value, regardless of the suit. Replace the card and draw again recording by tallying the results.**
- 2. After doing this experiment 20 times, calculate the probability of drawing a Jack from a standard deck of cards.**
- 3. How could this experiment be conducted so that it would be more accurate?**
- 4. Is this an example of theoretical probability or experimental probability? In your own words define each term.**

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Please tidy up the station.

4. Data Management

Probability Gr. 8
D-26, D-29

Materials: die

- 1 . Use a die to design a simulation to determine the batting average of a baseball player .**

When you have completed this station,
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Please tidy up the station.

5. Data Management

Probability Gr. 8
D-26, D-29

Materials: bag with three different colored cubes

1. Without looking pick a cube from the bag.
Record the color.
Return the cube to the bag. **DO NOT LOOK IN THE BAG!**
2. Repeat until you have recorded 20 “picks”.
3. Predict how many cubes there are of each color.
4. Open the bag and count! How close were you?
5. How can this experiment be conducted so that it is more accurate?
6. Give an example of a real life situation that could be simulated by these types of experiments.

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Please tidy up the station.

6. Data Management

Probability Gr. 8
D-21, D-24

Materials: paper cup
thumb tacks
coin
dish

1. A paper cup is tossed on the floor.
 - a) Describe the three ways that can it land.
 - b) Look at the cup carefully. Why can you not predict an outcome like you can when rolling a die or tossing a coin?
 - c) Which one in this case is experimental probability?
2. A thumb tack is tossed so that it lands on your desk.
 - a) How many ways can it land?
 - b) Can you predict the outcome of a toss?
3. Use a small glass dish. Place it 2 metres from a line (made with tape) on the floor. You stand behind the line and toss the coin.
 - a) How many ways can it land?
 - b) Can you predict the outcome of a toss?
4.
 - a) Choose one of the above examples (or make up your own example) and estimate the probability of each outcome.
 - b) Conduct an experiment to test your predictions in a). How close were you in your prediction?
5. Relate this work with the games of chance at an exhibition. Are the outcomes calculated in your favor? Describe a game you have played and discuss how the outcomes can be manipulated by the way games are physically constructed.

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Please tidy up the station.

7. Data Management

Probability Gr. 8
D-21, D-22, D-23, D-32

Materials: coins

- 1. a) List all the outcomes that are possible if you toss two coins.**
 - b) Which of these are favourable if you want to toss a head and a tail?**
 - c) What is the probability of tossing a head and a tail if you toss two coins?**

- 2. Some statements below are true. Some are false. Indicate whether you think they are true or false, and explain your reasoning.**
 - a) If you toss one coin 10 times, you may get heads all ten times but the chances of this happening are slim.**
 - b) If you toss one coin 10 times, you may get heads exactly 5 times and tails exactly five times.**
 - c) If you toss one coin 10 times, you will never get 10 tails.**
 - d) If you toss one coin 10 000 times, you will probably get heads half the time and tails half the time.**

When you have completed this station,
place answer sheet in your portfolio

Label your portfolio entry.

Please tidy up the station.