Math Probability Lesson Plan

Lesson Objectives:

SWBAT list the degrees of likelihood on a probability scale and describe events as impossible, unlikely, equally likely, likely, or certain.
SWBAT explain the concept of probability.
SWBAT predict the probability of outcomes rolling a die 36 times and test their predictions.

Summary of Tasks/ Actions:

- Daily whiteboard practice:
  - Ask students to prepare for whiteboard practice by grabbing a whiteboard, whiteboard marker, and eraser
  - Write a two-digit by two-digit multiplication problem on the board for students to solve independently (they will raise their boards for me to check their work)
  - Write a four-digit long division problem on the board for students to solve independently (same procedure)
  - Have students place their whiteboard, whiteboard marker, and eraser underneath their desk
- Probability investigation lesson:
  - Display anchor chart and give instructions for anticipatory set ("you will each receive a scenario. Once you receive your scenario, read it, and line up along the perimeter of the classroom. There will be two lines, so two people at a time at the chart. Once you have placed your scenario on the chart, return to your seat")
    - Students will form two lines around the perimeter of the classroom leading to the anchor chart on the whiteboard. This is to allow for distancing where 2 students will place their probability scenarios on the chart at once
  - Once all scenarios are placed on the chart and students are at their seats, introduce the concept of probability with the Powerpoint
  - Connect the probability scale with the anticipatory set activity
  - Define probability with examples
  - Begin by looking at probabilities expressed as percentages- more specifically, when predicting if it will rain
  - Next, transition from percentages to fractions (review the connection between the two)
  - Use the two spinner examples to further connect fractions and probability- solve as a class
  - Lastly, connect probability to rolling dice- if a die is rolled once, what is the probability of rolling a 1?
- Probability investigation experiment:
  - After discussing probability with dice and completing the problem as a class, segue to the die rolling experiment
  - Share the experiment worksheet under the document camera to demonstrate and model
  - Pass to each student a worksheet and a die
  - Depending on time, either talk through experiment results by circulating and discussing individually, or bring the class back together to discuss findings

Materials:

- **Probability scenarios (1 per student, with tape on the back)**
- **Anchor chart with probability/ likelihood scale**
- **Spinner worksheet**
- **Paperclips**
- **Pencils**
- **Colored pencils**

Impossible	Unlikely	Equally likely	Likely	Certain
A talking bear will teach our class today.	It will snow tomorrow.	You will flip a coin and it will land on heads.	You will take a shower today.	God forgives our sins.
A monkey will knit you a blanket today.	You will roll a 6 with one roll of a die.	A baby will be born a boy.	You will use colored pencils today.	You will go to bed tonight.
A turtle will grow wings and fly.	You will see a rainbow today.		You will read to self today.	You will see a car.
An octopus will fly a helicopter.	You will win the lottery.		There will be an announcement.	God listens to our prayers.

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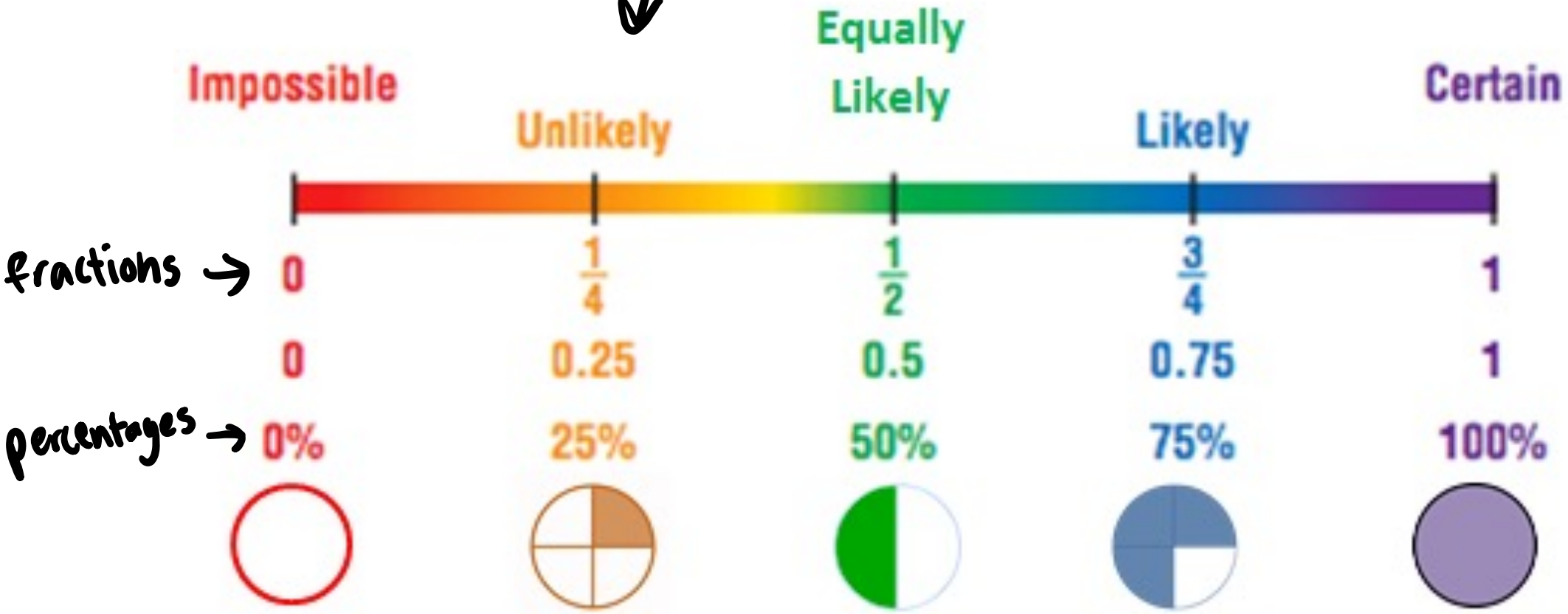
PROBABILITY

Investigation 10

We will predict the probability of certain scenarios using different degrees of likelihood.

We will use fractions to predict the probability of outcomes using dice.

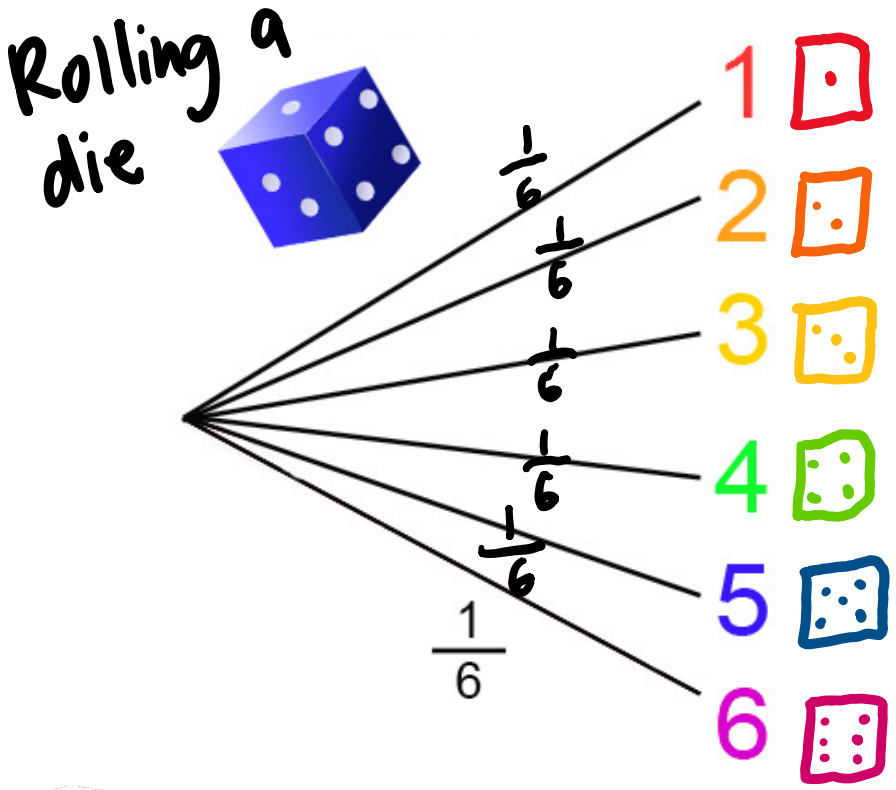
Degrees of Likelihood

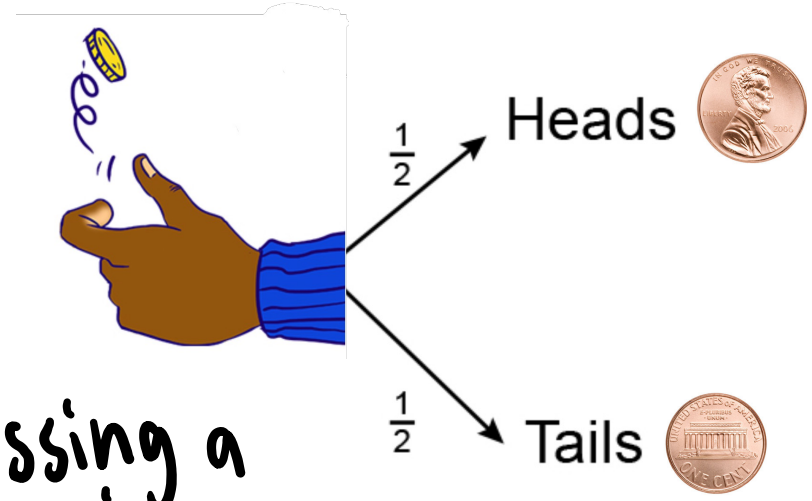


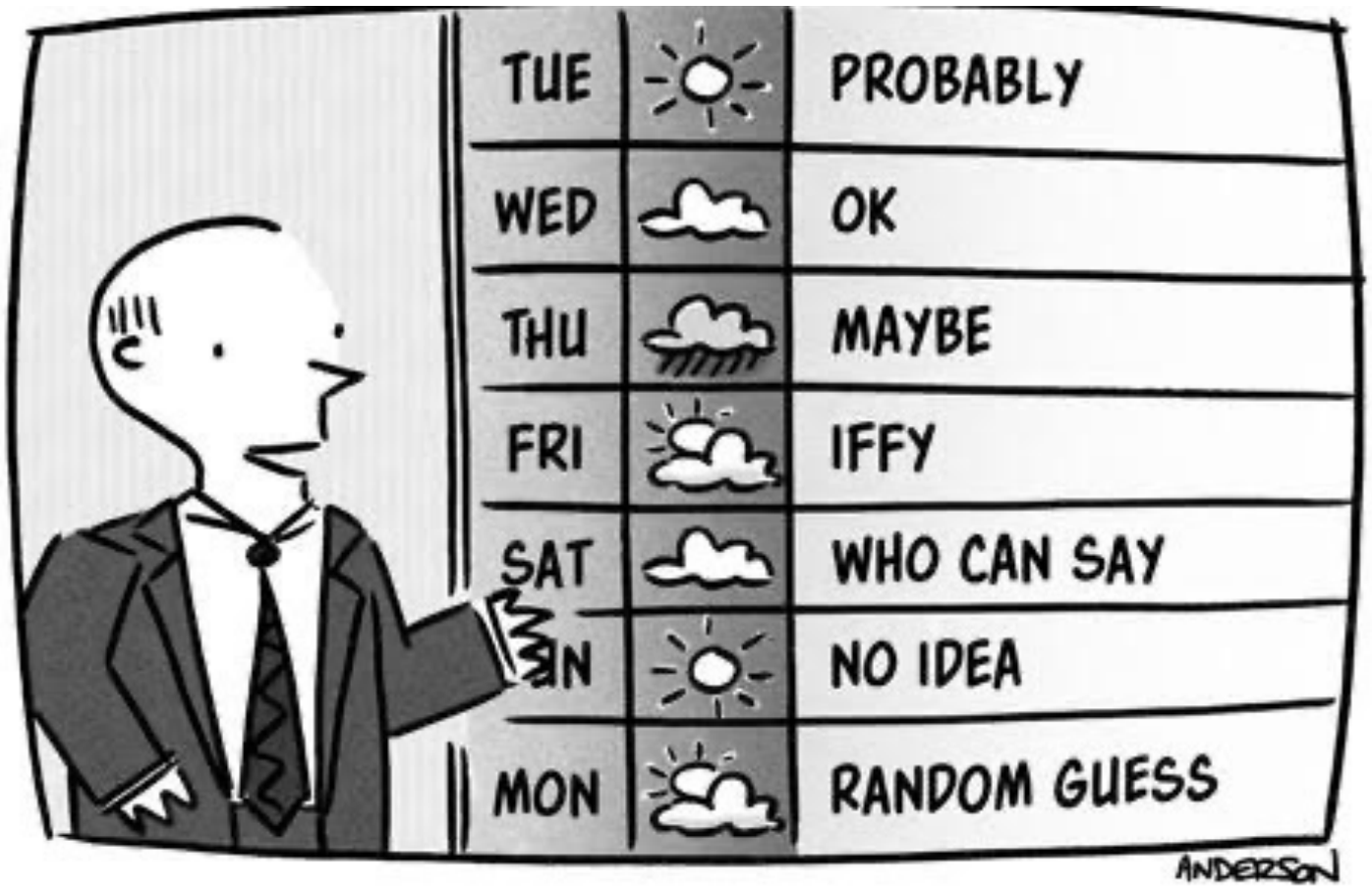
Probability Scale

WHAT IS PROBABILITY?

- Possibility <u>in the future</u>
- Chance
- 0 to 1 (or 0% to 100%)
- The degree of likelihood of an outcome







"And now the 7-day forecast..."

REDMOND, WA

The Weather Channel

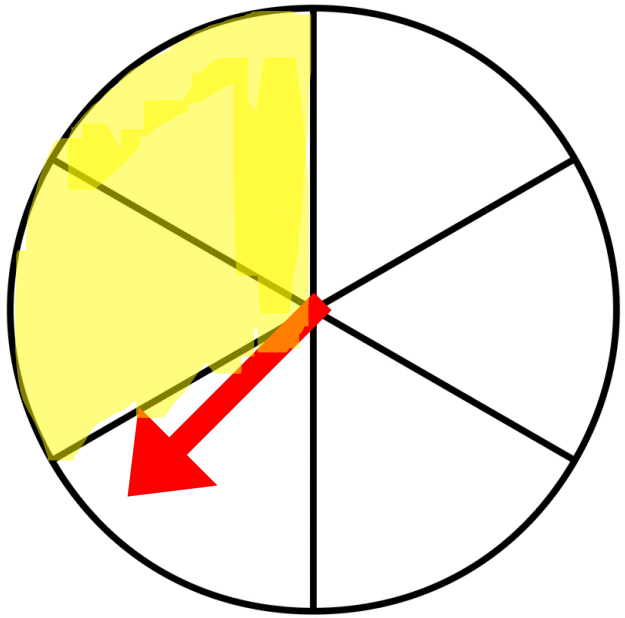
Fri 21	**54°**/43°	AM Showers	36%	S 6 mph
Sat 22	**57°**/49°	AM Showers	31%	SE 5 mph
Sun 23	**55°**/45°	Showers	71%	SSW 10 mph
Mon 24	**56°**/44°	AM Showers	59%	WSW 5 mph
Tue 25	**60°**/44°	Partly Cloudy	23%	NNW 7 mph
Wed 26	**67°**/46°	Partly Cloudy	6%	NW 8 mph
Thu 27	**70°**/48°	Partly Cloudy	6%	NNW 8 mph
Fri 28	**74°**/50°	Mostly Sunny	5%	NW 7 mph

PROBABILTY FORMULA

$$\text{Probability of an event occuring} = \frac{\text{Number of ways it can occur}}{\text{Total number of outcomes}}$$

Fraction!

If the spinner is spun once, what is the probability the arrow will land on yellow?

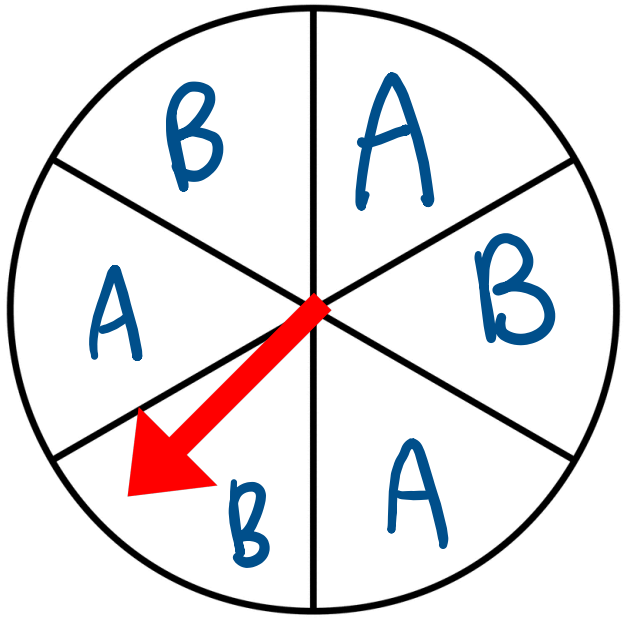


PROBABILTY FORMULA

$$\text{Probability of an event occuring} = \frac{\text{Number of ways it can occur}}{\text{Total number of outcomes}}$$

What fraction is shaded?

If the spinner is spun once, what is the probability the arrow will land on sector A?

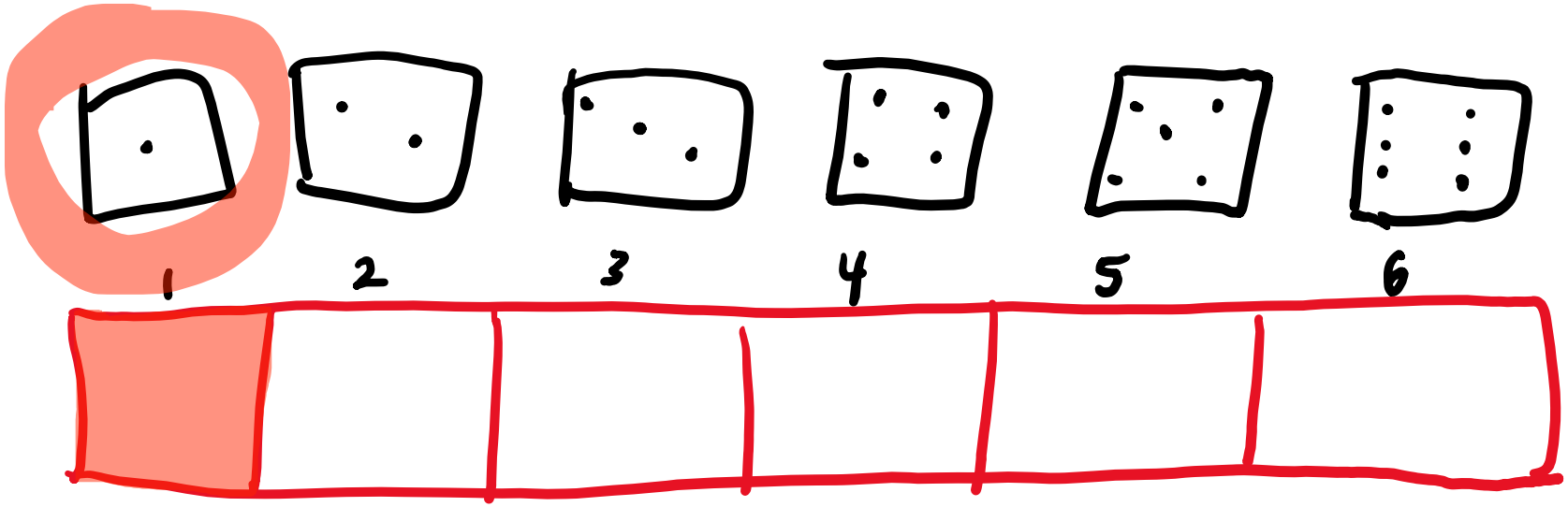


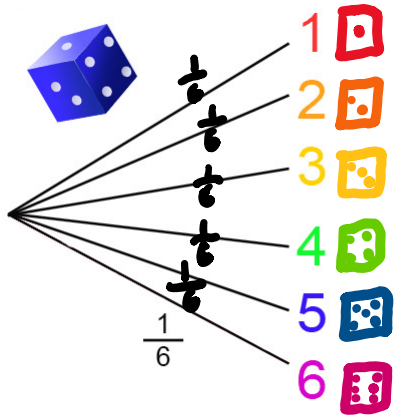
PROBABILTY FORMULA

$$\text{Probability of an event occuring} = \frac{\text{Number of ways it can occur}}{\text{Total number of outcomes}}$$

What fraction is sector A?

If a die is rolled once, what is the probability of rolling a 1?





PROBABILTY FORMULA

$$\text{Probability of an event occuring} = \frac{\text{Number of ways it can occur}}{\text{Total number of outcomes}}$$

What fraction is shaded?