

Population Narrative

Channing Memorial Elementary is located in Elgin, Illinois, one of the 44 elementary school of School District U-46 that serves grade K-6. It's considered a neighborhood school since no transportation is being supplied by the school district. Approximately 90% of the school population is Hispanic, 90% low income and part of free or reduced lunch. The rest of the population is composed of Anglo, Afro-American, Asian students. At Channing we have a 50/50 program model with a 50/50 classroom setup. The generally classroom setup consists of a Spanish teacher and an English teacher. Currently we have 2 Dual Language Kindergarten classrooms, 2 Dual Language first grades, 2 Dual Language second grades, but due to our past changing demographics grades third through 5th consist of 1 teacher instructing both Spanish and English. Our program next year we will open a sixth grade Dual Language classroom with the first group of kids that started the program. The Dual Language students are from different ethnic backgrounds: Mexicans, Puerto Ricans, Anglos, Russians, Polish, Laotians, Koreans, and one student from Brazil. Our Dual Language program is not restricted to the neighbor, design as a choice program opened to the student in the district that may be interested with space availability. On average the students' financial status is low to lower-middle income but we are seeing an increase with the new influx of students from more affluent areas. Our school is a high mobility school, due to that fact we ask the parents when choose the Dual Language program to make a commitment in their students education to maintain their child enrolled in our school from K-6. Yet through out the years we lose children for various reasons beyond the programs control such as relocations, socio-economic issues and the challenges with acquisition of the minority language, resulting in the increase lose of native English speakers. We are still working on getting and we may need to consider various options to maintain them in the program through educating parents on the research of second language acquisitions and real expectations, increasing their exposure to the minority language through specials, community outreach programs and more school activities in the minority language

In our third grade dual language program the class size is 28 students, **39%** are English Native Speakers (11 students, 2 of which were also fully fluent in Spanish) and **61%** are Native Spanish speakers (17 students). .

Unit Planning Guide by Isabel Corchado

Unit Theme

Probability

Unit Big Idea

I want my students to understand that probability is a measure of the relative likelihood that an event will happen.

Lesson Big Ideas

Lesson 1 Big Idea

I want my students to understand that they can classify event in terms of the likelihood of something happening; using words such as certain, most likely, equally likely, possible and impossible.

Lesson 2 Big Idea

I want my students to understand that probability is the numeric expression of how likely something is to happen.

Standards for Unit on Probability for Lesson 1 and 2:

Illinois Learning Standards from <http://www.isbe.net/ils/math/standards.htm>

STATE GOAL 1: Read with understanding and fluency.

A. Apply word analysis and vocabulary skills to comprehend selections.

1.A.1a Apply word analysis skills (e.g., phonics, word patterns) to recognize new words.

1.A.1b Comprehend unfamiliar words using context clues and prior knowledge; verify meanings with resource materials.

B. Apply reading strategies to improve understanding and fluency.

1.B.1a Establish purposes for reading, make predictions, connect important ideas, and link text to previous experiences and knowledge.

1.B.1b Identify genres (forms and purposes) of fiction, nonfiction, poetry and electronic literary forms.

1.B.1c Continuously check and clarify for understanding (e.g., reread, read ahead, use visual and context clues, ask questions, retell, use meaningful substitutions).

C. Comprehend a broad range of reading materials.

1.C.1a Use information to form questions and verify predictions.

1.C.1c Make comparisons across reading selections.

STATE GOAL 3: Write to communicate for a variety of purposes.

3.A.1 Construct complete sentences which demonstrate subject/verb agreement; appropriate capitalization and punctuation; correct spelling of appropriate, high-frequency words; and appropriate use of the eight parts of speech.

B. Compose well-organized and coherent writing for specific purposes and audiences.

3.B.1a Use prewriting strategies to generate and organize ideas (e.g., focus on one topic; organize writing to include a beginning, middle and end; use descriptive words when writing about people, places, things, events).

3.B.1b Demonstrate focus, organization, elaboration and integration in written compositions (e.g., short stories, letters, essays, reports).

C. Communicate ideas in writing to accomplish a variety of purposes.

3.C.1b Create media compositions or productions which convey meaning visually for a variety of purposes.

STATE GOAL 4: Listen and speak effectively in a variety of situations

A. Listen effectively in formal and informal situations.

4.A.1a Listen attentively by facing the speaker, making eye contact and paraphrasing what is said.

4.A.1b Ask questions and respond to questions from the teacher and from group members to improve comprehension.

4.A.1c Follow oral instructions accurately.

4.A.1d Use visually oriented and auditorily based media.

B. Speak effectively using language appropriate to the situation and audience.

4.B.1a Present brief oral reports, using language and vocabulary appropriate to the message and audience (e.g., show and tell).

4.B.1b Participate in discussions around a common topic

STATE GOAL 5: Use the language arts to acquire, assess and communicate information.

5.A.1a Identify questions and gather information.

5.A.1b Locate information using a variety of resources.

STATE GOAL 10: Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.

A. Organize, describe and make predictions from existing data.

10.A.1a Organize and display data using pictures, tallies, tables, charts or bar graphs.

10.A.1b Answer questions and make predictions based on given data.

B. Formulate questions, design data collection methods, gather and analyze data and communicate findings.

10.B.1a Formulate questions of interest and design surveys or experiments to gather data.

10.B.1b Collect, organize and describe data using pictures, tallies, tables, charts or bar graphs.

10.B.1c Analyze data, draw conclusions and communicate the results.

C. Determine, describe and apply the probabilities of events.

10.C.1a Describe the concept of probability in relationship to likelihood and chance

10.C.1b Systematically list all possible outcomes of a simple one-stage experiment (e.g., the flip of one coin, the toss of one die, the spin of a spinner).

Lesson 1 Big Idea/Essential Understanding: I want my students to understand that they can classify events in terms of the likelihood of something happening; using words such as certain, most likely, equally likely, possible and impossible.

State Standards – 1.A.1a, 1.A.1b, 1.B.1a, 1.B.1b, 1.B.1c, 1.C.1a, 1.C.1c, 3.A.1, 3.B.1a, 3.B.1b, 3.C.1b, 4.A.1a, 4.A.1b, 4.A.1c, 4.B.1a, 5.A.1a, 5.A.1b, 10.A.1a, 10.A.1b, 10.B.1a, 10.B.1b, 10.B.1c, 10.C.1a, 10.C.1b

Language of Instruction – English Grade level: 3rd

Content Objectives – Students will attain concept with the classification of events as “sure” and “not sure” and compare the likelihood of events.

Students will also watch a video introducing them to the basic concepts of probability as they continue to share their understanding of the math concept through the use of *talk to your table*.

Language Objectives – Students (L1 and L2) will classify events using probability vocabulary for : *Sure will happen*- “good chance”, “very likely:” “certain” “most/more likely”, “more than 50% chance; *sure will not happen* – “impossible”; *not sure will happen* – “poor chance” “unlikely” “least/less likely” “possible”, “less than 50% chance”, and 50/50 change”, “equally likely; to discuss the likelihood of an event.

Students will utilize sentence prompts to structure their response in the target language.

Sentence prompts:

“I am sure that (event) will happen.”

“I am not sure that (event) will happen.”

“It is (vocabulary use) that _____ will occur.”

Strategies:

* **Concept attainment** – events as “sure” and “not sure” For example: Sure: It will get dark tonight. The sun will rise tomorrow. Tuesday will come after Monday. Not Sure: It will rain tonight. I will get new shoes. I will have ice cream for dessert.

* **Talk to your table** – table peers will discuss classification and comparison of the likelihood of events before whole group share

* **Sentence prompts** – to structure the students’ response in the target language, assisting L2 students and challenging L1 students.

Differentiation:

Heterogeneous groups, partners mixed by language dominants (L1 and L2) and ability groups, peers will “Talk to your table” before whole group share. Sentence prompts to assist L2 students and Challenge L1 students.

Flexible Grouping:

Heterogeneous groups, Students will be working in mixed language, (L1 and L2) English dominant with Spanish dominant, and ability groups to facilitate peer work; whole group and partners for concept attainment.

Instructional Assessment:

Teacher will observe the classification and comparison of event; students’ use of target language with the use of sentence prompts, vocabulary use, during peer discussion, and talk to your table.

Preview
Phase

:



Focused
Learning
Stage

Content Objectives –Students will read various non-fiction children’s books that extend the concepts of probability and share their insight with the *say something* strategy.

Students will also review a segment of the earlier video as an introduction to various probability games.

Student will play probability games that reinforce the concept of the likelihood of event happening. (spinners, gumball machine)

Language Objectives - Students will listen and read various stories and they will orally express their ideas of the readings.

Students will utilize sentence prompts to structure their response in the target language.

Sentence prompts:

“I learned _____.”

“I noticed _____.”

“In addition to what _____ said, I learned that _____.”

“In addition to what _____ said, I noticed that _____.”

“I think the next possible outcome will be _____.”

“I think there is a _____ chance of _____ occurring.”

Strategies:

***Say Something** -Children will be paired during reading/video. They will “Turn-to-Your Partner” a *making meaning* strategy where they discuss what they have learned about probability from the text and at various intervals through out the video, summarizing key points. Insights will be shared with table before whole group discussions. These strategies promote active involvement and provides for opportunities for language development, which is helpful to both L1 and L2 learners.

* **Talk to your table** – table peers will discuss what they have learned about probability from the text before whole group discussions

* **Games-** to practice their facts and concept about probability, the likelihood of an event, they will play probably games (spinners and gumball machine) that focus on “certain”, “most/more likely”, “equally likely”, “possible” and “impossible” as they focus on the concept attained in the preview phase with the classifications of events of “sure” and “not sure” utilizing probability vocabulary for the likelihood of events.

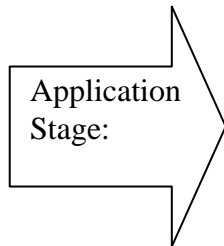
* **Graphic organizer-** (likelihood chart)
Students will focus on the concept

Flexible Grouping: Heterogeneous groups, Students will be working in mixed language, (L1 and L2) English dominant with Spanish dominant, and ability groups to facilitate peer work; whole group and partners through all the activities.

Instructional Assessment

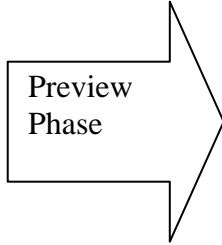
Teacher will conduct informal observation to see if students can express their ideas orally from the reading in the application of the *say something* strategy. Also noting students’ use of target language with the use of sentence prompts, vocabulary use, during peer discussion, and talk to your table. There will also be an evaluation noting if the lesson’s *vocabulary* and language (sentence prompts) structure was used correctly in their writing.

	<p>attained in the preview phase with the classifications of events of “sure” and “not sure” by classifying events presented in their non-fiction books and video as well as in the game played by utilizing probability vocabulary for the likelihood of events.</p> <p>Writing down their probability prediction before sharing with their table. Using the writing prompt. “I think there is a _____ chance of _____ occurring.”</p> <p>This promotes higher level thinking which challenges both L1/L2 while providing the visual that is essential for L2 learners.</p> <p>*sentence prompts – to structure the students’ response in the target language, assisting L2 students and challenging L1 students.</p> <p>Differentiation: Heterogeneous groups, partners mixed by language dominants (L1 and L2) and ability groups, peers will “Talk to your table” before whole group share. Sentence prompts to assist L2 students and Challenge L1 students. The books selected provide visuals for L2 and L1 students. The <i>say something</i> strategy is helpful in allowing partners to share and gain insight in terms that will make it easier for them to understand.</p>	
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	<p>The graphic organizer will allow students to chart events as they analyze the probability of an event occurring. The sentence prompts will challenge both types of learners while providing structured target language focus that will aid in their oral expression as well as in their writing on the graphic organizer.</p>	
<p>Content Objectives – Students will create flashcards expressing the likelihood of an event happening. Students will present their flashcards to the class; tables will combine cards to create a class game. Students will take the flashcards home and play with their family members for the home school connection, as well as create additional flashcards with family members to extend their game, reporting back what their families learned about probability by playing with the flashcards they designed.</p> <p>Language Objectives – Students (L1 and L2) will use vocabulary they have learned focusing on “certain”, “most/more likely”, “equally likely”, “possible” and “impossible” as well as “good chance”, “unlikely” “50/50 chance”, “more than 50% chance, “less than 50% chance.” to discuss the likelihood of an event and in</p>	<p>Strategies:</p> <p>* Flashcard Game- to apply their facts and concept about probability, the likelihood of an event occurring, they will independently work on <i>creating</i> probability flashcards that focus on “certain”, “most/more likely”, “equally likely”, “possible” and “impossible”. The cards will then be combined to utilize as a flashcard game. The individual flashcard games will be extended through a home connection activity. This promotes higher level thinking which challenges both L1/L2 while providing the visual that is essential for L2 learners</p> <p>* Sentence prompts – to structure the students’ response in the target language, assisting L2 students and challenging L1 students through modeled language structure.</p> <p>*Talk to your table – table peers will discuss why their cards are a good</p>	<p>Flexible Grouping: Heterogeneous groups of 4, Students will be working in mixed language, (L1 and L2) English dominant with Spanish dominant, and ability groups to facilitate peer work; whole group and partners through all the activities.</p> <p>Instructional Assessment: Teacher will conduct informal observation to see if students can express their ideas orally in the creation of their flashcards. Also noting students’ use of target language with the use of sentence prompts, vocabulary use, during peer discussions while presenting their flashcards and later the home connection flashcards. Students will utilize a checklist to structure the creation of their flashcards in class as well as in the home connection.</p>

<p>describing their flashcards.</p> <p>Students will use sentence prompts while creating flashcards such as: “What is the likelihood that _____?” ”It is _____ that I will _____.”</p> <p>and for presenting their flashcards: “I think my flashcard is a good representation of _____ because _____.”</p>	<p>representation of probability, likelihood of an event occurring, connecting it to the probability concept.</p> <p>*Presentation- students will present their home connection flashcards to the class indicating the connection to the probability concept.</p> <p>Differentiation: Heterogeneous groups, partners mixed by language dominants (L1 and L2) and ability groups, peers will “Talk to your table” in discussing the creation of the flashcards. Sentence prompts to assist L2 students and Challenge L1 students.</p>	<p>There will also be an evaluation in the form of a rubric to note if the lesson’s <i>vocabulary</i> and language (sentence prompts) structure was used correctly in their writing in their creation of the flashcards and from their reporting back of the home school connection.</p>
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Lesson 2 Big Idea/Essential Understanding: I want my students to understand that probability is the numeric expression of how likely something is to happen.

State Standards – 1.A.1a, 1.A.1b, 1.B.1a, 1.B.1b, 1.B.1c, 1.C.1a, 1.C.1c, 3.A.1, 3.B.1a, 3.B.1b, 3.C.1b, 4.A.1a, 4.A.1b, 4.A.1c, 4.B.1a, 5.A.1a, 5.A.1b, 10.A.1a, 10.A.1b, 10.B.1a, 10.B.1b, 10.B.1c, 10.C.1a, 10.C.1b

Language of Instruction – English Grade level: 3rd

Content Objectives – Students will apply the concept of numeric expression (fraction representation, # out of # chance) to answer the questions “What is the probability of choosing a ____ (color) cube?
Students will also watch a video continuing with the concepts of probability and the introduction of the concept of the numeric expression of probability as they continue to share their understanding of the math concept through the use of *talk to your table*.

Language Objectives – Students (L1 and L2) will review previous lesson’s vocabulary like “good chance”, “unlikely” “certain”, “highly probable”, “probable”, “not probable”, “50/50 chance”, “more than 50% chance, “less than 50% chance.” and “impossible” and connect it to the numeric expression (fraction representation, # out of # chance) of an event occurring.
Students will utilize sentence prompts to structure their response in the target language.
Sentence prompts: “There is a _____ chance of choosing a _____ (color) cube.”

Strategies:

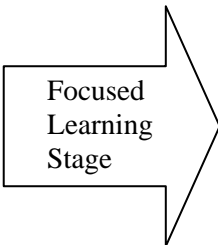
- * **LEA** – math experiment to introduce the concept of numeric expression. Answering the question, What is the probability of choosing a ____ cube? Using a bag and colored cubes.
 - * **Talk to your table** – table peers will discuss the numeric expression of the examples presented during LEA as well as when viewing the video then we will whole group share
 - * **Sentence prompts** – to structure the students’ response in the target language, assisting L2 students and challenging L1 students.
- Differentiation:**
Heterogeneous groups, partners mixed by language dominants (L1 and L2) and ability groups, peers will “Talk to your table” before whole group share. Sentence prompts to assist L2 students and Challenge L1 students.

Flexible Grouping:

Heterogeneous groups, Students will be working in mixed language, (L1 and L2) English dominant with Spanish dominant, and ability groups to facilitate peer work; whole group and partners for concept attainment.

Instructional Assessment:

Teacher will observe the numeric expression used and the students’ use of target language with the use of sentence prompts, vocabulary use, during peer discussion, and talk to your table.



Focused Learning Stage

Content Objectives –Students will read various non-fiction children’s books that extend the concepts of probability and share their insight with the *say something* strategy.

Students will also review a segment of the earlier video as a reinforcement of various probability games.

Student will play probability games (spinners, gumball machine) that reinforce the concept of probability stating the numeric expression of an event happening.

Language Objectives - Students will listen and read various stories and they will orally express their ideas of the readings. Students will utilize sentence prompts to structure their response in the target language.

Sentence prompts:

“I learned _____.”

“I noticed _____.”

“In addition to what _____ said, I learned that _____.”

“In addition to what _____ said, I noticed that _____.”

“I think the outcome will be _____.”

“I think there is a _____ chance of _____ occurring.”

Strategies:

***Say Something** -Children will be paired during reading/video. They will “Turn-to-Your Partner” a *making meaning* strategy where they discuss what they have learned about probability from the text and at various intervals through out the video, summarizing key points. Insights will be shared with table before whole group discussions. These strategies promote active involvement and provides for opportunities for language development, which is helpful to both L1 and L2 learners.

* **Talk to your table** – table peers will discuss what they have learned about probability from the text before whole group discussions

* **Games**- to practice their facts and concept about probability providing the numeric expression of probability __ out of ___ chance. Writing down their probability prediction before sharing with their table. Using the writing prompt. “I think there is a _____ chance of _____ occurring.”

This promotes higher level thinking which challenges both L1/L2 while providing the visual that is essential for L2 learners.

***sentence prompts** – to structure the students’ response in the target language, assisting L2 students and challenging L1 students.

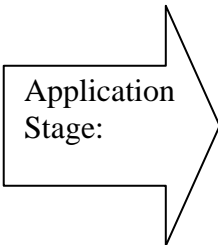
Differentiation: Heterogeneous groups,

Flexible Grouping: Heterogeneous groups, Students will be working in mixed language, (L1 and L2) English dominant with Spanish dominant, and ability groups to facilitate peer work; whole group and partners through all the activities.

Instructional Assessment

Teacher will conduct informal observation to see if students can express their ideas orally from the reading in the application of the *say something* strategy. Also noting students’ use of target language with the use of sentence prompts, vocabulary use, during peer discussion, and talk to your table. There will also be an evaluation noting if the lesson’s *vocabulary* and language (sentence prompts) structure was used correctly in their writing.

	<p>partners mixed by language dominants (L1 and L2) and ability groups, peers will “Talk to your table” before whole group share. Sentence prompts to assist L2 students and Challenge L1 students.</p> <p>The books selected provide visuals for L2 and L1 students. The <i>say something</i> strategy is helpful in allowing partners to share and gain insight in terms that will make it easier for them to understand.</p> <p>The writing down of their probability prediction before sharing with their table will allow students to note their ideas as they analyze the probability of an event occurring. The sentence prompts will challenge both types of learners while providing structured target language focus that will aid in their oral expression as well as in their writing on the graphic organizer.</p>	
<p>Content Objectives – Students will create their own games expressing the probability of an event happening. Students will present their game to the class providing the steps on how to play and how it connects to the concept of probability. Students will take the games home and play with their family members for the home school connection reporting back what their families learned about probability by playing the game they designed.</p>	<p>Strategies:</p> <ul style="list-style-type: none"> * Games- to apply their facts and concept about probability, the likelihood of an event occurring, they will work in groups to <i>create probably games</i> that focus on the chance of an event happening. This promotes higher level thinking which challenges both L1/L2 while providing the visual that is essential for L2 learners * Sentence prompts – to structure the students’ response in the target language, assisting L2 students and challenging L1 students through modeled language structure. *Talk to your table – table peers will 	<p>Flexible Grouping: Heterogeneous groups of 4, Students will be working in mixed language, (L1 and L2) English dominant with Spanish dominant, and ability groups to facilitate peer work; whole group and partners through all the activities.</p> <p>Instructional Assessment: Teacher will conduct informal observation to see if students can express their ideas orally in the creation of their game. Students will utilize a checklist to structure the</p>



<p>Language Objectives – Students (L1 and L2) will use review vocabulary from previous lesson like “good chance”, “unlikely” “certain”, “highly probable”, “probable”, “not probable”, “50/50 chance”, “more than 50% chance, “less than 50% chance.” and “impossible” as well as the numeric expression (fraction representation, # out of # chance) of an event occurring in describing their game.</p> <p>Students will utilize sentence prompts to structure their response in the target language.</p> <p>Students will use sentence prompts while creating and presenting their game such as:</p> <p>“I think we should include _____ in the game because _____.”</p> <p>“Our game is a good representation of probability because _____”</p> <p>“I think the next possible outcome will be _____.”</p> <p>“I think there is a _____ chance of _____ occurring.”</p>	<p>discuss the components to be incorporated in the games and how they connect to the probability concept.</p> <p>*Presentation- groups will present their games to the class on a graphic organizer indicating the purpose for the game, how their game relates to probability, and step by step directions. The presentation will allow each student to take on an individual role: writer, speaker, monitor, and leader (starter).</p> <p>Differentiation:</p> <p>Heterogeneous groups, partners mixed by language dominants (L1 and L2) and ability groups, peers will “Talk to your table” in discussing the creation of the game and for presentation structuring. Students will have assigned roles during the organization of the presentation this allows the opportunity for confidence building while ensuring that everyone has an active role in the task. Sentence prompts to assist L2 students and Challenge L1 students.</p>	<p>creation of their game in class, presentation, as well as in the home connection. There will also be an evaluation in the form of a teacher checklist noting the students’ use of target language with the use of sentence prompts, vocabulary use, during peer discussions while creating their games and the organization of their presentations. A rubric will be utilized to assess the student’s structure in their writing and in their presentation of the graphic organizer demonstrating the structure of their game and from their reporting back of the home school connection.</p>
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Annotated Bibliography

** This lesson was taught strictly in English based on the Dual Language Program at Channing. Therefore none of the resources are in Spanish. Spanish integration of vocabulary would be available to students during Spanish instruction as well as the availability of Spanish independent library books in the content area.

Text Resources

1. Cushman, Jean, “Do You Wanna Bet?: Your Chance to Find Out About Probability”, Clarion Books, 1991.

An informative, easy-to-read explanation of a complex concept. Each chapter is introduced with a brief story about the characters encounters with probability, the laws of chance through coin tossing, spinner and card games, and the weather. Then followed by an explanation of the concept introduced and suggested related activities. it will be great for teacher-directed activities for Lesson 2.

2. Murphy, Stuart J., “Probably Pistachio” (MathStart2), HarperTrophy; 2001.

Introduces the concept of probability, as the character moves through his day, he makes a series of predictions based on good reasoning thinking about the likelihood of each situation. Used as the read aloud during lesson 1.

3. Leedy, Loreen, “It’s Probabably Penny” Henry Holt and Co., 2007.

Introduces the concept of probability as the characters study probability by writing down predictions, determining results, and recording them. Connects with likelihood of an event happening example: thinking of events that will happen- *Will* Penny want to go for a walk? (Of course: sure to happen), one that might happen -What *might* happen? (Perhaps she'll see a squirrel.), and one that can't happen -What *won't* happen? (She won't see a shark.). for lesson 1.

4. Littlefield, Cindy A, “Real-World Math for Hands-On Fun! (Williamson Kids Can! Series)” Williamson Publishing, 2001

This is a good book to have available to the children to look through and experiment with by way of different hands-on activities that will assist them in experimenting with probability for both lesson 1 and 2.

5. Zeman, Anne, “Everything You Need to Know About Math Homework” Scholastic Reference, 1994.

The text is presented in a form to help answer question students may have about concepts by introducing concepts, or providing simple explanations. It's easy to use with large print size, with visual representation and color-coded bites of information. Can be utilize with both lessons.

Isabel Corchado
Probability Unit

6. Burns, Marilyn, “The I Hate Mathematics! Book” Little, Brown and Company, 1975.

This book says that math is nothing more than a way of looking at the world and that it can be relevant to everyday life (The Art of Probably) provides math events, jokes, riddles, investigations and experiments prove it. Some of the experiments have more text but the visual comic strip style will interest students to find out about probability, can be utilized with lesson 1 or 2.

7. Maganzini, Christy, “Cool Math” Price Stern Sloan, 1997.

The text is packed with codes, games, quizzes, hands-on activities, and mind-bending facts. It is higher level with more text per page but it has a special Cool Calculations sections that is easy to follow and provide students the possibility to experiment with probability, The teacher can introduce whole group or to a group that needs more of a challenge, can be utilized in both lessons.

8. Knapp, Brian, and Colin Bass “Chance and Average (Math Matters!)” Atlantic Europe Publishing Company, 1999

This text can be used as a resource that introduces the concept of chance focusing on the likelihood as well as the numeric representation. It provides explanations, experiments, vocabulary (word check) as well as the mathematical formulas. It can be utilized with both lessons.

9. The University of Chicago school Mathematics Project, Everyday Mathematics 3rd Grade Teacher’s Lesson Guide, Chicago, IL: Everyday Learning

This is the math program used by the district to teach children the Illinois State Standards for Math. It provides the teacher with a teacher’s lesson guide that is interactive, informative and includes games for learning. It also provides text resources to help enhance the lesson. Resource for both Lesson 1 and 2.

Games

Gumball machine- use a gumball machine pattern and counters. Random draw counters and or numeric express. Other option is to manipulate the counters to represent a specific probable outcome Example: all the counters being one color. It is certain that I will get _____. I have a ___/___ chance of getting _____.

Spinner game- Can use pre-created spinner or create your own to have students express the probability of landing on a specific color or letter using the expression of likelihood.

Other games:

Coin Toss

Drawing Cards

Tossing Dice

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Probability Unit

Video and Website Resources

<http://www.educationallearninggames.com/math-probability-games.asp> for more game ideas

<http://www.unitedstreaming.com>

It's a valuable resource for various videos on probability such as:

Discovering Math: Probability (k-2)-focus is likelihood

Discovering Math: Probability (3-5)-focus is the numeric expression

Videos were used in the preview phase of both lessons that were retained from this website. They also provide some of the blackline activities that we performed in class.

<http://www.shodor.org/interactivate/activities/>

This website is an interactive site where students can experiment with probability through interactive games. It can be a great resource for Lesson 2.