

## Probability: Everyday Decisions Based on Probabilities

### 2.6 - Choosing Classes Practice

Four Teachers offer Zane's favorite computer class at different times during the day. The school counselor provides Zane with a list of teachers and the periods they teach the class. The morning classes are 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> periods, and the afternoon classes are 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> periods.

- Mr. Nelson – 2<sup>nd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup>
- Ms. Trevino – 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup>
- Mr. Garza – 1<sup>st</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, and 6<sup>th</sup>
- Ms. Jones – 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 6<sup>th</sup>

1.) Before deciding on a class, Zane wants to list all the possibilities so he can see the highest chance of getting a teacher he prefers. Create a table/area model that illustrates all the possibilities.

2.) Create a tree diagram that illustrates the possibilities.

3.) Before deciding on a morning or afternoon class, Zane remembers he wants to take his math class during 3<sup>rd</sup> period. What is the probability that he will be assigned the computer class during this time?

4.) Zane prefers to be in the class of Ms. Trevino or Mr. Nelson. What is the probability he will be in one of their classes?

5.) After checking the schedule, the counselor told Zane that Mr. Garza's classes are filled. How does this information affect the probability of Zane getting any afternoon class?

6.) Because this is a required class for all students and Mr. Garza's classes are filled, the school adds another teacher, Ms. Lopez. She will teach 1<sup>st</sup> and 6<sup>th</sup> periods. How does this fact affect the probability that Zane will get a morning class?

7.) While Zane is calculating probabilities so he can make his decision, the class offerings change. (Mr. Garza's classes fill and Ms. Lopez is added.) If Zane requests an afternoon class, what is the probability of getting Ms. Trevino for 4<sup>th</sup> period?

8.) What other factors might influence Zane's class selection?

Would these factors be reflected in the diagram or data?