

Name(s) _____

Period _____ Date _____

Activity Guide - Using the Problem Solving Process

Word Search

Overview

Working with a team find the following words in the grid. They may be horizontal, vertical, or diagonal in any direction.

DEFINE, PREPARE, TRY, REFLECT, PROBLEM, SOLVE, COMPUTER, SCIENCE

Objective

Find and circle all 8 words as quickly as you can!

E	S	Q	H	J	H	R	C	F	A	X	M	G	M	U	E	B	L	N	I
S	R	K	E	R	E	T	U	P	M	O	C	E	C	M	Z	T	Y	J	C
D	X	A	P	N	X	Q	L	Y	V	K	L	S	X	X	N	C	E	H	N
J	M	X	P	K	W	W	O	J	Q	B	B	O	Q	M	H	E	A	H	T
B	I	U	O	E	Y	H	K	M	O	A	R	L	F	R	D	L	P	H	A
N	J	H	T	Y	R	A	E	R	C	F	L	V	M	S	C	F	A	J	M
T	I	R	Y	Q	W	P	P	H	D	X	Q	E	Q	U	N	E	R	G	S
H	Y	R	I	M	I	X	D	Z	K	B	M	N	G	O	J	R	B	K	U
P	U	B	U	E	U	J	E	G	D	T	F	B	D	T	I	M	V	V	P
H	V	W	S	K	F	D	G	K	V	D	M	S	O	X	Y	O	R	S	F
S	C	I	E	N	C	E	W	P	Q	T	E	O	R	I	A	S	Q	M	U
H	R	G	D	Y	V	N	H	I	J	D	C	F	G	V	H	E	M	Z	M
U	O	H	H	N	A	G	X	O	Q	K	K	B	I	G	M	T	W	O	L
O	P	E	I	O	Q	G	B	A	R	V	H	P	N	N	A	Z	E	X	V
Y	I	S	W	N	R	N	U	U	W	G	H	X	H	A	E	B	O	P	N
L	X	D	J	X	R	P	V	Y	J	H	U	H	X	D	Y	F	O	I	D
F	U	D	J	X	V	U	K	F	C	V	D	Q	B	P	D	Z	I	B	D
F	B	R	D	S	I	W	P	K	F	K	V	T	R	D	R	G	Y	C	R
Y	E	T	Y	O	D	M	X	H	L	L	V	P	T	J	V	I	J	C	D
H	E	X	K	R	O	I	P	B	W	E	T	O	Y	X	I	B	W	V	O

Once You're Done

Head to the last page of the activity guide and fill in the row there for the "Word Search" in the table.

Birthday Guests

Overview

A big group of 15 guests is getting together at a restaurant for a birthday. The restaurant has 3 tables that can each seat only 5 people. Below you can find some information about the people who are attending the party.

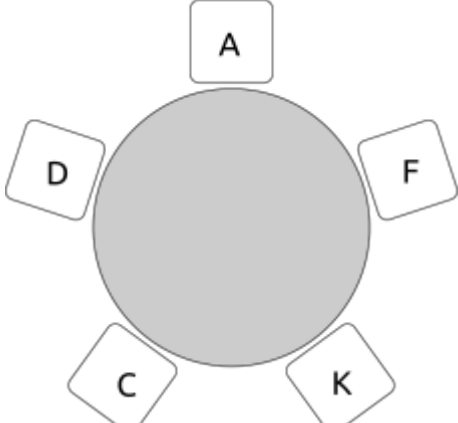
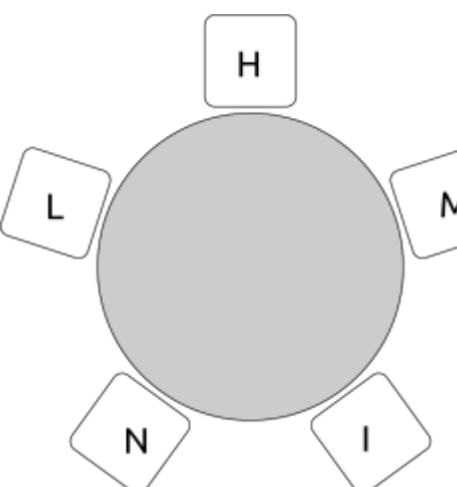
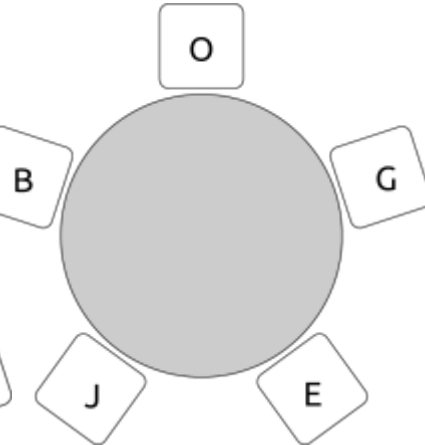
Aysha, Ben, Carla, Damien, Eric, Fan, Genaro, Hannah, Isaías, Jessica, Kyla, Laila, Max, Nazek, Owen

Close Friends (Try to put them together) Aysha and Damien Max and Isaías Nazek and Laila Owen and Genaro Ben and Jessica Genaro and Eric	In a Fight (Try to keep them apart) Aysha and Genaro Ben and Hannah Fan and Max Damien and Laila Isaías and Owen Kyla and Jessica
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Objective

Find the best possible arrangement of guests at the party. Draw your solution in the space below. To help you can cross out the letters of the names you've assigned in the row below.

A B C D E F G H I J K L M N O

Note: This is one of many possible solutions.

Once You're Done

Head to the last page of the activity guide and fill in the row there for the "Birthday Guests" in the table.

Redesign Your Classroom

Overview

You and your friends will be redesigning your classroom. You only have one school day to make it happen, but otherwise how you plan it is up to you. Plan the best looking classroom that you can!

Develop Goals

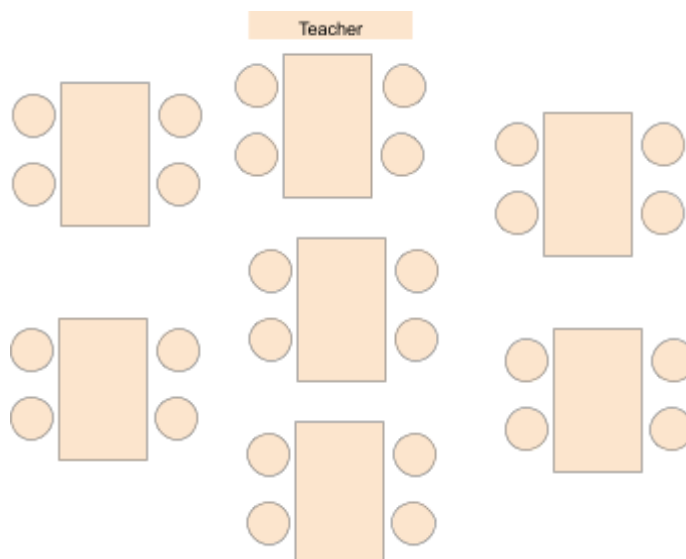
Talk with your group for a few minutes. What are the most important things about the classroom? Can everyone see the teacher? How will you move everything? Write down the goals you'll use to decide what makes a good plan.

Goals	How My Plan Helps Reach this Goal
Everyone can still see the teacher	
Everyone should be able to see and talk to other kids.	

Make a Layout

Every member of your group should separately start designing a layout. You should select what should go where and make sure it all fits in the room. For each goal your group chose, list how your layout helps to reach it in the right column. In the space below draw or describe your redesigned classroom.

New classroom design:



Share Your Layout and Get Feedback

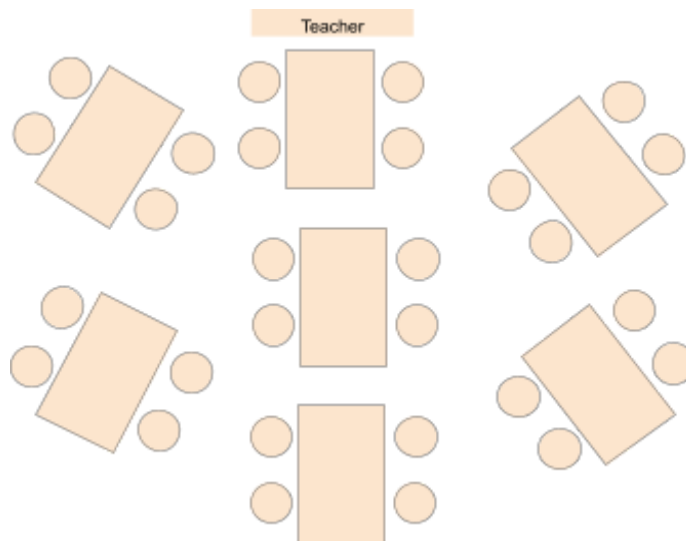
Share the layout you developed with your teammates and explain why you think it is the best possible layout given the goals you chose. Afterwards, record their feedback and reactions to your design in the space below. Is there anything that needs to change? How could your layout improve?

My teammates liked that the table groups meant we'd have people to talk to, but they also thought that it would be hard for the people at the outside tables sitting closest to the middle of the room to see the teacher. I think if I slant the tables to face the front of the room it wouldn't be as hard for those kids to turn to see the teacher.

Improve and Finalize

Using the feedback from your teammates update your layout. In the space below, write down the new design that you and your group agreed on.

Redesign



Once You're Done

Head to the last page of the activity guide and fill in the row there for the "Redesign Your Classroom" in the table.

Problem Solving Process Notes

Reflecting on Using the Process

How did you use each step of the problem solving process to solve this problem? Give examples of what each step looked like as you were solving that problem.

	Define	Prepare	Try	Reflect
Word Search	I felt like this problem was already defined.	We didn't prepare we just jumped right in!	We just tried to find the words	We realized we should split the word search into areas for each person to search in.
Birthday Guests	It took longer to understand the problem. I read it a couple times.	We used some scratch paper to understand how to group people.	We split the work among multiple people.	We probably could solve the problem faster if we grouped friends before seating them.
Redesign Your Classroom	We needed to decide what was important for our layout.	We considered a lot of different layouts.	I drew my plan for the room.	I realized that by slanting some of the tables it would be easier for people to see.

The Purpose of Each Step

For each step in the problem solving process write one sentence explaining its purpose.

Define: We need to understand the problem we're trying to solve before we just jump right in.

Prepare There's usually many ways we could approach a problem so we need to first think about those and make a plan.

Try Once you make a plan you need to actually try it.

Reflect Sometimes the first way you solved a problem wasn't the best way so you need to reflect and decide if you can do it better next time.

Defining Problems with Questions

Before starting to solve a problem it's important that you have defined it well. What questions or strategies can you use to better define or understand a problem? Record them in the space below.

How will I know when I'm done? Ask "Why" to understand the way things currently work.