



2022 Team Up Challenge

Instructions for Teachers

The Team Up Challenge is designed to encourage student participation and maximize flexibility for teachers. Working in teams of four, students flex their mathematical problem-solving skills through fun and engaging activities. The following instructions should be used as a suggestion only. Teachers should feel free to make modifications in order to suit their class.

Preparing Materials

In advance of running the Team Up Challenge, we recommend teachers prepare each part as indicated below, depending on whether students are participating in person or virtually. Students may want to use scrap paper and calculators as well.

In Person	
Team Paper	Print one copy of the problems per student and one answer sheet per team.
Crossnumber Puzzle	Print one copy of the puzzle sheet and clue sheets per team.
Logic Puzzle	Print one clue sheet and one answer sheet per student.
Relay	Print one copy of the problems and one answer sheet per team. Cut the problem sheets on the dotted lines.

Virtual	
Answer Sheets	<p>We have Answer Sheet Slides that teams can use to enter their answers for all four parts of the challenge. Note that teachers will need a Google account to set up the slides, but students will <i>not</i> need a Google account to use them. The Answer Sheet Slides can be found here: Answer Sheet Slides.</p> <p>Make a copy of the Answer Sheet Slides for each team. If you do not make a copy, you will not be able to edit the slides. To make a copy, select File > Make a Copy > Entire Presentation. Adjust the name as desired and click 'OK'.</p> <p>Share each team's Answer Sheet Slides with each team member so they can edit the slides. To do this, click 'Share' and then 'Change to anyone with the link'. Then change 'Viewer' to 'Editor' and click 'OK'. Then send the link for each team's slides to all team members. This can all be done in advance as there are no questions on the Answer Sheet Slides.</p>
Team Paper	Send the team paper file to all students when it is time to start.
Crossnumber Puzzle	Send the crossnumber puzzle file to all students when it is time to start.
Logic Puzzle	Send the logic puzzle file to all students when it is time to start. Note that the Answer Sheet Slides contain extra answer sheets for the logic puzzle.
Relay	<p>We have Relay Question Slides that can be used for students to view their relay questions. The slides can be found here: Relay Question Slides.</p> <p>Make a copy of the Relay Question Slides and then share it with each student so they can view (but not edit) the slides. See Answer Sheets instructions for how to make a copy and share it (but <i>do not</i> change 'Viewer' to 'Editor' this time). This can all be done in advance as the questions are initially covered up.</p>



Team Paper: Approximately 30 - 40 minutes

1. The paper contains 15 problems of increasing difficulty. Team members are encouraged to collaborate when solving the problems and should decide on a strategy for sharing the work. It is unlikely that there will be enough time for everyone to do every question.
2. Final answers are to be written on the Team Paper Answer Sheet.

Crossnumber Puzzle: Approximately 20 - 30 minutes

1. The team should divide themselves into two pairs; one pair will take the across clues and the other pair will take the down clues. The team will write their answers on the shared Crossnumber Puzzle Sheet as they work through the puzzle.
2. The crossnumber puzzle is designed so that some clues make it possible to find a number directly, some clues rely on an answer from another clue, and other clues require a partially completed puzzle board. Since each pair within a team is working on a different set of clues, the pairs will need to work together to completely solve the puzzle.
3. If teams are struggling to start the puzzle, teachers can direct them to Across Clues 15, 16, 18, and 23, or Down Clues 9, 11, and 14.

Logic Puzzle: Approximately 20 - 30 minutes

1. Students use the clues to solve the puzzle. Note that the clues are not given in a specific order, and at times students will need to combine the information given in several different clues.
2. Students can work through the puzzle individually, in pairs, or as a team. Answer sheets are provided for all students so team members can work individually and then compare their work in order to find a solution they all agree with.
3. Students are encouraged to use the answer sheet to write any information they know from the clues. This could include putting more than one name in a box, or indicating that two particular boxes must or must not contain the same name. This will help them reach the final answer.
4. If students are struggling to start the puzzle, teachers can direct them to Clues 2, 5, and 6.
5. Teams hand in only one Logic Puzzle Answer Sheet.

Relay: Approximately 5 - 10 minutes per relay

1. The “Practice Relay” is intended to be used as a practice round so students can understand the way the relay works. The questions in the Practice Relay are easier than the rest of the relay questions. Also, Player 1’s questions are the easiest in all relays.



- Each team member is assigned a number: 1, 2, 3, or 4. Each number corresponds to a specific problem in each relay. Players 2, 3, and 4 require the answer from Players 1, 2, and 3, respectively, to solve their problem. This is indicated in the problem with the phrase “Replace N below with the number you receive.” However, Players 2, 3, and 4 should be able to do some work on their problem while they’re waiting for the answer from their teammate.
- The four team members should not see any of the relay problems in advance and should not talk to each other during the relay. The remaining instructions will differ for in-person and virtual classrooms, as shown below.

In Person

- Before the relay starts, each student should have their relay problem face down in front of them.
- Once the relay starts, all players can flip over their paper and start working on their problem. *Even Players 2, 3 and 4 should be able to do some work on their problem right away.*
- When Player 1, Player 2, or Player 3 thinks they have the correct answer to their problem, they record their answer on the answer sheet and pass the sheet to the next player. Students should write only the numeric part of their answer and **not** include any units. When Player 4 thinks they have the correct answer to their problem, they record their answer on the answer sheet and wait for their teacher to check it.
- If all four answers are correct, the relay is complete! Otherwise, the teacher will mark the relay as incorrect and pass the answer sheet back to Player 1 so the team can try again. The answer sheet has space for two attempts for each relay.

Virtual

- Before the relay starts, all students should have the Relay Question Slides open to their relay problem and the Answer Sheet Slides open to the Relay Answer Sheet. *The problems in the Relay Question Slides are covered by boxes that only the teacher can remove.*
- Once the relay starts, the teacher quickly removes the four boxes covering each problem in that relay. At this time, all players can start working on their problem. *Even Players 2, 3 and 4 should be able to do some work on their problem right away.*
- When players think they have the correct answer to their problem, they record their answer on the Answer Sheet Slide so their teammates can see. Students should write only the numeric part of their answer and **not** include any units. After a team has put all four answers on their Answer Sheet Slide, the teacher can check their answers.
- If all four answers are correct, the relay is complete! Otherwise, the teacher will mark the relay as incorrect so the team can try again. The answer sheet has space for two attempts for each relay.