

Background content: Prior to doing this activity, students should have working knowledge of the following:

- Parent functions, such as $f(x) = x$, $f(x) = x^2$, $f(x) = x^3$, $f(x) = x^4$
- Transformations: reflections, shifts, shrinks, stretches

Philosophy behind this activity:

This activity evaluates students' knowledge with basic transformations by having them determine the type of transformation that has occurred or finding the equation that matches the type of transformation described on their card. Since this is a partner matching activity, it creates discussion between students and helps students self-assess their understanding of transformations.

Learning Goals:

1. Determine what type of transformation occurred to a given function
2. Graphing the given function and its transformation.

Implementation Notes:

1. 40 cards/20 partnered sets are provided and will need to be modified if the class size is smaller/larger.
2. At the start of the activity, review basic transformations with the class. Depending on where there may be gaps in students' knowledge, practice graphing problems together.
3. Create an example of what two matching cards will look like and share this with the classroom just before handing out the cards.
4. Give out one card to each person and give students 1-2 minutes to think about the type of card they will be looking to match with.
5. After all of the students have matched, it may be worth asking the class which cards were most difficult to match and why.
6. Collect all of the cards and redistribute for another round.