

## Assembly Instructions

### Sticker Application Instructions

You have two identical gray pieces in your kit. Both have a distinct A impression on one side. On the back side of each, a faint A may or may not be visible.

For some of the activities, your students will use the gray piece with the distinct A side face up, as shown on the right side of the photos. For other activities, they will use the other gray piece, which should be flipped to its back side. The A appears faint or not visible on the back side, as shown on the left side of the photos. Stickers will be attached to the gray piece with the faint or not visible A that is shown on the left of the photos.

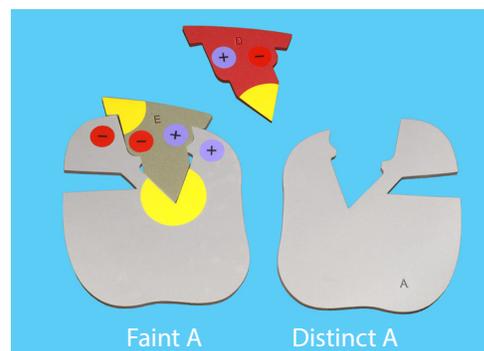
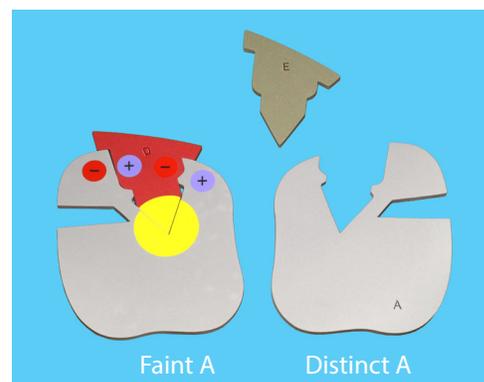
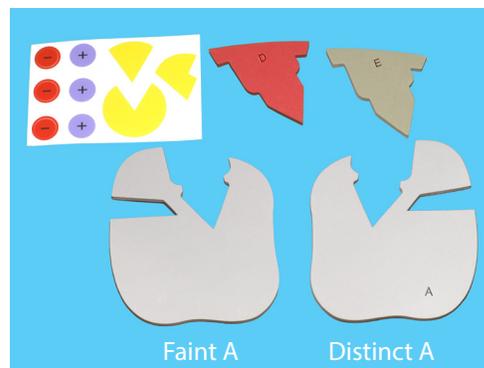
Start with 2 gray A pieces, 1 red D piece and 1 tan E piece, arranged as shown in the photo to the right.

Insert the red D piece into the gray A piece. Again, note that the letter D should be prominent on the red piece and the A is faint or not visible on this side of the gray piece.

Apply the two yellow stickers and the plus and minus sign stickers to match the photo. The yellow stickers should form a complete circle. The plus and minus stickers represent acidic and basic sidechains and show a neutralized state when the red D piece is inserted into the gray piece.

Insert the tan E into the gray piece with attached stickers. The E should be prominent on the tan piece and again, the A is faint or not visible on this side of the gray piece.

Apply the remaining yellow, plus and minus stickers to match the picture. The yellow sticker **should not** connect to the three-quarter yellow sticker on the gray piece. The plus and minus signs should be the same on each side, indicating that two acidic and two basic sidechains will repel each other.



**Teacher Notes, Student Handout and other resources at**  
[3dmoleculardesigns.com/Teacher-Resources/Enzymes-in-Action-Kit.htm](http://3dmoleculardesigns.com/Teacher-Resources/Enzymes-in-Action-Kit.htm)