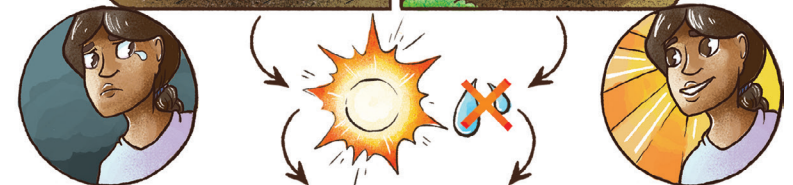
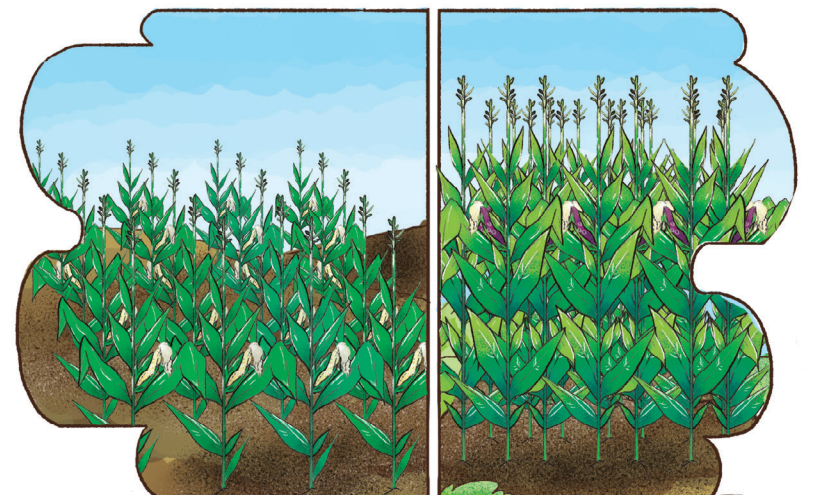
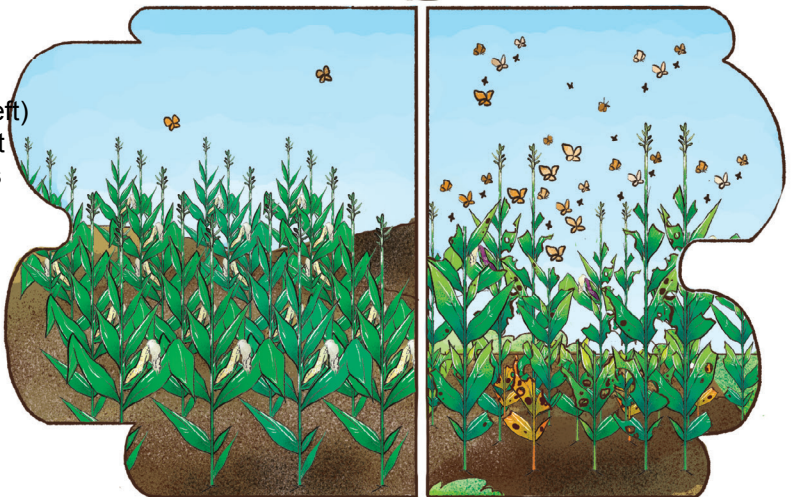


Lesson: It may be possible to combine the best aspects of two crop varieties into a single new variety (part 1).

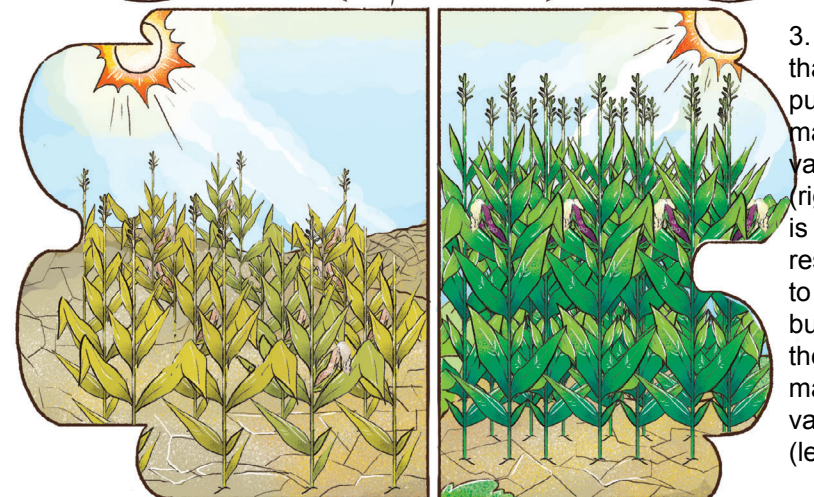
1. Example: Imagine two varieties of maize (white, purple)



2. Imagine the the white maize variety (left) is tolerant to insects but not the purple maize variety (right)



3. Imagine that the purple maize variety (right) is resistant to drought but not the white maize variety (left)

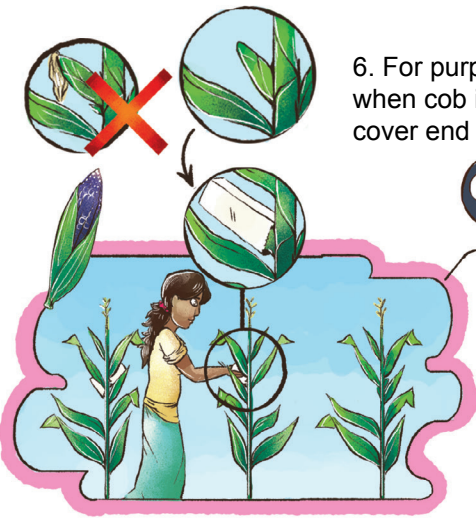


Lesson: It may be possible to combine the best aspects of two crop varieties into a single new variety (part 2).

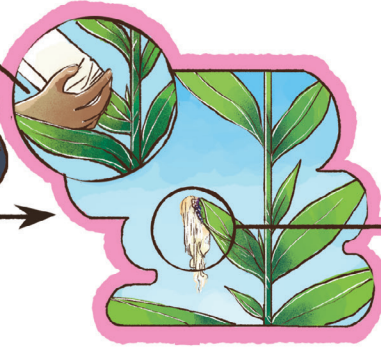
4. It may be possible to create a new maize variety which has the desired traits (e.g. insect resistance and drought resistance) from two varieties: like two parents creating a child



5. Purchase bags to cover cob and tassel (top of plant)



6. For purple variety, when cob is young, cover end with bag



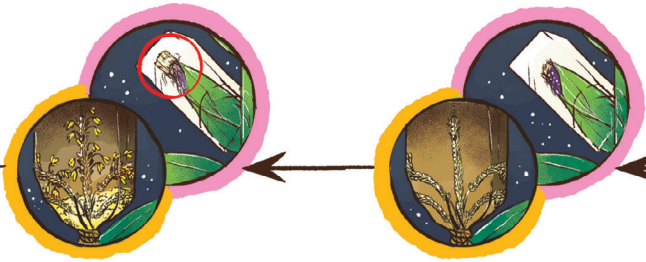
7. For purple variety, one day before, cut silks with knife and place bag back on cob



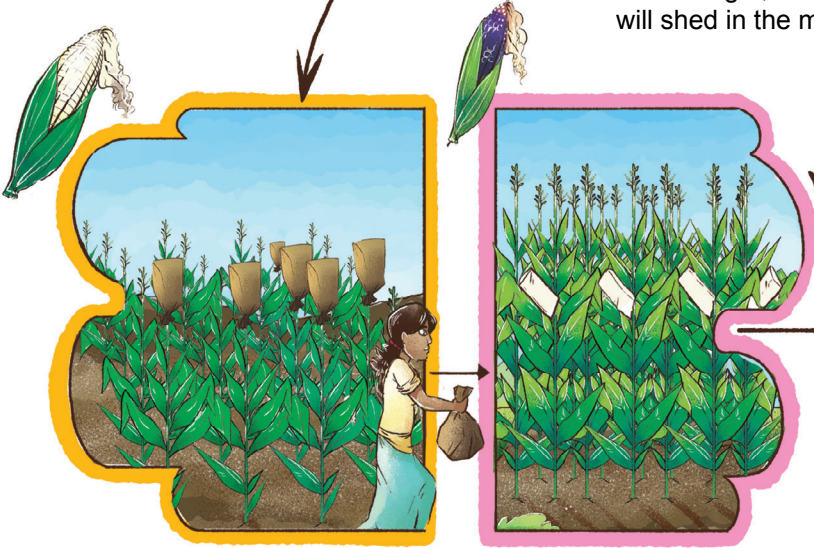
8. For white maize variety one night before, place bag on top, close bottom



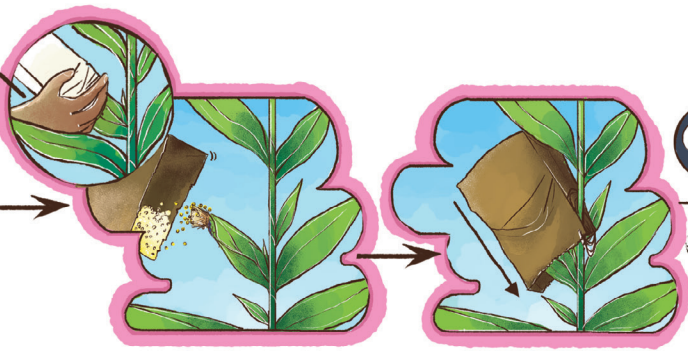
9. Overnight, the silks will grow. Pollen will shed in the morning into the top bag



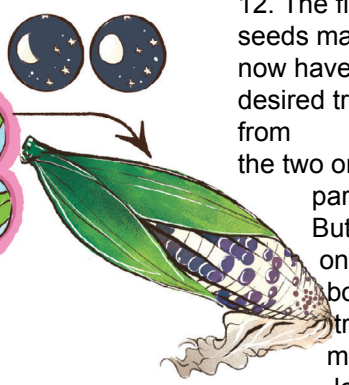
10. Collect bag of pollen in the mid-morning from white variety.



11. Sprinkle pollen onto silks of purple variety and cover

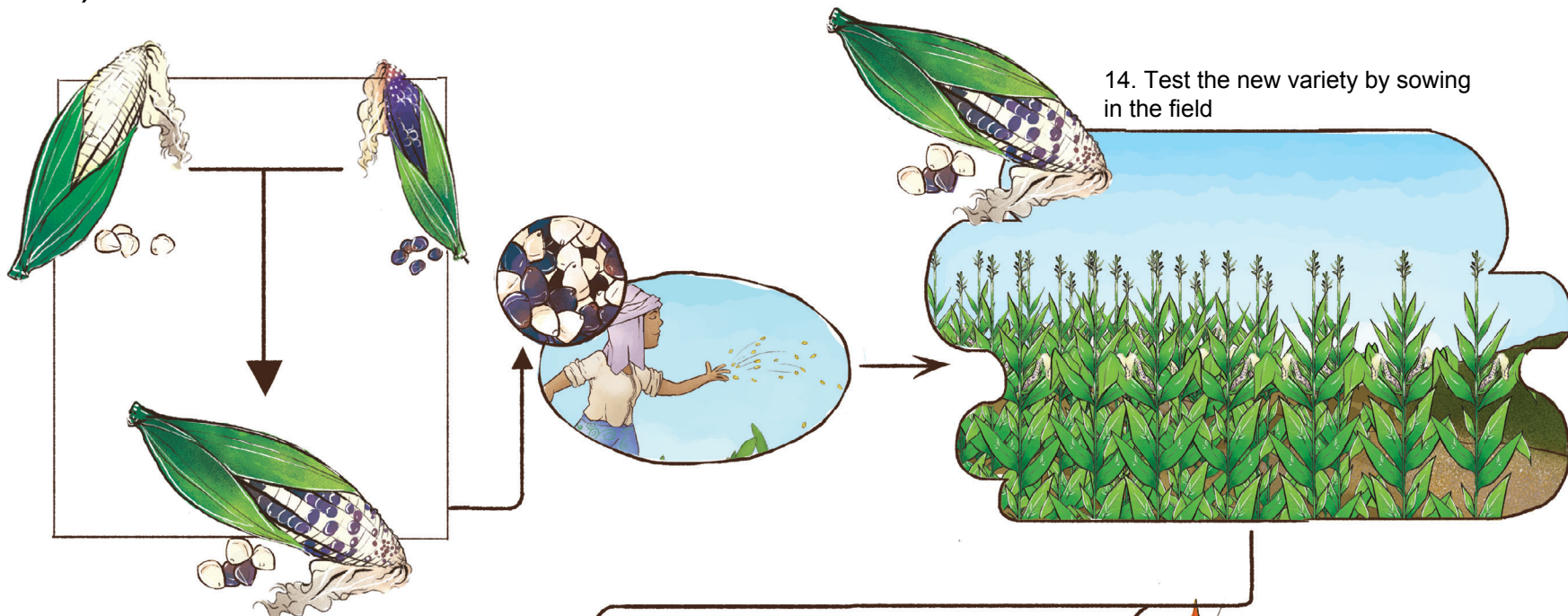


12. The final seeds may now have the desired traits from the two original parents. But also one or both traits may be lost

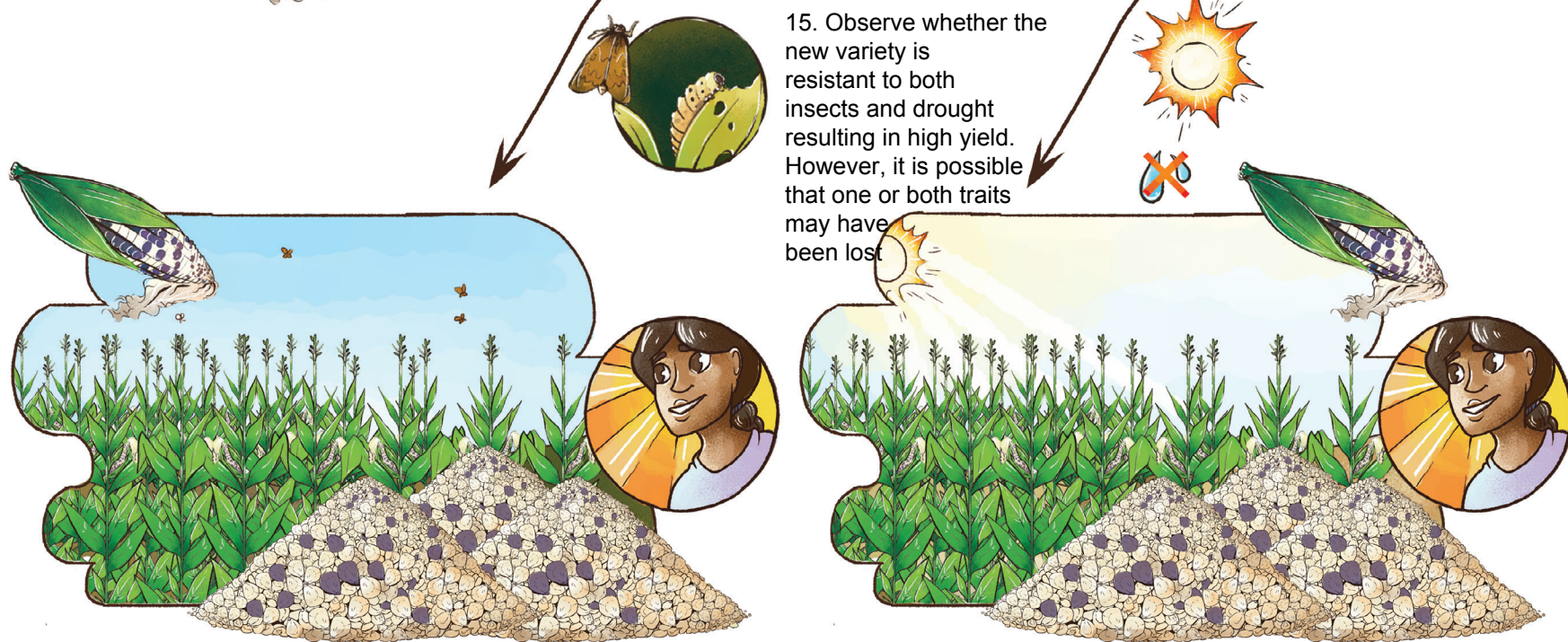


Lesson: It may be possible to combine the best aspects of two crop varieties into a single new variety (part 3).

13. To review, as an example, the white maize variety (resistant to insect) and purple maize variety (resistant to drought) were used to create a new child with the hope that the child would have both good traits.



14. Test the new variety by sowing in the field



15. Observe whether the new variety is resistant to both insects and drought resulting in high yield. However, it is possible that one or both traits may have been lost