

ACTIVITY IA6.3: Decuple Tag

Intended learning: To identify the nearest decuples surrounding a number.

Instructional mode: Shorter, reproductive practice for small groups or whole class.

Materials: Chalkboard with a row of 9 trees getting progressively larger from left to right.

Description: This activity is introduced to the students by describing the context of playing the game of tag. *How many of you have ever played tag? You know the game in which someone is 'it' and that person is trying to tag the others so someone else will be 'it'. Usually when you play there are some bases that keep a person safe from being tagged. Let's say there was a game of tag in a field and all the trees in this row are bases. If I was here [point to the space between the third and fourth tree] trying to get to base and 'it' was bearing down on me, which base do you think I would attempt to reach? Yes, I would probably head for one of the nearest trees on either side of me, depending on where 'it' was. Let's suppose these trees have numbers painted on the trunks. Write the decuple numbers sequentially with 10 on the smallest tree and 90 on the largest tree. Write 55 between the trees with 50 and 60. Which two bases are the best options for 55? How about 87? [Do not indicate where 87 would be.] Yes, 90 is closest, but if 'it' is coming from that direction, what would be 87's next best option? Yes, 80 would be the closest base in the other direction. Continue with other numbers; have students identify the next decuple on each side of given numbers.*

Responses, variations and extensions:

- Students frequently struggle to identify the decuple numbers on either side of a given number. The tag among trees context provides a scaffold to student reasoning about the numbers.
- A variation is to have higher decuple bases (i.e. 210, 220, 230, ...) or centuples as bases (200, 300, 400, ...).
- This activity lays a foundation needed for adding and subtracting through ten.
- Another variation of this activity is to identify the single closest tree to each given number to introduce the notion of rounding to the nearest decuple or centuple number.

Acknowledgement: This activity is modified from a task designed by Jason Knight, Elementary Mathematics Specialist with Harford County Public Schools, Maryland, USA. Used with permission.