

ACTIVITY IA6.9: Screened Tasks with Two Collections of Mini Ten-frames

Intended learning: To add and subtract two 2-digit numbers using mental strategies of jump, split or split-jump

Instructional mode: Longer, inquiry mode for individuals or small groups.

⑤ **Materials:** Mini ten-frames, two screens such as pieces of cloth or foam sheets.

Description: Briefly display and then screen a collection representing 32 with mini ten-frames. *I have 32 here.* Screen the collection. *If I add 24 more here* [create a second collection of 24 and then screen], *how much will there be altogether?* [Gesture with hand to both collections.] *How do you know?* Notate student thinking using the empty number line or a series of equations so that students can compare strategies.

Responses, variations and extensions:

- Notating student strategies using the ENL or a series of equations can be very helpful in communicating strategies to other students. The split strategy should not be notated with the ENL. Rather a series of equations or drop-down notation better notates the split strategy.
- As new strategies emerge, they can be named. This facilitates students' discussions of the strategies.
- Progression through a series of tasks can elicit particular strategies. For example, the jump strategy is likely to emerge during the following progression of problems: $28 + 10$, $28 + 20$, $28 + 30$, $28 + 34$.