## Lesson 15: Estimation Exploration

* Let’s create an Estimation Exploration.

### Warm-up: Estimation Exploration: Umbrellas

How many umbrellas are there?



Record an estimate that is:

|  |  |  |
| --- | --- | --- |
| too low | about right | too high |
|  |  |  |

### 15.1: Design Your Estimation Exploration

1. Find an image that would encourage your classmates to estimate the total number of an item using strategies for multi-digit multiplication.
2. Fill in the possible estimates students might make.

* Record an estimate that is:

|  |  |  |
| --- | --- | --- |
| * too low | * about right | * too high |
|  |  |  |

### 15.2: Facilitate Your Estimation Exploration

1. Display your image for your classmates.
2. Ask them, “What is an estimate that’s too high?” “Too low?” “About right?”
3. Give them a minute of quiet think time.
4. Give them a minute to discuss together.
5. Have them share estimates.
6. Record their ideas.



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