**Standard of Learning (SOL) K.11a**

*The student will collect, organize, and represent data.*

**Grade Level Skills:**
- Collect data on categories identified by the teacher and/or student (e.g., number of siblings, types/numbers of pets, types of flowers in the garden). Data points, collected by students, should be limited to 16 or fewer for no more than four categories.
- Represent data by arranging concrete objects into organized groups to form a simple object graph.
- Represent gathered data, using pictures to form a simple picture graph (e.g., a picture graph of the weather for a month).
- Represent gathered data in tables (vertically or horizontally).
1. Teacher reads the following to the student:

   “Mrs. Clark asked her class to name their favorite treat. She drew a picture for each vote. Count the pictures and record the data in the table.”

   ![Favorite Treats](image)

<table>
<thead>
<tr>
<th>Favorite Treats</th>
</tr>
</thead>
<tbody>
<tr>
<td>cupcake</td>
</tr>
<tr>
<td>Ice cream</td>
</tr>
<tr>
<td>candy</td>
</tr>
</tbody>
</table>
2. Teacher reads the following to the student:

“Next, Mrs. Clark asked the class how they felt about rainy days.

- 6 students did not like rainy days.
- 2 students did like rainy days.

Draw happy and sad faces in the picture graph below to show their answers.”

![Rainy Days Picture Graph](image)
1. Teacher reads the following to the student:

“Mrs. Clark asked her class to name their favorite treat. She drew a picture for each vote. Count the pictures and record the data in the table.”

```
Favorite Treats

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>cupcake</td>
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</tr>
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<tr>
<td>candy</td>
<td></td>
</tr>
</tbody>
</table>
```

Some students may count each row instead of the different types of treats separately. They may have more difficulty counting and recording data that is not already grouped for them. These students may need additional practice with sorting by one attribute and with one-to-one correspondence when counting. Additional experiences sorting and counting objects will be beneficial to students struggling in these areas.
3. Teacher reads the following to the student:

“Next, Mrs. Clark asked the class how they felt about rainy days.

- 6 students did not like rainy days.
- 2 students did like rainy days.

Draw happy and sad faces in the picture graph below to show their answers.”

Students may confuse the two representations and/or the data and draw 6 smiley faces and 2 sad faces. They may also draw a face for what they feel about rainy days. This would show a misunderstanding of how picture graphs are used to represent gathered data. These students would benefit from more experiences collecting and representing data. Other students may struggle to record 6 sad faces as they are still struggling with one-to-one correspondence indicating that additional opportunities to count and represent quantities may be helpful.