

Recording Stars

Activity Length: 10-15 minutes per activity

Intended Learning Outcomes:

4th grade standards:

4. Communicate Effectively Using Science Language and Reasoning
 - b. Report observation with pictures, sentences and models

Skills: Observation, Recording

Lesson Objective:

Model a number of different ways of recording.

All scientific recording needs to be detailed and accurate.

Vocabulary:

Record - to write/draw/model observations

Graphic organizers - a visual way of displaying information

Descriptive language - the use of adjectives and adverbs to give more accurate explanation of features

Scientific diagram - a simple line drawing of an object that contains written labels of features

Materials Required:

- One painting with many details that can either be projected on the board or printed and distributed
- One object for every two students - objects with obvious and not so obvious features for students to draw
- Pencil and science notebook or loose leaf paper

Background information:

Learning how to record and share information in a meaningful and accurate way is an important skill for all scientists as this is how they communicate their new discoveries and research in the science community. It is important to teach students that there are a variety of different ways of recording and they must always be clear and detailed in their recordings.

If your class is attending Junior Science Academy, students will be encouraged to record their observations and inferences using a variety of different recording styles including sentences, T-Charts, Venn diagrams and/or bullet point lists. For students to successfully participate in the inquiry activities, it is beneficial for them to practice these skills beforehand.



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Introduction:

Explain that you will show students a painting for one minute. During this minute they will need to observe it closely and remember as much detail as possible. After the observation time, they will then have to write a dot point list of all the things they remember.

Show the painting for one minute. Then ask students write down all that they remember about the painting.

Record a list on the board of all the details that the students remember. Probe them about contour, shape, size and placement.

Show the painting again – discuss what the students remembered. What did the students miss? How accurate were they?

Ask what could they do to improve how much detail they remember. Record students' ideas on the board.

Explain that one of the most important parts of science is to record observations, questions, inferences and conclusions accurately and with detail. Scientists do this in similar ways by writing, drawing, labeling, measuring, using charts, graphs, and descriptive language. Recording is the skill they are going to be practicing today.

Activity:

Scientific Diagram

1. Students to divide into pairs. Distribute one object to each pair.
2. Explain that scientific diagrams are simple line drawings that clearly identify all features of the object. It is important to take time with this type of recording to ensure that it is detailed and accurate.
3. Explain that scientific diagrams use labels to provide extra details for the person looking at the drawing. Labels could include:
 - Descriptive words to draw attention to specific details
 - Observations that cannot be recorded through drawing (texture, smell, etc.)
 - Measurements (weight, length, height, etc.)
 - Questions and inferences about the object
3. Model drawing a scientific diagram of an object complete with labels
4. Give students approximately 5 minutes to do draw a scientific diagram of their object
5. With their partner students compare their scientific drawings and identify similarities and differences between their drawings. What did they draw accurately? What features did they miss?



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Venn Diagram

1. Explain that graphic organizers can also be a useful way of recording observations and inferences. In this activity they will use a Venn diagram, a great tool for comparing similarities and differences between two objects.
2. Model how to draw a Venn diagram. As a class complete the graphic organizer with the similarities and differences for two objects.
3. Student pairs combine to form a group of four. As a group, students complete a Venn diagram for their two objects.
4. As a class discuss what similarities and differences they observed. What did they complete accurately? What features did they miss?

Conclusion

Discuss the students likes and dislikes from all the different ways of recording that they practiced today.
Discuss why it is important for scientists to record their ideas and make sure that they are detailed and accurate in their recording.



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