



## Science Deck of Cards

### Overview

There are universal elements that all scientists use when they conduct their work.

Students will be introduced to the 8 parts of science and they will assemble their own deck of science cards.

Please note: This lesson would be a good activity for English Language Learners prior to STARBASE.

### Performance Objectives

The student will be able to:

- Write an original sentence using the vocabulary words appropriately.
- Create a working definition of each vocabulary word in their own words.
- Assemble their deck of cards so that they can be used at STARBASE or in the classroom.

### Alignment with MN Academic Standards

#### Language Arts

*Reading and Literature*  
Vocabulary Expansion

#### Science

*History and Nature of Science*  
Scientific World View  
Scientific Inquiry

### Materials Needed

- Copy of the Science Cards for each student.
- Dictionary, thesaurus, science books.



### Method

**Time Needed: 30 - 40 minutes**

#### Introduction -

1. Generate a list of different types of sciences or scientists around the world (i.e. biology, chemistry, aerospace, etc).
2. Ask students what kinds of activities these scientists do in their jobs. Many students associate scientists with chemicals, lab coats, goggles, and “potions”. This will help expand their working definition of science and scientist.

#### Learning Activities -

3. Introduce the 8 ways that students will be conducting science while they are at STARBASE: question, hypothesis, experiment, data collection, data analysis, observation, conclusion and variable. Ask students if any of their ideas from the list match these words.
4. Pass out the science cards to each student and have them cut them out and separate the cards. You may want to have an envelope or paper clip for each student to keep their cards together at the end.
5. Discuss each word: how to say it, what it means, how to describe it to someone else, etc.  
*See the “notes” section for the definitions that we use at STARBASE. You may choose to have students use a dictionary, thesaurus or other science books to create your own definitions.*
6. Either as a class or individually, have students write a sentence using the word. Students can write these sentences on a separate sheet of paper or on the back of the science card.
7. Make sure to bring these cards to STARBASE with you if you complete the activity before you come.

#### Possible Classroom Activities with the Cards-

- a. Spelling/vocabulary lists, alphabetize the words
- b. Partner with another student. One student shows the picture (covering up the word), the other student tries to pick the correct vocabulary word.
- c. Have pairs of students quiz each other. For example, read the sentence with the vocabulary word left out or read the definition.
- d. Start a STARBASE word wall. There will be many more words to add once your students come to the program.

### Notes

Question: a statement made by a scientist after observing something they do not understand.

Prediction: an educated guess.

Experiment: a process that allows a scientist to try and collect data to answer the question.

Data Collection: gathering information that will help answer the question.

Data Analysis: using information to make true statements about what has happened.

Observation: using any of the five senses to notice an event.

Conclusion: a statement that answers the original question.

Variable: a change in the experiment.



Science  
Cards



ASK A



QUESTION

MAKE A



PREDICTION

CHANGE A



VARIABLE

MAKE AN



OBSERVATION

DO AN



EXPERIMENT



COLLECT  
DATA

ANALYZE YOUR



DATA

MAKE A



CONCLUSION