

**Title:** Apollo 11 Cryptograph

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**Subject(s):** Language Arts, Science

**Topic(s):** Cryptography, Space Science, Biography, Moon

**Grade/Level:** 5-8

**Objective:**

By the end of this activity, students will be able to decipher a cryptograph and design their own cryptograph.

**Summary of Activity:** Cryptographs are word puzzles. Each letter in the puzzle represents another letter of the alphabet. Once certain letters are determined, then words can be deciphered and finally the entire puzzle.

**Time Allotment:** 30 minutes

**Procedures/Instructions:**

Have the students work individually or in pairs to decipher the puzzle.

**Answer:** "Houston, Tranquility Base here. The Eagle has landed." "Roger, Tranquility. We copy you on the ground. You've got a bunch of guys about to turn blue. We're breathing again. Thanks a lot."

**Extension:** Designing a Cryptograph

**Time Allotment:** 2-3 hours

**Procedures/Instructions:**

Have student or student pairs research a famous scientist, astronaut, or someone who has made a significant contribution to the space program. Along with a report, the student or group must turn in a cryptograph of an important quote from their subject.

**Instructional Materials:**

[Student Worksheet](#)

**Additional Resources (Web Links, File Attachments):**

NASA Apollo 11 History



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<http://history.nasa.gov/ap11ann/introduction.htm>

American Library Association's Great Web Sites for Kids: Biographies

<http://www.ala.org/ala/alsc/greatwebsites/greatwebsitesbiographies.htm>

Cryptograms for Kids

<http://cybersleuth->

[kids.com/sleuth/Fun\\_and\\_Games/Puzzles/Cryptograms/index.htm](http://cybersleuth-kids.com/sleuth/Fun_and_Games/Puzzles/Cryptograms/index.htm)

### **National Science or Mathematics Standards:**

Science

History and Nature of Science

CONTENT STANDARD G:

As a result of activities in grades 5-8, all students should develop understanding of

- Science as a human endeavor

### **Assessment Plan:**

Students must field test their "crypto" at home or with an assigned partner, and turn the results in to you, along with the code. (This prevents having to decipher all the puzzles in order to grade them.) Students learn the importance of being accurate when assigning letters. Cryptographs can be very frustrating if there is an error in the code.

# Apollo 11

Name: \_\_\_\_\_

A cryptograph is a puzzle made up of letters. Each letter in the puzzle represents another letter of the alphabet. By knowing word patterns and which letters are used more often than others, the puzzle can be solved. See if you can decode the message below...

As Apollo 11 descended toward the surface of the moon, an alarm sounded and the spacecraft's computer indicated it was receiving too much information. Ground controllers in Houston and astronauts in the spacecraft held their breath waiting to see if the Lunar Module would safely touch down on the surface of the Moon...



(What did the astronauts say next, and how did Mission Control respond? Decode the cryptograph below to find out.)

**“CKYDWKA, WTXAUYSGSWP HXDN CNTN. WCN  
NXZGN CXD GXAJNJ!”**

**“TKZNT, WTXAUYSGSWP. FN IKVP PKY KA WCN  
ZTKYAJ. PKY’MN ZKW X HYAIC KB ZYPD XHKYW  
WK WYTA HGYN. FN’TN HTNXWCSAZ XZXSA.  
WCXAED X GKW.”**

## Hints:

Each letter of the quote above represents another letter of the alphabet.

Think about the letters that are used most in everyday words.

Look for letters by themselves...what could they stand for?

Use the list of letters below to help you.

T=R
A=N

## Clues:

**A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**