

WHAT HAS COMET C-G  
REVEALED ABOUT OUR BEGINNINGS?

1  
00:00:17,830 --> 00:00:15,430  
right now we're about halfway through

2  
00:00:20,630 --> 00:00:17,840  
the rosetta mission we've arrived at the

3  
00:00:22,150 --> 00:00:20,640  
comet we've dropped a lander off

4  
00:00:24,630 --> 00:00:22,160  
one of the things we want to learn from

5  
00:00:27,349 --> 00:00:24,640  
the comet is where the water on the

6  
00:00:29,349 --> 00:00:27,359  
earth came from what primitive bodies

7  
00:00:31,349 --> 00:00:29,359  
may have brought water were comets

8  
00:00:33,270 --> 00:00:31,359  
responsible for bringing water to the

9  
00:00:35,750 --> 00:00:33,280  
earth

10  
00:00:38,229 --> 00:00:35,760  
fortunately water depending on where it

11  
00:00:39,510 --> 00:00:38,239  
is in the solar system has a distinct

12  
00:00:42,150 --> 00:00:39,520  
signature

13  
00:00:44,229 --> 00:00:42,160

we call the deuterium to hydrogen ratio

14

00:00:46,549 --> 00:00:44,239

the d h ratio we'll call that a

15

00:00:47,990 --> 00:00:46,559

different flavor of water and different

16

00:00:50,389 --> 00:00:48,000

objects in the solar system have

17

00:00:53,270 --> 00:00:50,399

different flavors

18

00:00:55,430 --> 00:00:53,280

earth has a very particular flavor so if

19

00:00:57,510 --> 00:00:55,440

our comet has the same flavor that would

20

00:00:59,670 --> 00:00:57,520

tell us that kuiper belt comets must be

21

00:01:01,590 --> 00:00:59,680

the place where the origin of earth's

22

00:01:03,270 --> 00:01:01,600

water is to be found

23

00:01:04,789 --> 00:01:03,280

it's exciting for me because it answers

24

00:01:08,390 --> 00:01:04,799

the question of how the solar system

25

00:01:11,510 --> 00:01:08,400

formed understanding what our roots are

26

00:01:12,550 --> 00:01:11,520

it turns out that the flavor of water on

27

00:01:15,350 --> 00:01:12,560

the comet

28

00:01:17,510 --> 00:01:15,360

does not match earth's water so we have

29

00:01:19,830 --> 00:01:17,520

to go back and rethink things the theory

30

00:01:21,270 --> 00:01:19,840

is not dead yet because there are many

31

00:01:23,350 --> 00:01:21,280

different comets out there and different

32

00:01:25,350 --> 00:01:23,360

orbits and so maybe some different

33

00:01:27,910 --> 00:01:25,360

comets are the ones that brought earth's

34

00:01:29,830 --> 00:01:27,920

water our solar system has so many bits

35

00:01:33,510 --> 00:01:29,840

and pieces that don't add up these bits

36

00:01:35,429 --> 00:01:33,520

of data are crucial to help us put the