



1
00:00:06,230 --> 00:00:03,830
nasa education wally take one and whoa

2
00:00:11,270 --> 00:00:06,240
hey wally we're not ready you're not on

3
00:00:14,709 --> 00:00:12,549
god

4
00:00:23,590 --> 00:00:14,719
guys are we ready

5
00:00:27,750 --> 00:00:25,830
so i see you've met our special guest

6
00:00:29,509 --> 00:00:27,760
thanks wally

7
00:00:30,950 --> 00:00:29,519
nasa's put people on the moon before and

8
00:00:33,190 --> 00:00:30,960
the lunar reconnaissance orbiter is

9
00:00:34,389 --> 00:00:33,200
mapping the moon so that we can go back

10
00:00:36,950 --> 00:00:34,399
now when you've looked at the moon from

11
00:00:38,630 --> 00:00:36,960
your backyard it looks really tiny so

12
00:00:40,709 --> 00:00:38,640
how does nasa put a spacecraft on

13
00:00:43,030 --> 00:00:40,719

something so small well that's because

14

00:00:45,190 --> 00:00:43,040

it's probably not as small as it looks

15

00:00:47,670 --> 00:00:45,200

so the question of the day is how big is

16

00:00:49,670 --> 00:00:47,680

the moon and to answer that we need to

17

00:00:51,830 --> 00:00:49,680

apply a proportion

18

00:00:53,830 --> 00:00:51,840

that's right wali a proportion is the

19

00:00:55,189 --> 00:00:53,840

relationship between things such as the

20

00:00:58,310 --> 00:00:55,199

relationship between the size of the

21

00:01:00,310 --> 00:00:58,320

earth and the size of the moon to find

22

00:01:02,709 --> 00:01:00,320

the actual diameter of the moon we can

23

00:01:04,310 --> 00:01:02,719

use two everyday objects to represent

24

00:01:07,429 --> 00:01:04,320

the relative sizes of the earth and the

25

00:01:12,710 --> 00:01:10,149

great idea guys a baseball is just about

26
00:01:14,070 --> 00:01:12,720
the right size for our moon now we need

27
00:01:26,149 --> 00:01:14,080
an earth

28
00:01:30,870 --> 00:01:28,630
wally so we could use the basketball as

29
00:01:32,950 --> 00:01:30,880
our earth and the baseball as our moon

30
00:01:35,030 --> 00:01:32,960
now a basketball is 24 centimeters in

31
00:01:36,950 --> 00:01:35,040
diameter and the baseball is seven and a

32
00:01:39,830 --> 00:01:36,960
half centimeters in diameter so let's

33
00:01:42,469 --> 00:01:39,840
apply our proportion

34
00:01:44,310 --> 00:01:42,479
over basketball equals x because that's

35
00:01:45,990 --> 00:01:44,320
what we're trying to find out over the

36
00:01:49,270 --> 00:01:46,000
earth's diameter and we know that

37
00:01:50,550 --> 00:01:49,280
because we live here so that's 12 756

38
00:01:52,550 --> 00:01:50,560

kilometers

39

00:01:55,429 --> 00:01:52,560

now cross multiply

40

00:01:57,350 --> 00:01:55,439

and solve for x

41

00:01:59,670 --> 00:01:57,360

so we just saw that the moon's diameter

42

00:02:03,749 --> 00:01:59,680

is about 3 900 kilometers but you should

43

00:02:07,749 --> 00:02:05,910

in any case the moon's plenty big to

44

00:02:09,430 --> 00:02:07,759

land a spacecraft to live and work on