



GOLD AWARD

1
00:00:07,510 --> 00:00:04,710
i'm don pettit i'm a nasa astronaut and

2
00:00:11,270 --> 00:00:07,520
i'm on the international space station

3
00:00:13,270 --> 00:00:11,280
we're currently about 240

4
00:00:19,429 --> 00:00:13,280
nautical miles above the surface of

5
00:00:19,439 --> 00:00:45,990
do

6
00:00:50,389 --> 00:00:48,709
space station is a serious place

7
00:00:53,670 --> 00:00:50,399
we're doing

8
00:00:56,229 --> 00:00:53,680
serious research scientific research and

9
00:00:58,549 --> 00:00:56,239
engineering research we have a

10
00:01:00,950 --> 00:00:58,559
regenerative life support system which

11
00:01:03,590 --> 00:01:00,960
is a fancy way of saying that we've got

12
00:01:05,030 --> 00:01:03,600
a toilet that you use and then a machine

13
00:01:06,710 --> 00:01:05,040

that goes chugga chugga chugga chugga

14

00:01:08,950 --> 00:01:06,720

chug and then you go to the galley and

15

00:01:10,550 --> 00:01:08,960

you make yourself a cup of coffee and

16

00:01:12,870 --> 00:01:10,560

that's exactly

17

00:01:14,469 --> 00:01:12,880

what you are thinking it is and this is

18

00:01:16,870 --> 00:01:14,479

the kind of engineering research that

19

00:01:19,030 --> 00:01:16,880

we're doing on space station it's needed

20

00:01:21,350 --> 00:01:19,040

so that when we go to mars we won't run

21

00:01:22,870 --> 00:01:21,360

out of water and of course

22

00:01:24,469 --> 00:01:22,880

not only would you have angry birds if

23

00:01:26,950 --> 00:01:24,479

you ran out of water you'd have angry

24

00:01:30,390 --> 00:01:26,960

human beings too

25

00:01:32,630 --> 00:01:30,400

i want to do some physics demonstrations

26

00:01:35,670 --> 00:01:32,640

that involve some of the things you

27

00:01:38,069 --> 00:01:35,680

might see in the angry birds game and of

28

00:01:42,630 --> 00:01:38,079

course i've got my angry bird here but

29

00:01:45,670 --> 00:01:43,670

well

30

00:01:47,830 --> 00:01:45,680

i'm not very good at art it's a good

31

00:01:49,670 --> 00:01:47,840

thing i decided to be a scientist and an

32

00:01:52,789 --> 00:01:49,680

engineer instead of an artist because

33

00:01:55,590 --> 00:01:52,799

i'd probably be starving by now

34

00:01:58,389 --> 00:01:55,600

okay here here is pig

35

00:01:59,990 --> 00:01:58,399

and of course pig is the arch enemy of

36

00:02:03,670 --> 00:02:00,000

angry bird

37

00:02:03,680 --> 00:02:06,709

some eggs

38

00:02:11,589 --> 00:02:09,830

add pig

39

00:02:14,150 --> 00:02:11,599

stole the eggs

40

00:02:16,390 --> 00:02:14,160

and don't ask me how i got the eggs on

41

00:02:19,110 --> 00:02:16,400

space station

42

00:02:20,630 --> 00:02:19,120

i've got a bungee spread across the

43

00:02:22,710 --> 00:02:20,640

hatch way

44

00:02:24,070 --> 00:02:22,720

and this bun jeep is kind of like a

45

00:02:27,030 --> 00:02:24,080

slingshot

46

00:02:29,990 --> 00:02:27,040

and i'm going to show the trajectory

47

00:02:34,550 --> 00:02:30,000

that red bird is going to have when i

48

00:02:38,390 --> 00:02:34,560

fire him with this orbital slingshot

49

00:02:41,030 --> 00:02:38,400

launching red bird into space well hey

50

00:02:42,949 --> 00:02:41,040

we're already in the space

51
00:02:45,270 --> 00:02:42,959
whoa look at that

52
00:02:47,190 --> 00:02:45,280
all the way down

53
00:02:50,550 --> 00:02:47,200
that's an example of a trajectory it's a

54
00:02:53,030 --> 00:02:50,560
straight line from our perspective here

55
00:02:54,710 --> 00:02:53,040
gravity will attract an object if it's

56
00:02:56,550 --> 00:02:54,720
moving in a straight line and it will no

57
00:03:00,470 --> 00:02:56,560
longer move in a straight line it gets

58
00:03:03,110 --> 00:03:00,480
bent and it goes in a curved trajectory

59
00:03:04,470 --> 00:03:03,120
and guess what astronauts have to worry

60
00:03:06,790 --> 00:03:04,480
about these things because if you're in

61
00:03:07,830 --> 00:03:06,800
a rocket and say you're trying to get

62
00:03:10,630 --> 00:03:07,840
from

63
00:03:13,430 --> 00:03:10,640

one orbit and rendezvous space station

64

00:03:14,949 --> 00:03:13,440

you end up going in curved trajectories

65

00:03:16,949 --> 00:03:14,959

and you need to know how to fire your

66

00:03:20,149 --> 00:03:16,959

rocket engines so that you can go from

67

00:03:22,070 --> 00:03:20,159

where you are to where you want to be

68

00:03:23,910 --> 00:03:22,080

and if you understand the math if you

69

00:03:26,869 --> 00:03:23,920

understand the physics

70

00:03:31,030 --> 00:03:26,879

it will allow you to go out and get a

71

00:03:32,869 --> 00:03:31,040

neat job a job sort of like mine where

72

00:03:33,990 --> 00:03:32,879

you're an astronaut and you can fly in

73

00:03:36,789 --> 00:03:34,000

space

74

00:03:38,470 --> 00:03:36,799

learn about these subjects in school you

75

00:03:41,030 --> 00:03:38,480

can also learn about these subjects

76

00:03:43,589 --> 00:03:41,040

while you're playing games

77

00:03:46,710 --> 00:03:43,599

what happens when

78

00:03:49,589 --> 00:03:46,720

something like an angry bird

79

00:03:50,789 --> 00:03:49,599

gets their eggs stolen

80

00:03:51,830 --> 00:03:50,799

by

81

00:03:56,309 --> 00:03:51,840

pig

82

00:03:58,390 --> 00:03:56,319

got exploded

83

00:04:02,070 --> 00:03:58,400

and we got to see all of this in a

84

00:04:04,390 --> 00:04:02,080

weightless environment which is what the

85

00:04:07,910 --> 00:04:04,400

angry bird space game is going to be