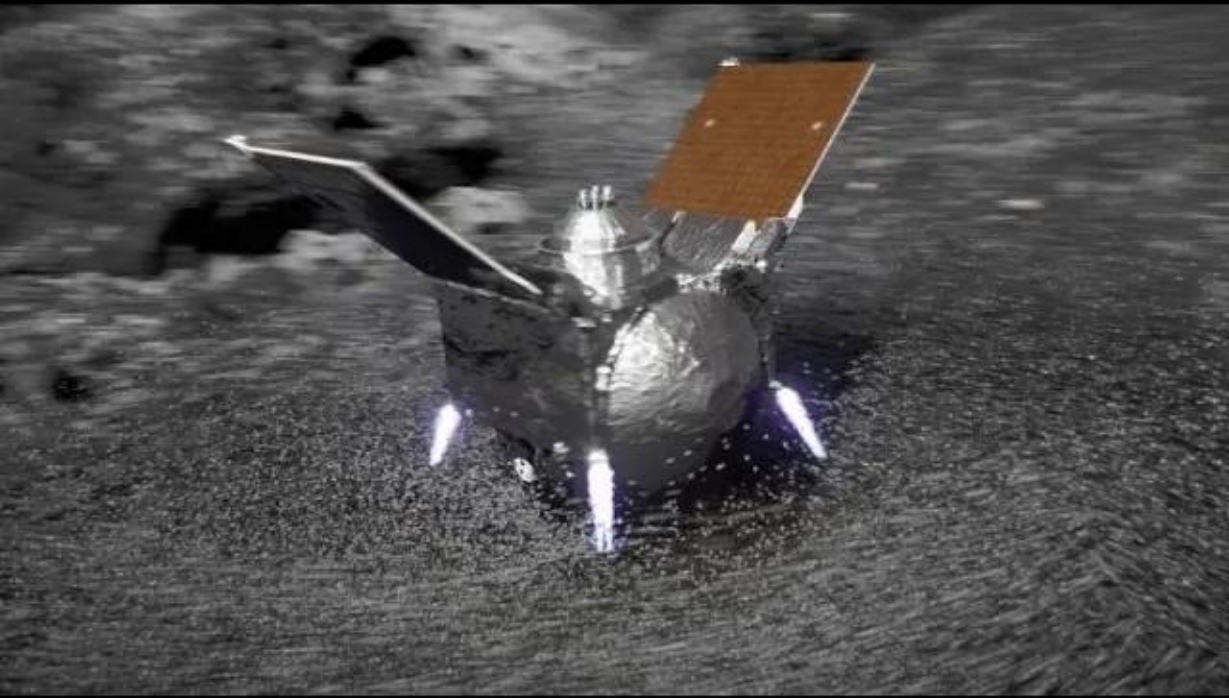

1
00:00:00,000 --> 00:00:03,203
[Music] On October 20, 2020,
NASA’s OSIRIS-REx spacecraft

2
00:00:03,203 --> 00:00:05,572
collected a sample of asteroid
Bennu.

3
00:00:07,073 --> 00:00:10,043
The event revealed surprising
details about Bennu’s surface

4
00:00:10,043 --> 00:00:11,911
and near-subsurface.

5
00:00:12,812 --> 00:00:16,149
[Dramatic music]

6
00:00:17,250 --> 00:00:19,352
One second after contact,
OSIRIS-REx injected Bennu

7
00:00:19,352 --> 00:00:20,820
with pressurized nitrogen gas…

8
00:00:20,820 --> 00:00:23,523
Causing an explosion of
particles and driving loose

9
00:00:23,523 --> 00:00:25,225
material into its sample
collector.

10
00:00:25,425 --> 00:00:27,961
Nine seconds after contact,
thrusters on board OSIRIS-REx

11
00:00:27,961 --> 00:00:30,063
halted its descent into Bennu…

12
00:00:30,063 --> 00:00:32,999
Pushing it away from the
asteroid, and blasting loose

13
00:00:32,999 --> 00:00:35,001
material from the sample site.

14
00:00:36,970 --> 00:00:39,939
The spacecraft's arm had sunk
almost half a meter

15
00:00:39,939 --> 00:00:41,608
beneath the surface…

16
00:00:41,608 --> 00:00:44,210
Far deeper than expected,
confirming that

17
00:00:44,210 --> 00:00:46,546
Bennu's surface is incredibly
weak.

18
00:00:48,515 --> 00:00:51,484
Sixteen seconds after contact,
the arm fully reemerged

19
00:00:51,484 --> 00:00:53,153
from the subsurface.

20
00:00:53,153 --> 00:00:55,688
OSIRIS-REx had collected a
handful of material

21
00:00:55,688 --> 00:00:58,124
and kicked up roughly six tons
of loose rock.

22
00:01:01,194 --> 00:01:04,164

Thirty seconds after contact,
it shut off its thrusters

23
00:01:04,164 --> 00:01:06,466
and drifted away from Bennu.

24
00:01:06,966 --> 00:01:09,969
OSIRIS-REx will return its
sample to Earth