1
00:00:14,030 --> 00:00:12,260
so stars vary in their compositions and

2
00:00:15,980 --> 00:00:14,040
this can affect their stellar properties

3
00:00:18,470 --> 00:00:15,990
but what about the planets orbiting

4
00:00:20,600 --> 00:00:18,480
those stars today we're going to talk

5
00:00:24,679 --> 00:00:20,610
about rocky planet composition using

6
00:00:26,749 --> 00:00:24,689
cookies planets like cookies are formed

7
00:00:31,159 --> 00:00:26,759
from an initial recipe of ingredients

8
00:00:33,979 --> 00:00:31,169
including oxygen magnesium carbon and

9
00:00:35,720 --> 00:00:33,989
silicon in our solar system these

10
00:00:38,120 --> 00:00:35,730
ingredients are combined in well-known

11
00:00:40,479 --> 00:00:38,130
portions but what if we change the

12
00:00:43,520 --> 00:00:40,489
proportions and try different recipes

13
00:00:46,040 --> 00:00:43,530

for high carbon to oxygen ratio will

14
00:00:48,139 --> 00:00:46,050
make cookies with no eggs at all planets

15
00:00:55,279 --> 00:00:48,149
with lots of carbon will form carbide

16
00:00:57,319 --> 00:00:55,289
minerals which are hard and brittle now

17
00:00:59,270 --> 00:00:57,329
let's change the magnesium to silicon

18
00:01:05,270 --> 00:00:59,280
ratio by varying the amount of butter

19
00:01:07,790 --> 00:01:05,280
and flour planets with extra magnesium

20
00:01:11,870 --> 00:01:07,800
to silicon will have very runny olivine

21
00:01:14,000 --> 00:01:11,880
rich mantels with the right proportions

22
00:01:20,630 --> 00:01:14,010
and the right ingredients we can make

23
00:01:23,960 --> 00:01:20,640
delicious earth-like cookies to learn

24
00:01:26,150 --> 00:01:23,970
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