



Goddard
GLOSSARY
ac•cre•tion

1

00:00:00,366 --> 00:00:04,166

Accretion. In short, accretion means growth by accumulation.

2

00:00:04,500 --> 00:00:08,100

Land on Earth can form from accretion of soil deposited by rivers or sea.

3

00:00:08,500 --> 00:00:11,900

Planetary bodies can also grow from accretion as gravitational forces

4

00:00:11,900 --> 00:00:14,100

attract debris and other matter.

5

00:00:14,100 --> 00:00:16,366

But we want to talk about accretion in astronomy.

6

00:00:16,366 --> 00:00:18,666

Accretion is one way we can see black holes.

7

00:00:18,966 --> 00:00:21,066

Black holes have intense gravitational mass,

8

00:00:21,066 --> 00:00:23,833

pulling in everything in the vicinity, including light.

9

00:00:24,200 --> 00:00:27,533

Without that light, we can't see black holes, but we can see

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00:00:27,533 --> 00:00:30,633

the disk-shaped flow of gas and dust that forms around some black holes.

11

00:00:30,900 --> 00:00:33,133

We call these accretion disks,
and they can form around

12

00:00:33,133 --> 00:00:36,033

black holes of any size,
as well as around some stars.

13

00:00:36,600 --> 00:00:40,700

Material in black hole accretion disks
is really hot, like millions of degrees.

14

00:00:41,066 --> 00:00:42,233

This is caused by the collision

15

00:00:42,233 --> 00:00:45,433

of particles in the accretion disk
as they are pulled into their black hole.

16

00:00:46,200 --> 00:00:49,200

These collisions can cause
accretion disks to release X-rays,