



1
00:00:08,260 --> 00:00:04,120
[music, sound effects]

2
00:00:08,280 --> 00:00:12,350
[music] Narrator: You've probably

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00:00:12,370 --> 00:00:16,450
heard the word "engineering" before, and you've probably been told it's pretty important.

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00:00:16,470 --> 00:00:20,530
But what exactly is engineering, and who exactly is

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00:00:20,550 --> 00:00:24,600
an engineer? Engineers are people who design and build things that we use

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00:00:24,620 --> 00:00:28,670
every day. However, they don't just go building the first thing that comes to mind.

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00:00:28,690 --> 00:00:32,710
They work hard to make something we NEED, and they want to do a good job of it.

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00:00:32,730 --> 00:00:36,750
So, how do engineers decide what they need to build? Well, in most cases, they

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00:00:36,770 --> 00:00:40,780
start with a question. Here's an example: Say you live on a space station,

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00:00:40,800 --> 00:00:44,930
and something outside breaks. Obviously, you need to go outside

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00:00:44,950 --> 00:00:49,040
and fix it, but how exactly do you do that? That's a

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00:00:49,060 --> 00:00:53,180
great question for engineers. Once they've got a good handle

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00:00:53,200 --> 00:00:57,300

on things, they'll start imagining ways to solve the problem. They'll

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00:00:57,320 --> 00:01:01,380

come up with all kinds of ideas, and some that might even seem a little...

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00:01:01,400 --> 00:01:05,470

...crazy! That's important because sometimes the craziest idea

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00:01:05,490 --> 00:01:09,560

is the one that works best. After coming up with these ideas, they'll

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00:01:09,580 --> 00:01:13,620

pick a few that make the most sense. Next, they'll start drawing a plan.

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00:01:13,640 --> 00:01:17,670

Depending on the idea, the plan can be very simple...

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00:01:17,690 --> 00:01:21,700

...or very complicated. But the important part is the plan itself.

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00:01:21,720 --> 00:01:25,740

A good plan helps engineers focus on what they're making--and most

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00:01:25,760 --> 00:01:29,750

importantly, why. Now, the engineers

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00:01:29,770 --> 00:01:33,870

get to have some real fun. They get to create something.

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00:01:33,890 --> 00:01:38,000

It's important to stick to the plan, though, so the idea doesn't go too far off-course.

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00:01:38,020 --> 00:01:42,120

Once they've built it, then they have to test it! Experimentation

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00:01:42,140 --> 00:01:46,220

is very important because it's here that engineers learn

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00:01:46,240 --> 00:01:50,320

what works, and, well...what doesn't. And while it's great when something

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00:01:50,340 --> 00:01:54,410

goes right on the first try, it's actually good when things don't,

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00:01:54,430 --> 00:01:58,480

because that gives engineers a chance to go back and improve on their original idea.

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00:01:58,500 --> 00:02:02,520

And improve they will...until they've solved the problem. So, the next time

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00:02:02,540 --> 00:02:06,560

you've got a problem to solve, whether simple or complicated, there's probably

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00:02:06,580 --> 00:02:10,580

a team of engineers ready to create something to solve it. And

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00:02:10,600 --> 00:02:14,580

nobody solves engineering problems quite like NASA.

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00:02:14,600 --> 00:02:18,660

[music, sound effects]

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00:02:18,680 --> 00:02:22,700

[music, kids cheering]

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00:02:30,770 --> 00:02:26,730

[music]