# Fragebogen

## 1 General_Instruction

GEORG-AUGUST-UNIVERSITÄT GÖTTINGEN

Dear participant,

thank you very much for your participation in this psychological experiment.

**Purpose of the study:**
In this study, we investigate how people reason intuitively. In particular, we want to find out how people, in the absence of any guidance, reason about causes and effects. The study is conducted by the University of Trento and by the Georg-Elias-Müller Institute of Psychology at the Georg-August University of Göttingen. The person responsible for the study is Dr. Sarah Placì, Center for Mind/Brain Sciences, University of Trento (sarah.placi@unitn.it).

**Procedure and duration of the study:**
The study takes about 2 minutes to complete. We will first show you a fictitious scenario and then ask you some test questions that we'd like you to answer based on your intuitive understanding of the scenario.

**Termination of study participation:**
You can terminate the study at any time, without giving reasons. Please note, however, that we can only evaluate your results if you have participated in the entire study.

**Risks:**
There are no risks associated with participation.

**Data protection:**
The recorded data is collected anonymously, i.e. we can not identify who the data originates from. Individual data will not be passed on. The data protection guidelines are strictly observed. You can object to the further processing of your data and request their deletion at any time by contacting us through Prolific.

**Thank you for your time!**

*I hereby declare that I have been informed in writing of the nature of the scientific investigation. I have read the preceding information carefully. I am aware that I can withdraw my consent at any time without giving reasons and without detrimental consequences for me and that I can object to the further processing of my data at any time during the investigation and demand their deletion or destruction. I am willing to participate in the scientific investigation. I have the right to ask questions concerning the study at any time to the person responsible,* Dr. Sarah Placì (sarah.placi@unitn.it).

**If you agree, you can continue with this study.**

**Before you start, please:**

**- maximize your browser window;**

**- switch off phone/e-mail/music & anything else distracting**

**- and please enter your Prolific ID [it can be found at the top of this webpage or when going to your account info]:**

## 2 Confirmations

**For the scientific utility of the results, it is very important that you provide complete and careful responses.**

**How seriously will you take your participation in the study?**

- ◯ I confirm that I will take my participation in this study seriously.
- ◯ I confirm that I will not take my participation in this study seriously.

## 3 Detailed instructions

*Please read the following instructions:*

In this experiment, you will be asked to read a fictitious scenario and then make a causal judgment based on the information that will be provided in the description.

The scenario you will see was constructed such that you can intuitively understand the relevant aspects. Please assume that everything is exactly as described in the scenario, irrespective of how plausible it sounds to you.

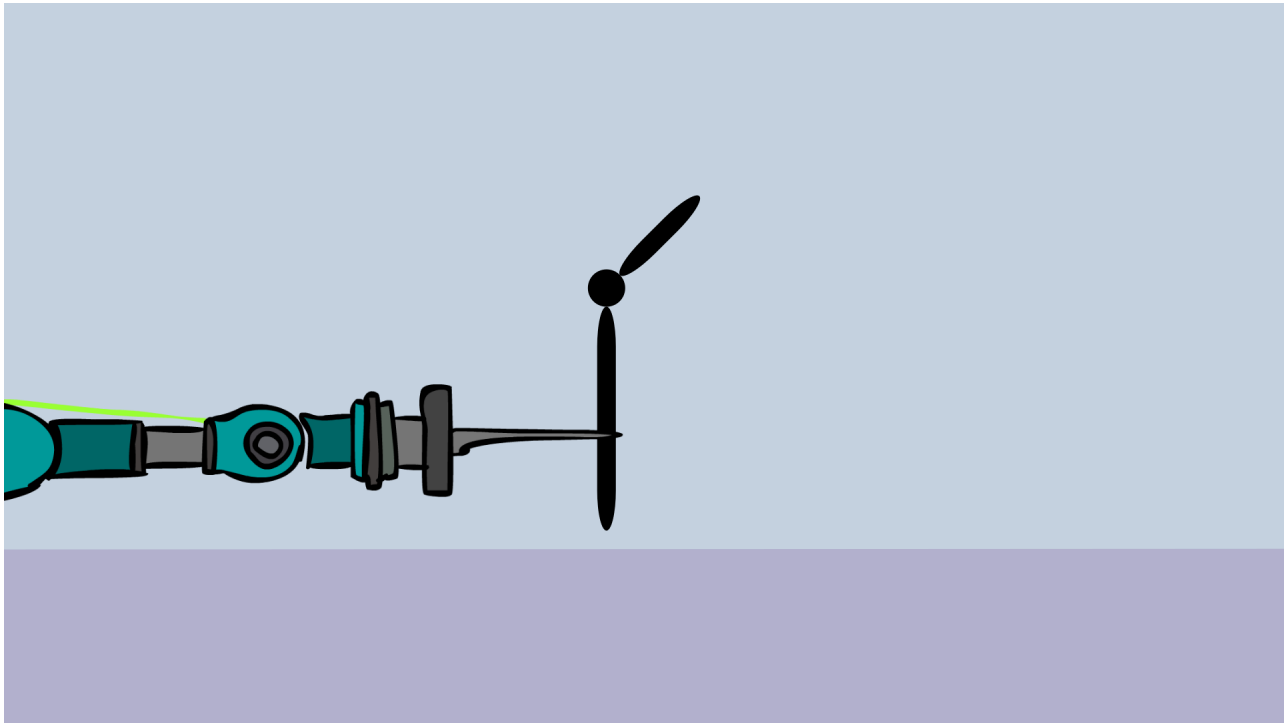
*If you have understood everything accurately and feel prepared to start, click "Continue" to start the experiment.*

## 4.1 3D_Identity_left

Scientists on an extraterrestrial mission have landed on a foreign planet not so different from

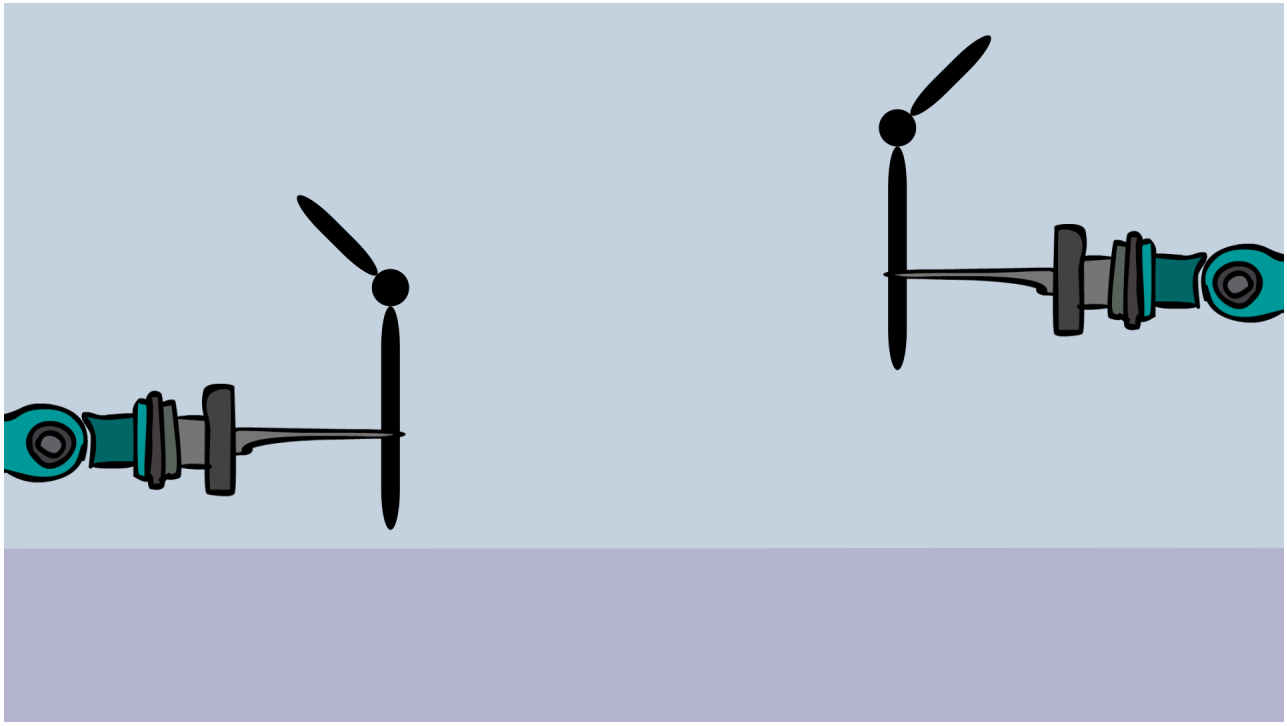
planet Earth.

They start exploring their surroundings and walk through a desert. They soon notice an unfamiliar black object lying on the ground and command their robot to pick it up (below you can see the photograph they took). The radiation detector of the robot starts buzzing. It tells the scientists that the object is emitting alpha rays.



#### 4.2.1.1 Left_Symmetry_vs_Y_Translation

Later on, the scientists spot two new objects lying on the ground and command two robots to pick them up (below you can see the photograph they took). One of these objects emits the same intensity of alpha rays as the object you have seen on the previous screen. The other object emits a different intensity of alpha rays.

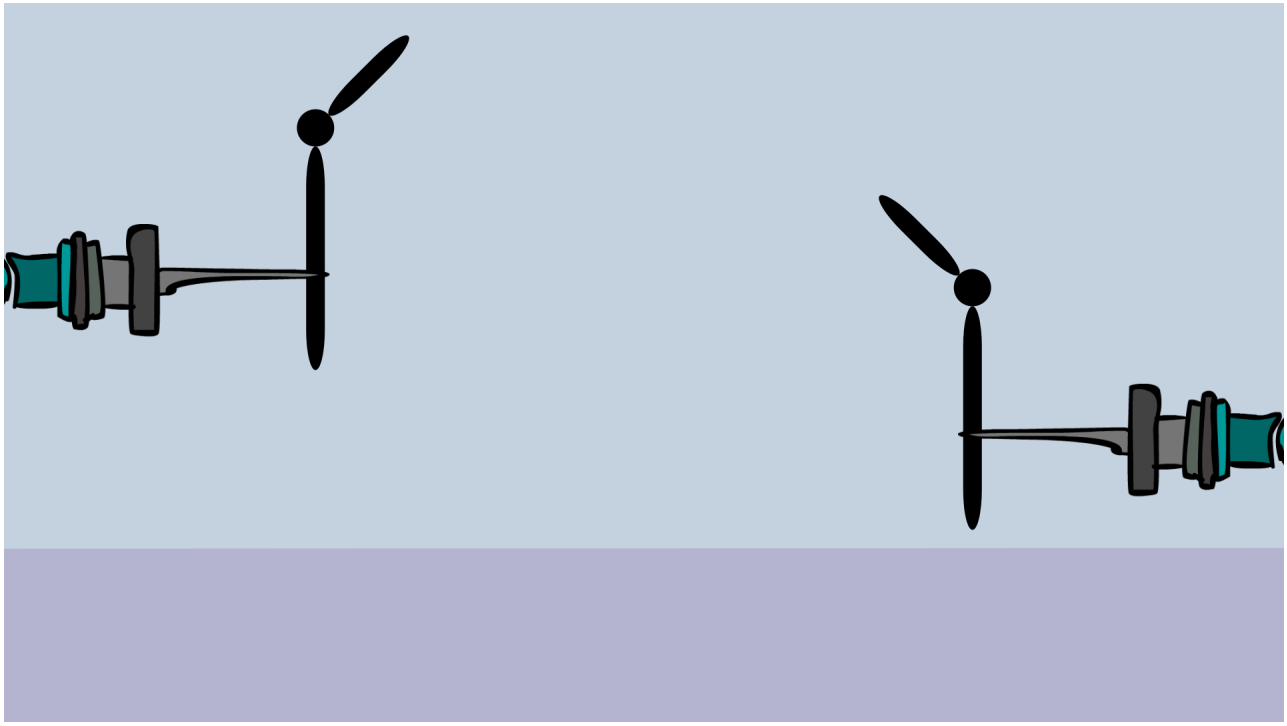


**Which object do you think is emitting the different intensity of alpha rays?**

- ○ The left object
- ○ The right object

### 4.2.2.1 Right_Symmetry_vs_Y_Translation

Later on, the scientists spot two new objects lying on the ground and command two robots to pick them up (below you can see the photograph they took). One of these objects emits the same intensity of alpha rays as the object you have seen on the previous screen. The other object emits a different intensity of alpha rays.

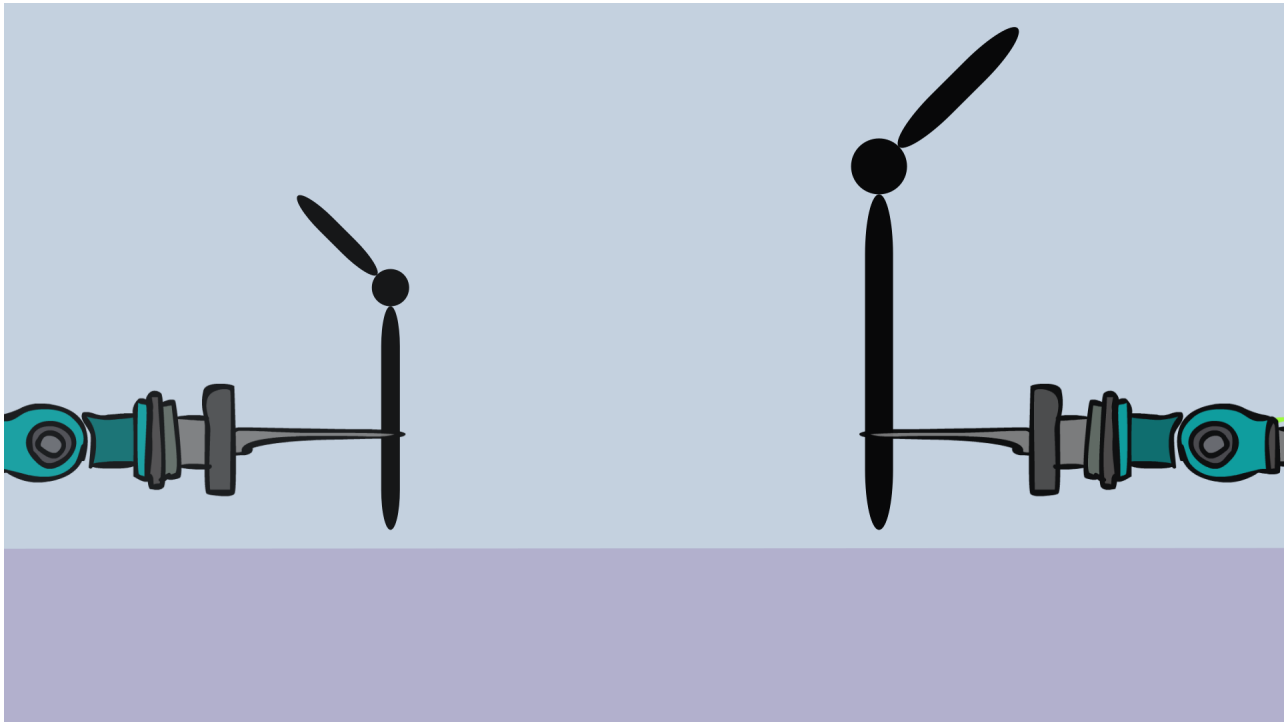


**Which object do you think is emitting the different intensity of alpha rays?**

- ○ The left object
- ○ The right object

### 4.3.1.1 Left_Symmetry_vs_Big

Later on, the scientists spot two new objects lying on the ground and command two robots to pick them up (below you can see the photograph they took). One of these objects emits the same intensity of alpha rays as the object you have seen on the previous screen. The other object emits a different intensity of alpha rays.

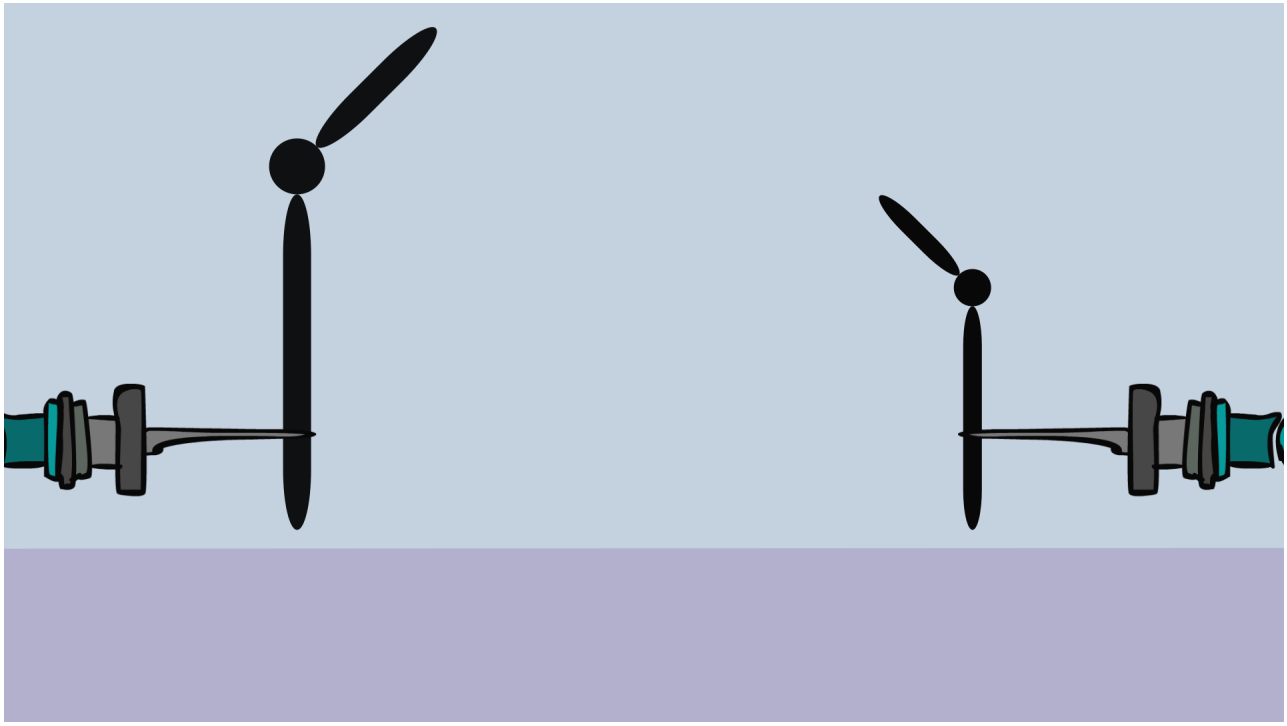


**Which object do you think is emitting the different intensity of alpha rays?**

- ○ The left object
- ○ The right object

### 4.3.2.1 Right_Symmetry_vs_Big

Later on, the scientists spot two new objects lying on the ground and command two robots to pick them up (below you can see the photograph they took). One of these objects emits the same intensity of alpha rays as the object you have seen on the previous screen. The other object emits a different intensity of alpha rays.

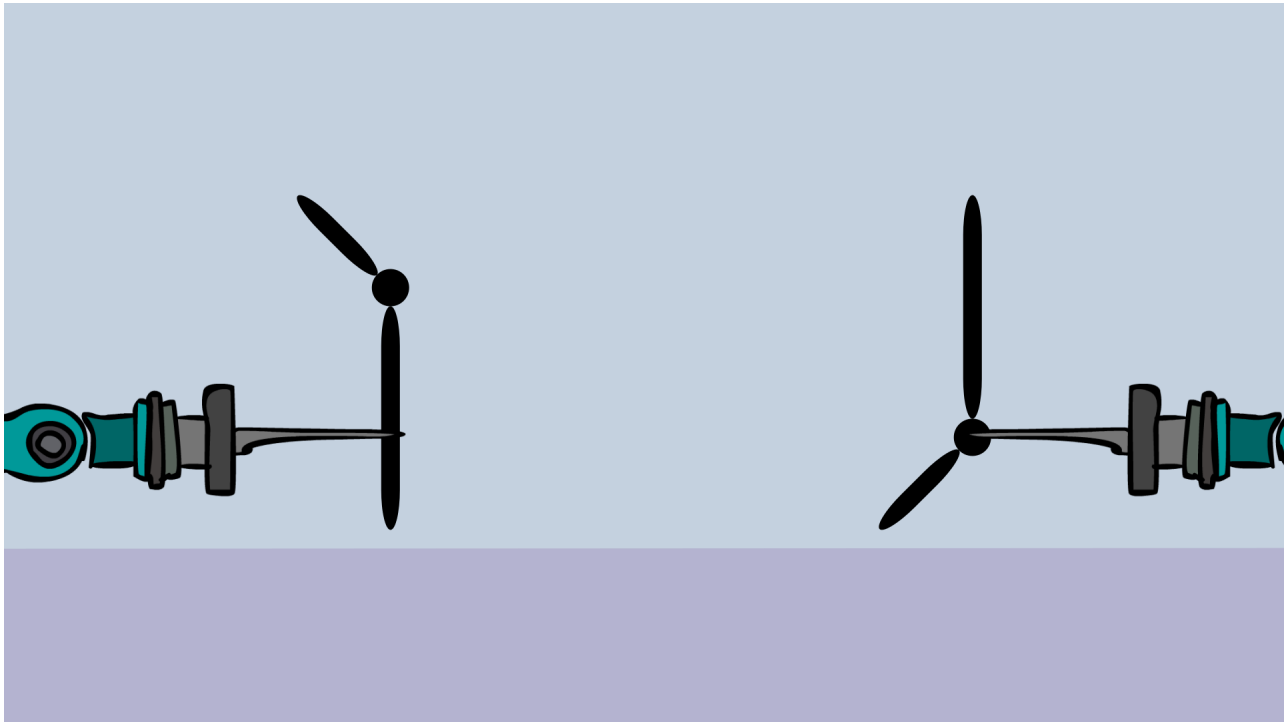


**Which object do you think is emitting the different intensity of alpha rays?**

- ○ The left object
- ○ The right object

### 4.4.1.1 Left_Symmetry_vs_180_Rotation

Later on, the scientists spot two new objects lying on the ground and command two robots to pick them up (below you can see the photograph they took). One of these objects emits the same intensity of alpha rays as the object you have seen on the previous screen. The other object emits a different intensity of alpha rays.



**Which object do you think is emitting the different intensity of alpha rays?**

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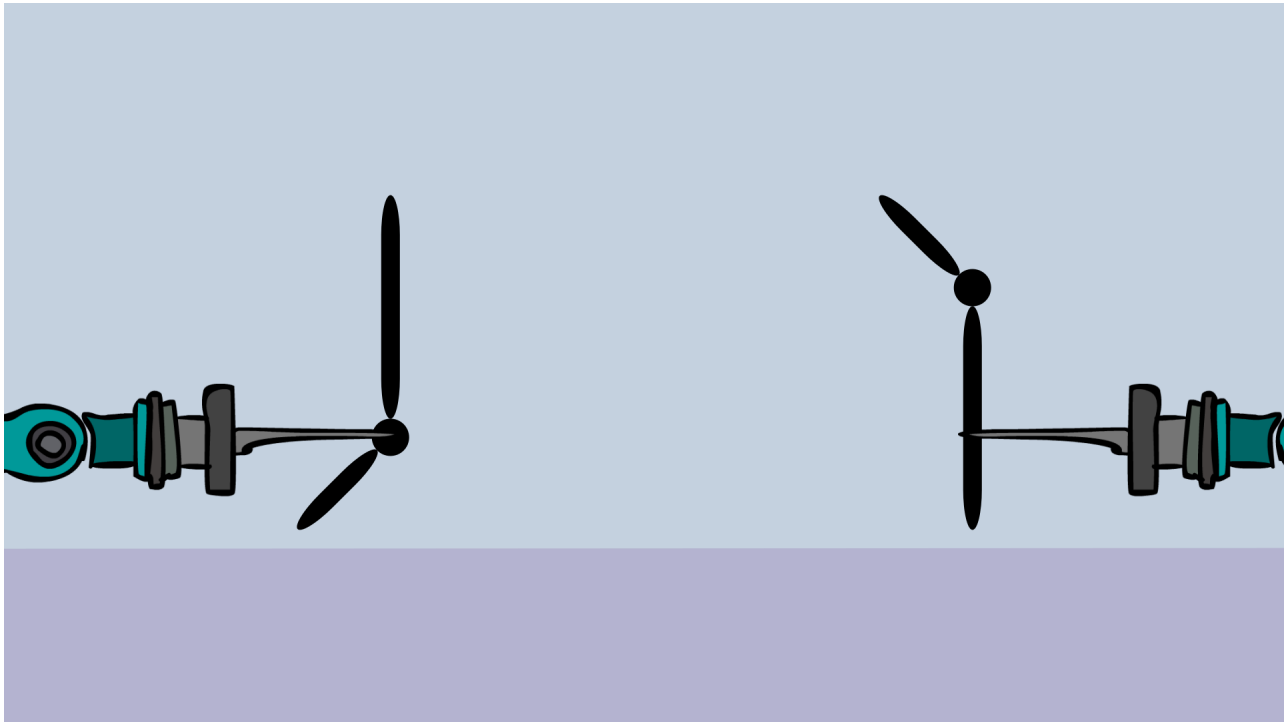
- ○ The right object

### 4.4.2.1 Right_Symmetry_vs_180_Rotation

Later on, the scientists spot two new objects lying on the ground and command two robots to pick them up (below you can see the photograph they took). One of these objects emits the same intensity of alpha rays as the object you have seen on the previous screen. The other object emits a different intensity of alpha rays.



**Which object do you think is emitting the different intensity of alpha rays?**

- ○ The left object
- ○ The right object

### 4.5.1.1 Left_Symmetry_vs_90_Rotation

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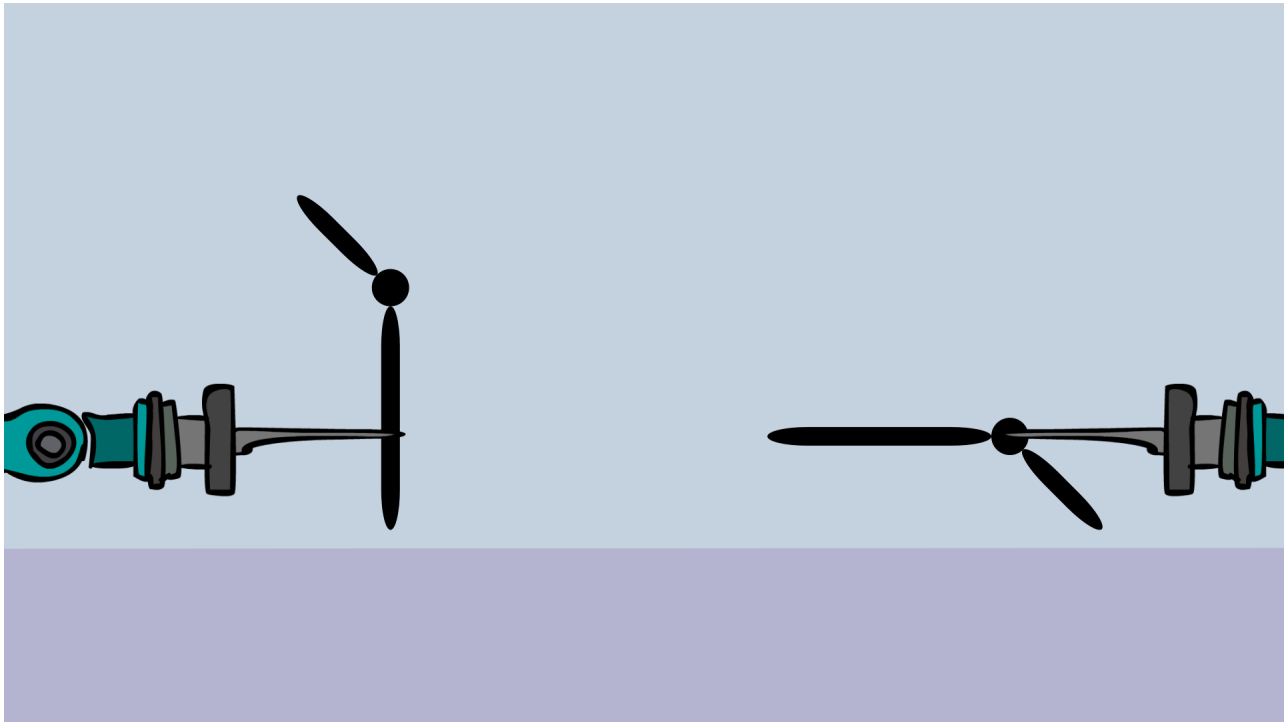

**Which object do you think is emitting the different intensity of alpha rays?**

- ○ The left object
- ○ The right object

### 4.5.2.1 Right_Symmetry_vs_90_Rotation

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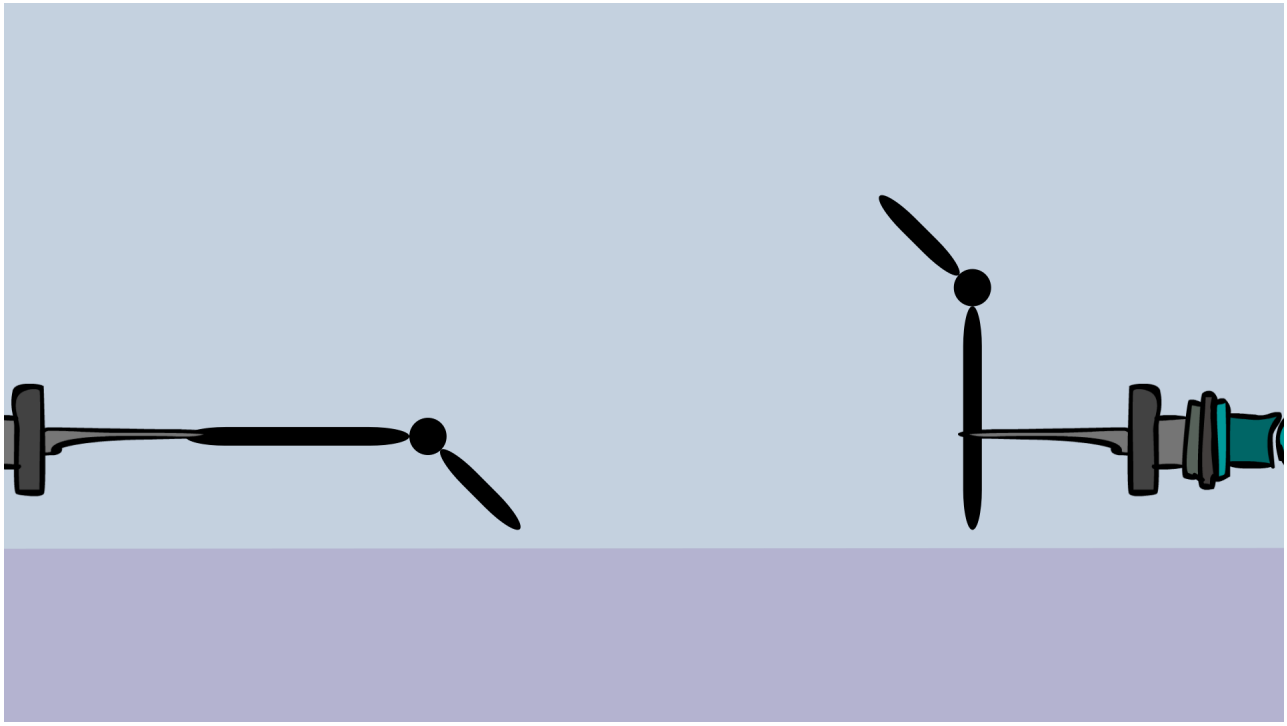

**Which object do you think is emitting the different intensity of alpha rays?**

- ○ The left object
- ○ The right object

### 4.6.1.1 Left_Symmetry_vs_X_Symmetry

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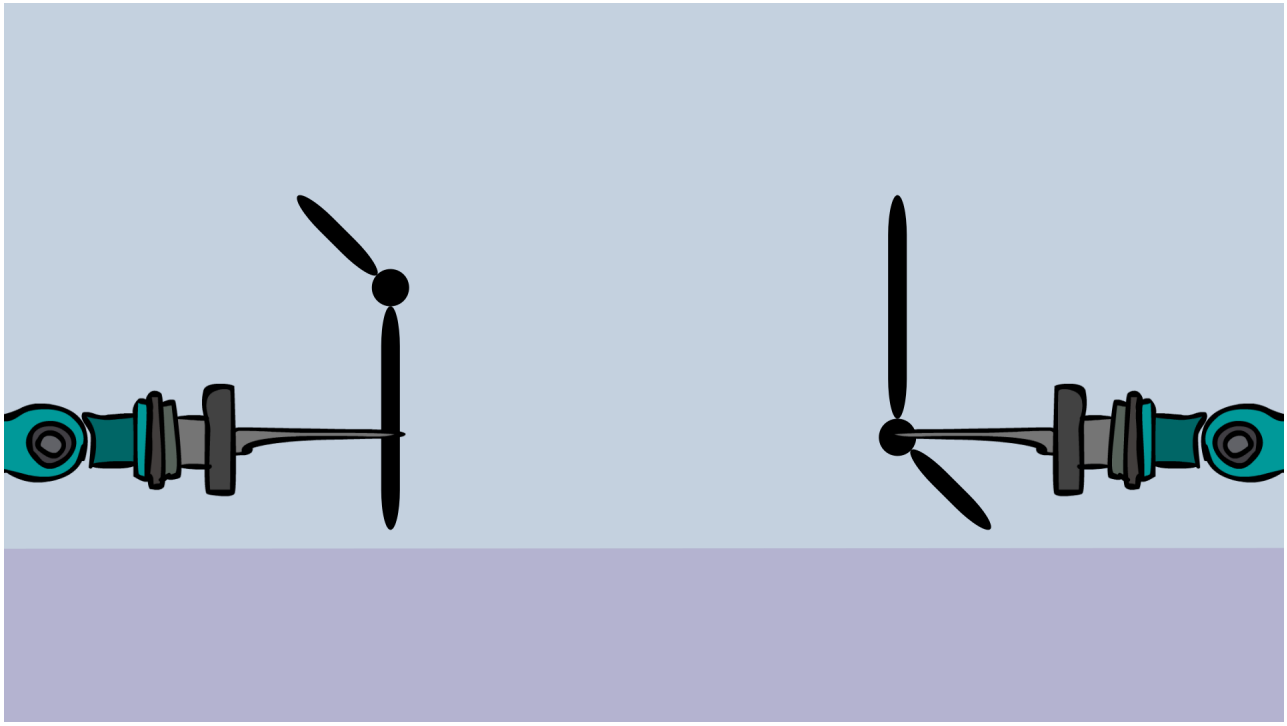
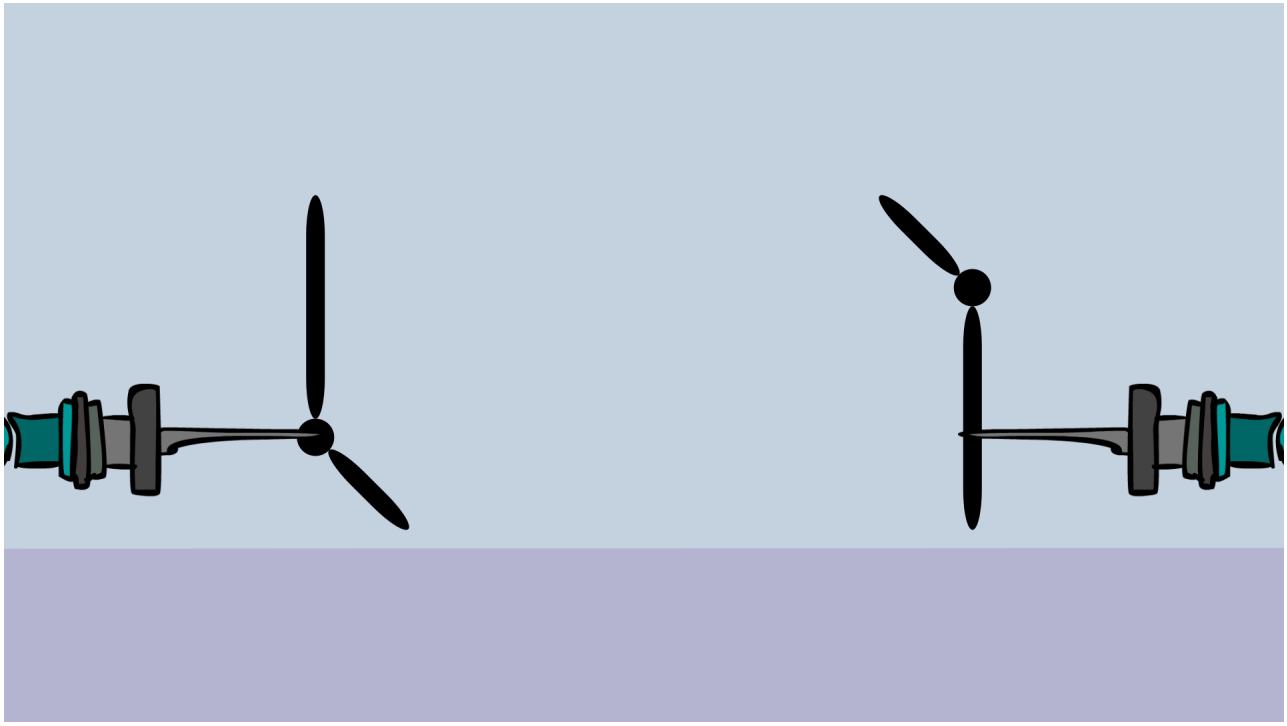


**Which object do you think is emitting the different intensity of alpha rays?**

- ○ The left object
- ○ The right object

### 4.6.2.1 Right_Symmetry_vs_X_Symmetry

Later on, the scientists spot two new objects lying on the ground and command two robots to pick them up (below you can see the photograph they took). One of these objects emits the same intensity of alpha rays as the object you have seen on the previous screen. The other object emits a different intensity of alpha rays.

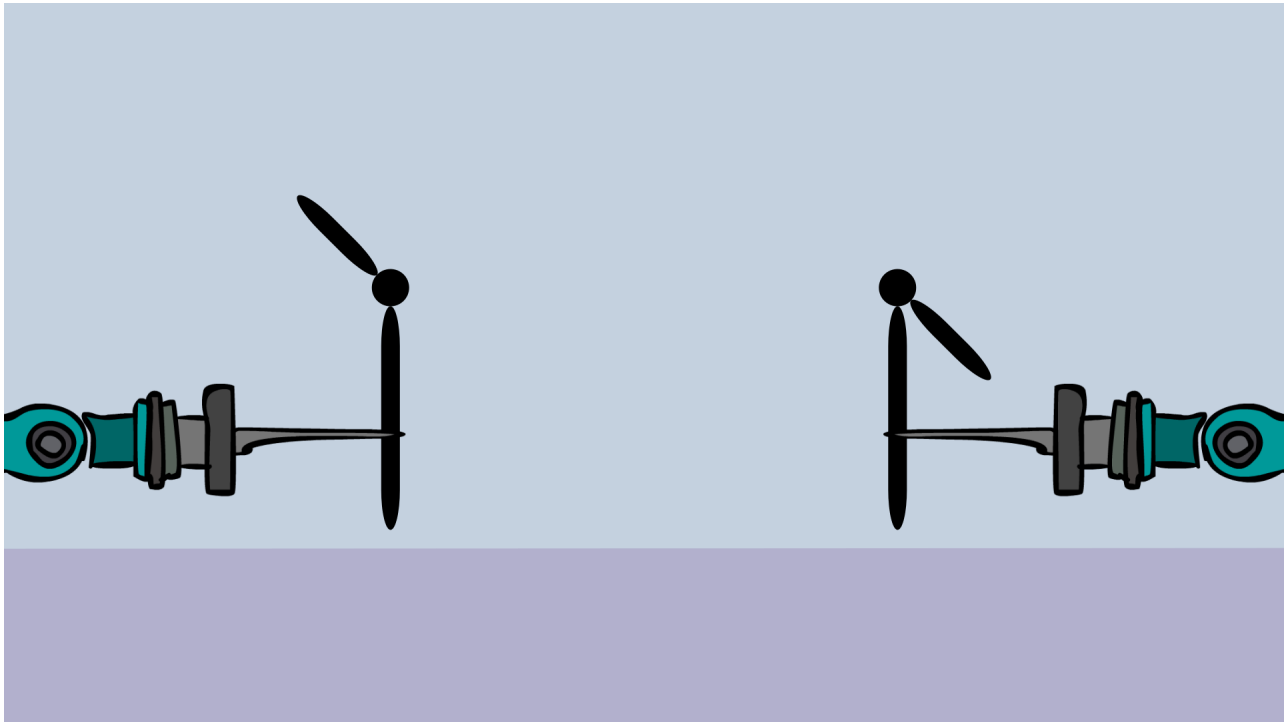


**Which object do you think is emitting the different intensity of alpha rays?**

- ○ The left object
- ○ The right object

### 4.7.1.1 Left_Symmetry_vs_Angle

Later on, the scientists spot two new objects lying on the ground and command two robots to pick them up (below you can see the photograph they took). One of these objects emits the same intensity of alpha rays as the object you have seen on the previous screen. The other object emits a different intensity of alpha rays.



**Which object do you think is emitting the different intensity of alpha rays?**

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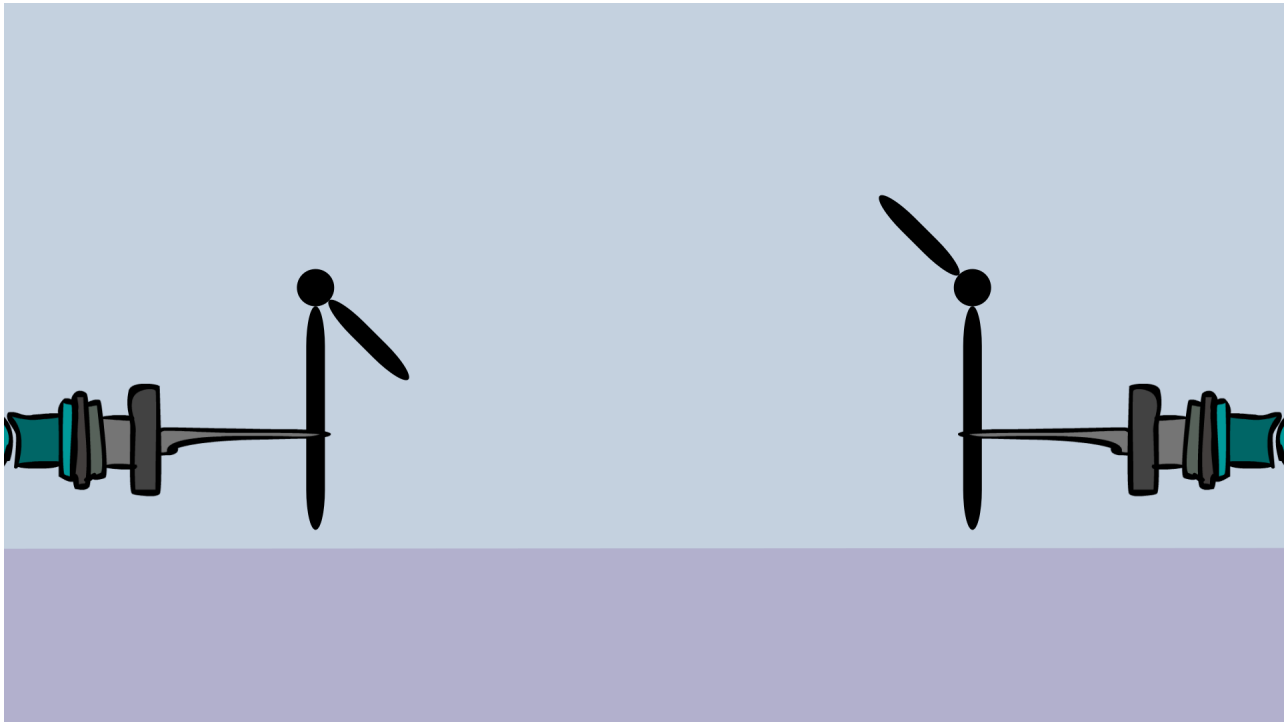

**Which object do you think is emitting the different intensity of alpha rays?**

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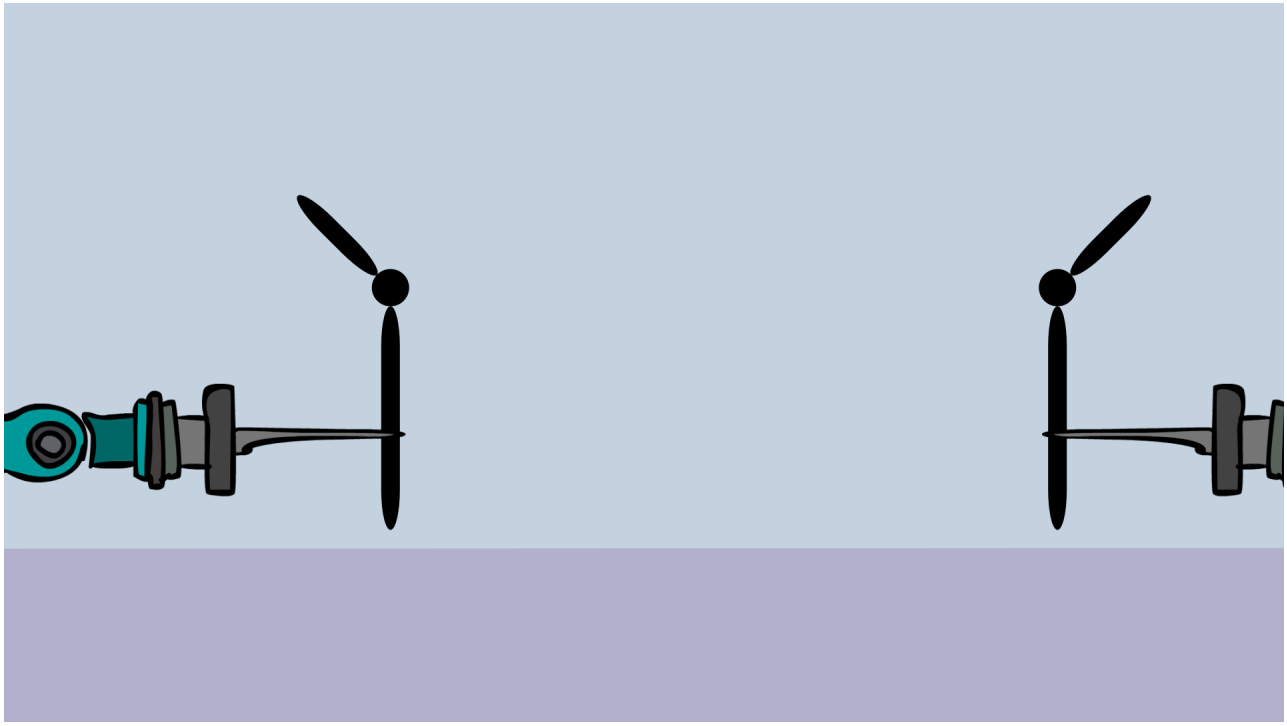
### 4.8.1.1 Left_Symmetry_X_Translation

Later on, the scientists spot two new objects lying on the ground and command two robots to pick them up (below you can see the photograph they took). One of these objects emits the same intensity of alpha rays as the object you have seen on the previous screen. The other object emits a different intensity of alpha rays.



**Which object do you think is emitting the different intensity of alpha rays?**

- ○ The left object
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### 4.8.2.1 Right_Symmetry_vs_X_Translation

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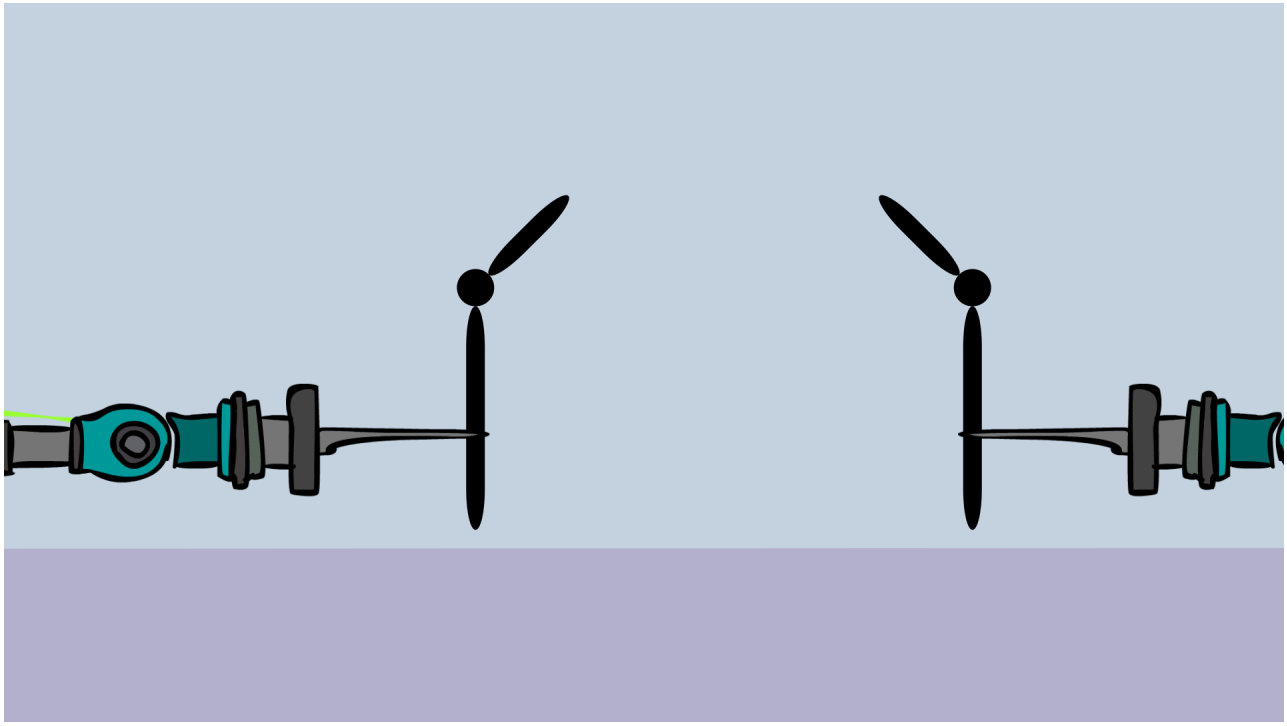

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## 5.1 3D_Identity_right

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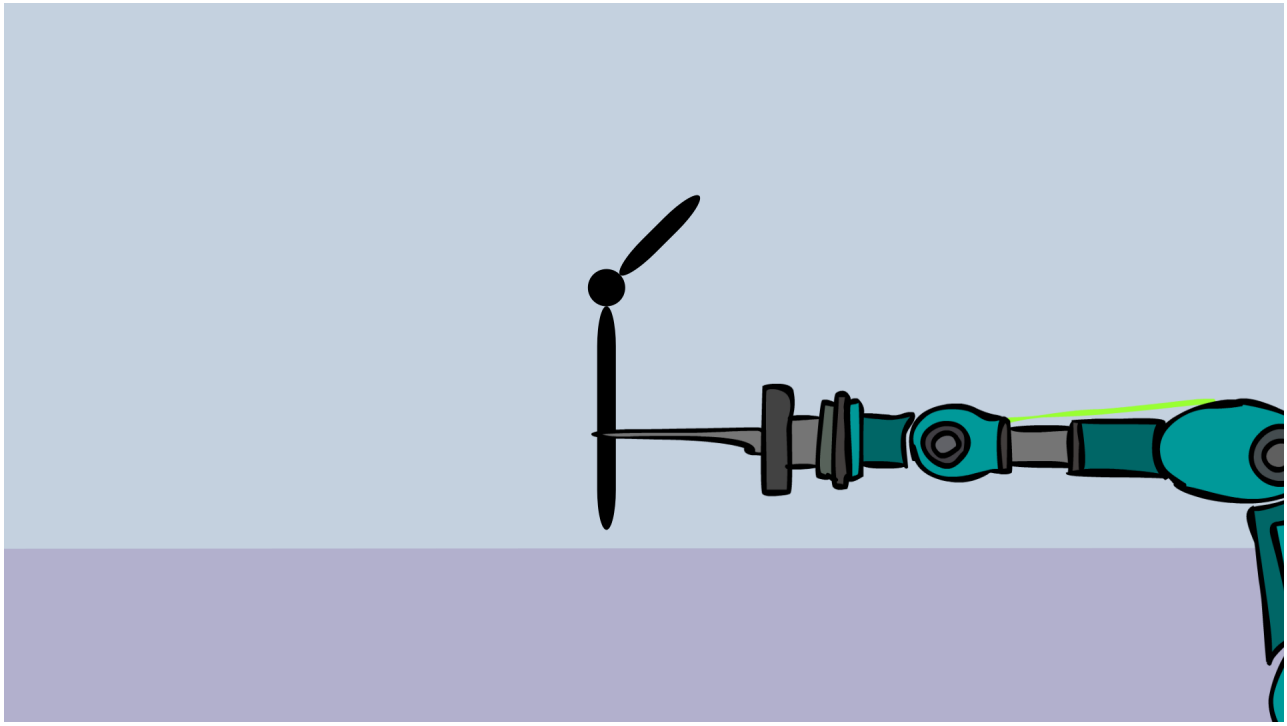

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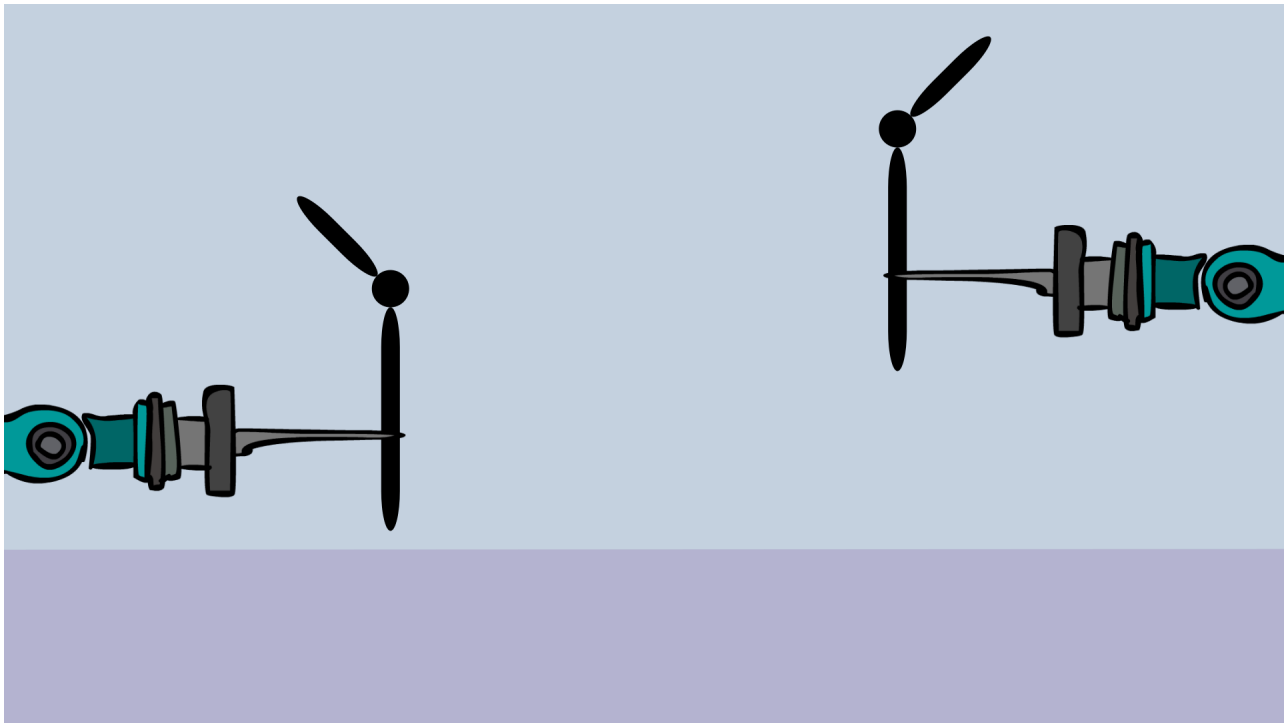

**Which object do you think is emitting the different intensity of alpha rays?**

- ◯ The left object
- ◯ The right object

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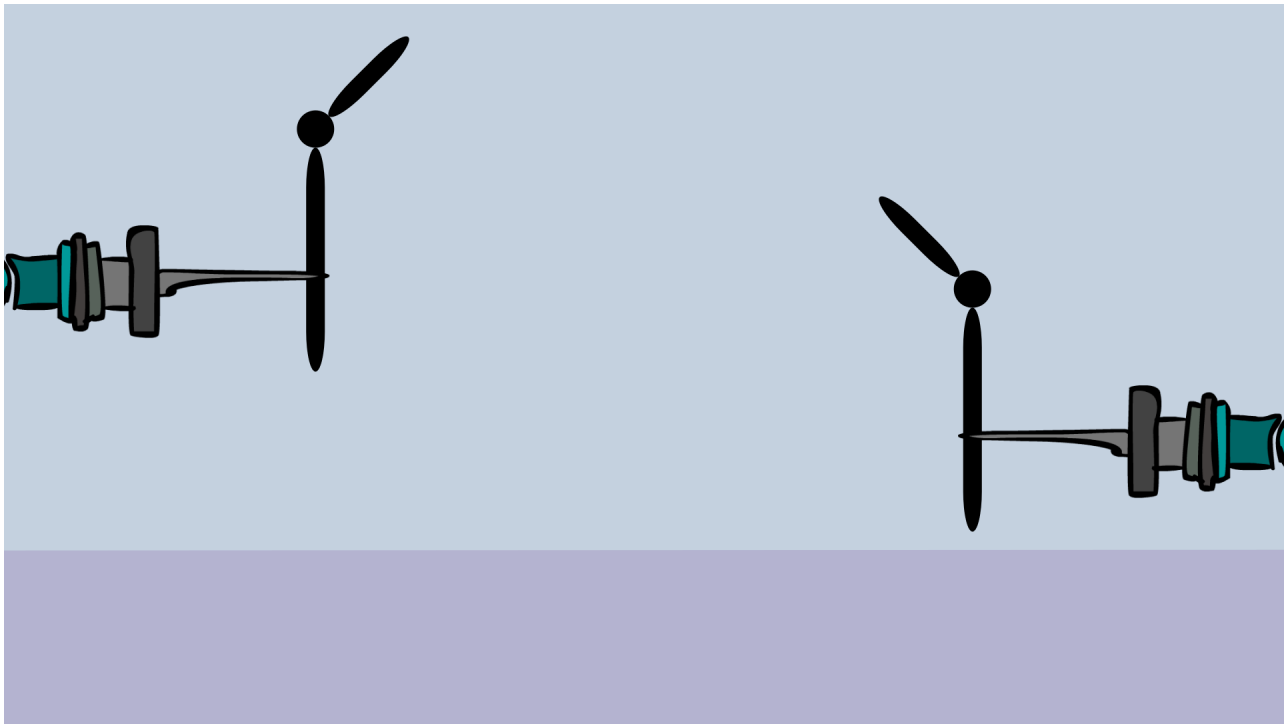
Later on, the scientists spot two new objects lying on the ground and command two robots to pick them up (below you can see the photograph they took). One of these objects emits the same intensity of alpha rays as the object you have seen on the previous screen. The other object emits a different intensity of alpha rays.



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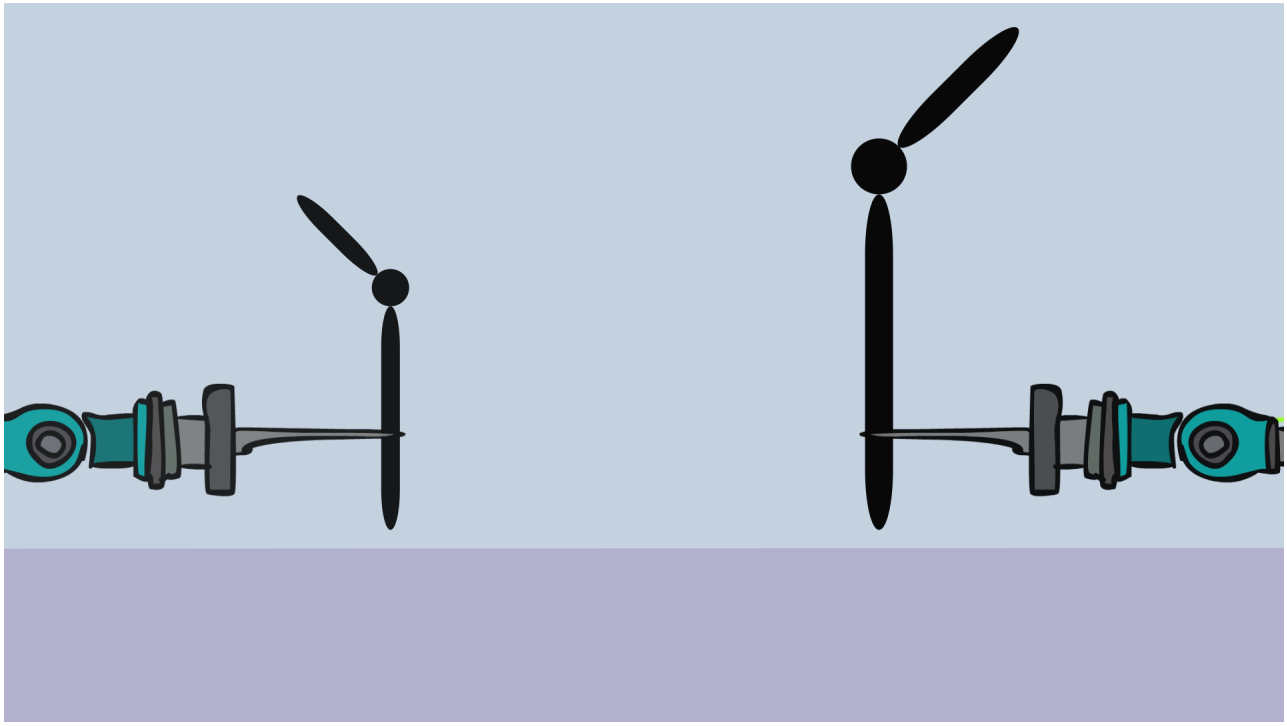

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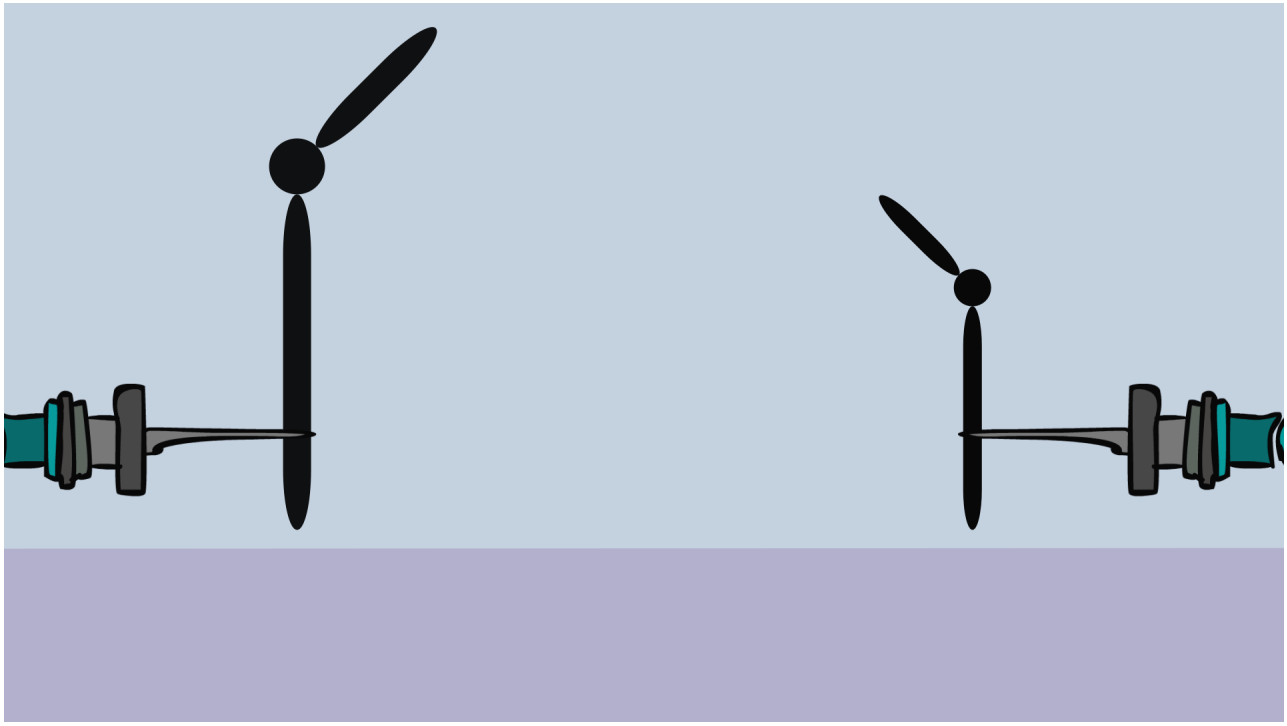

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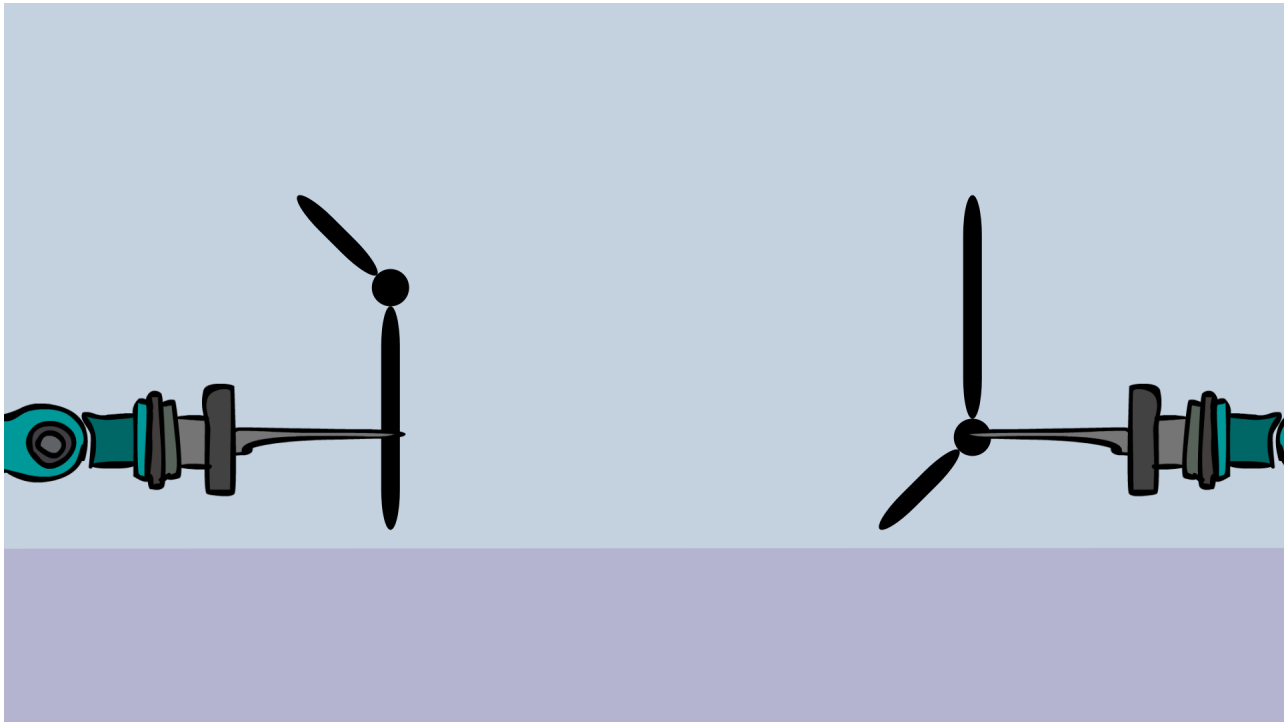

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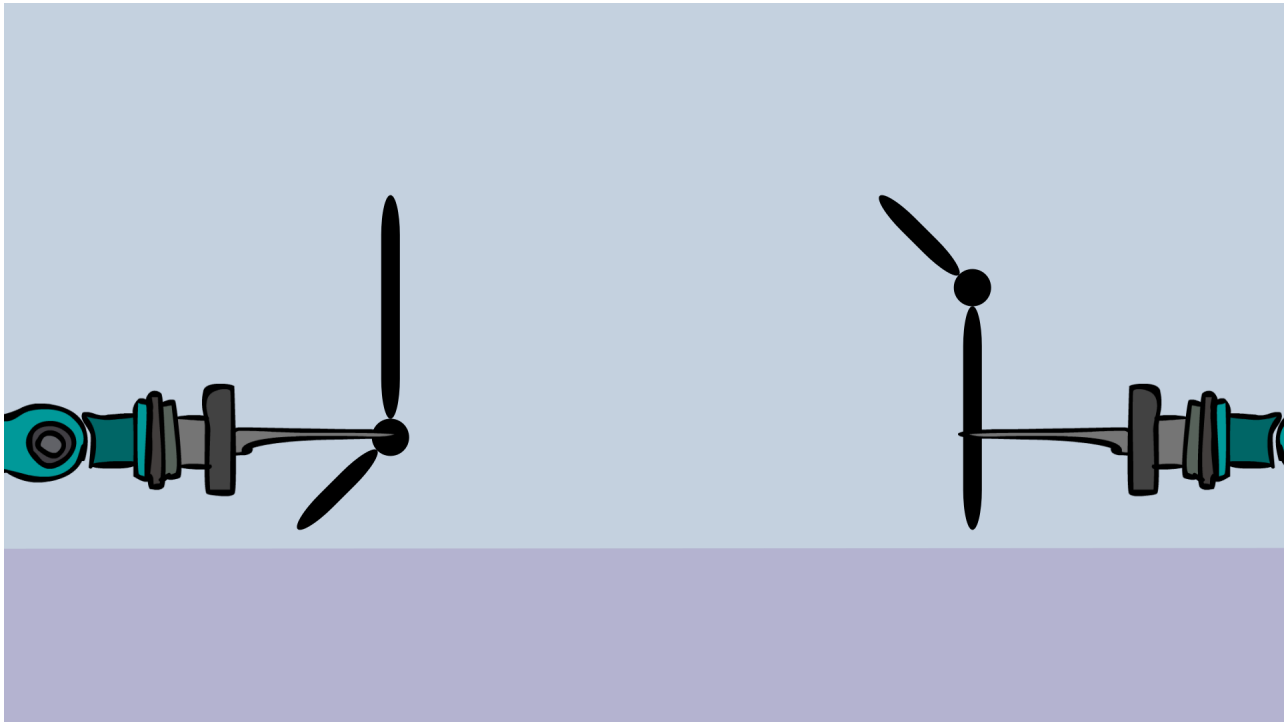

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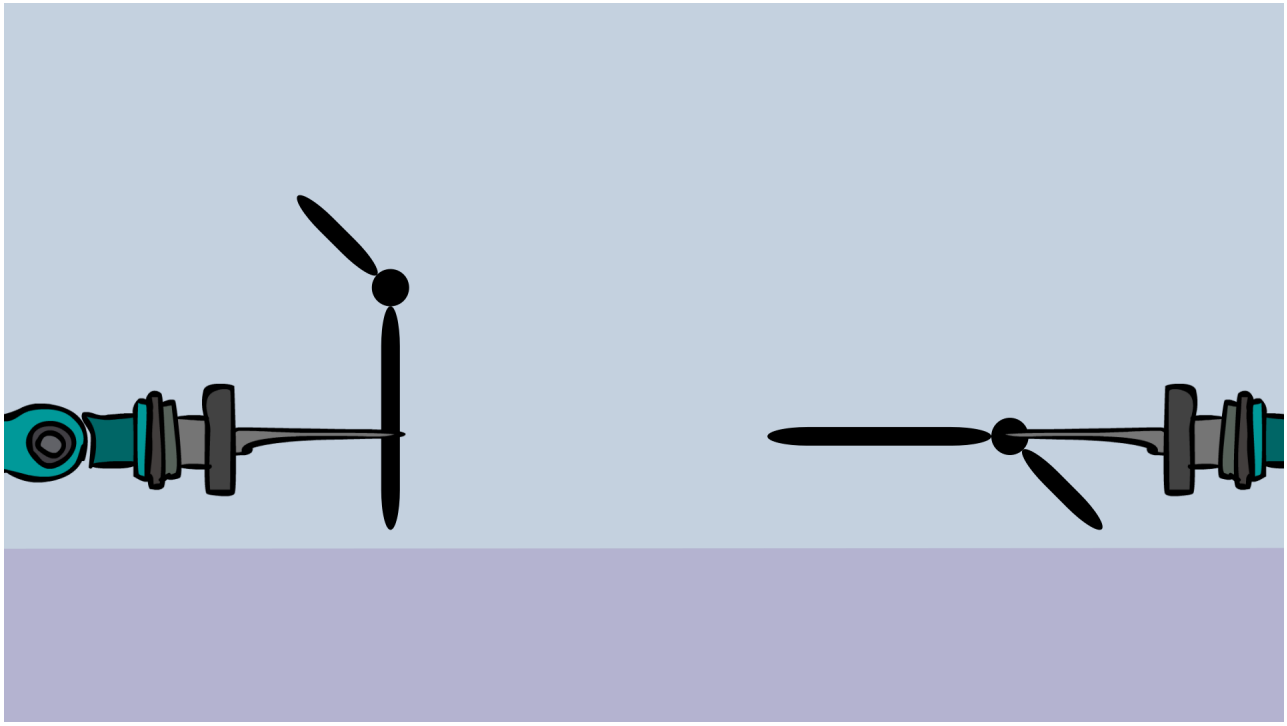

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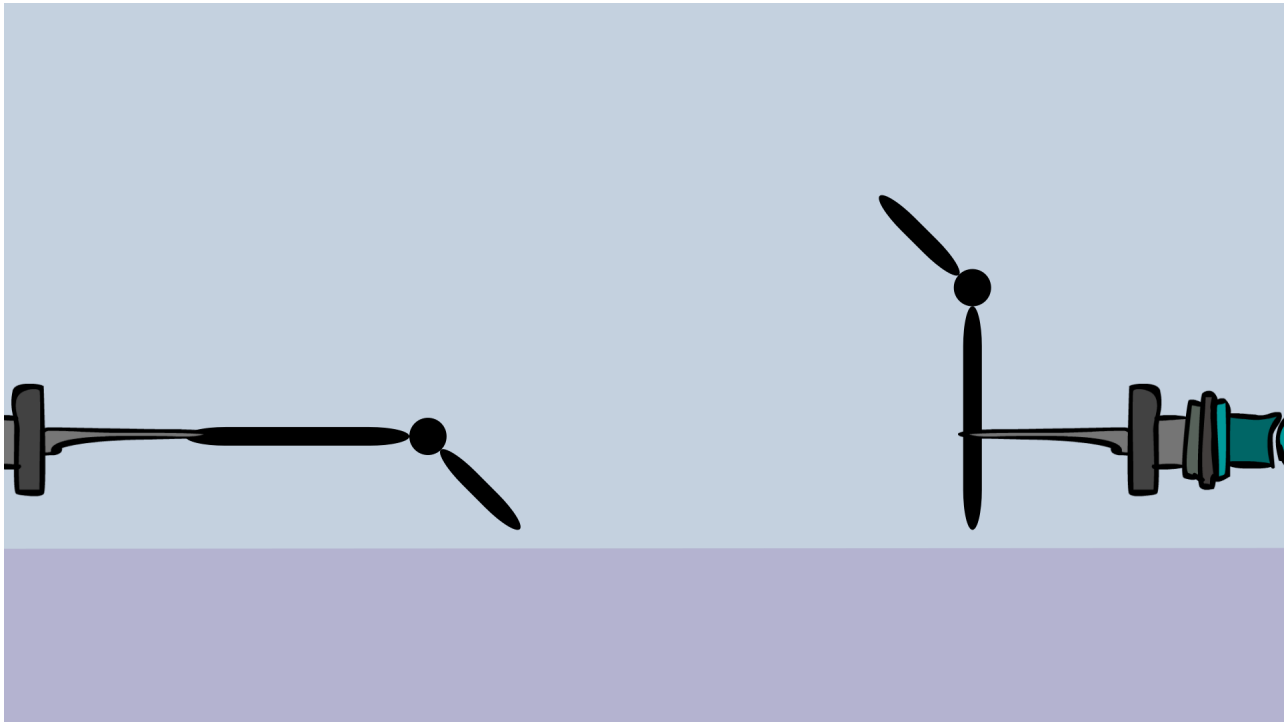

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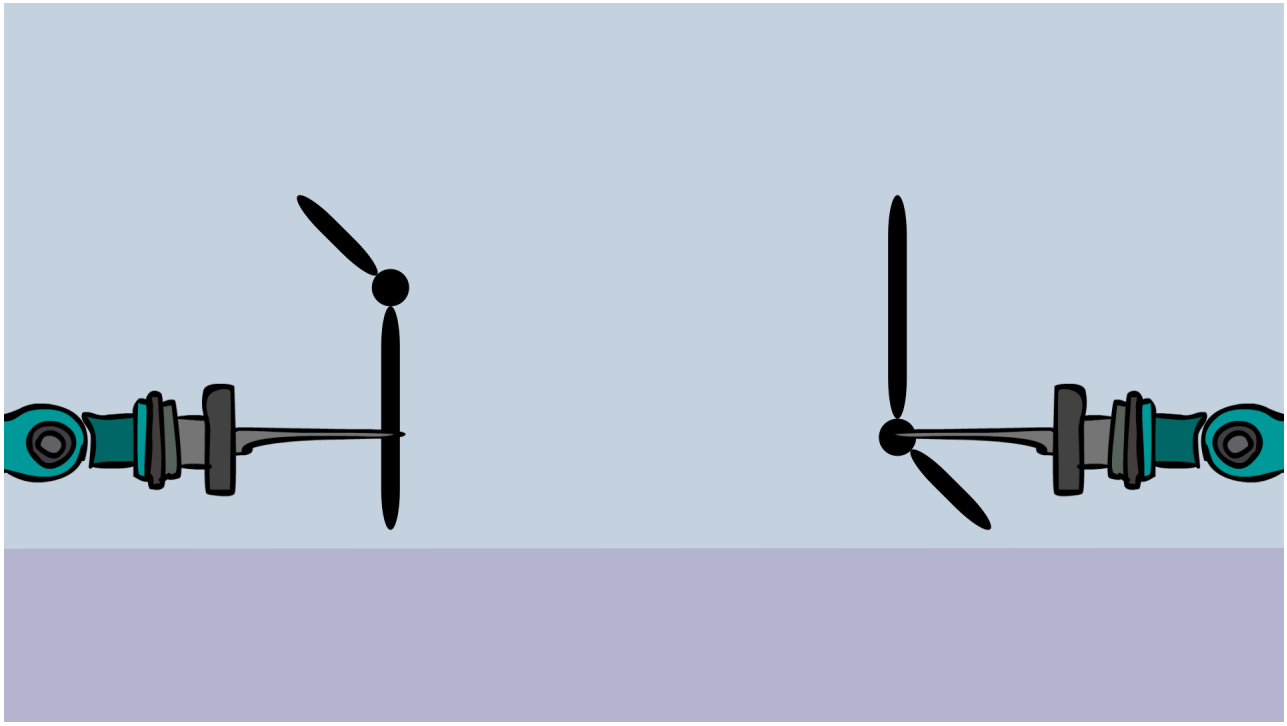

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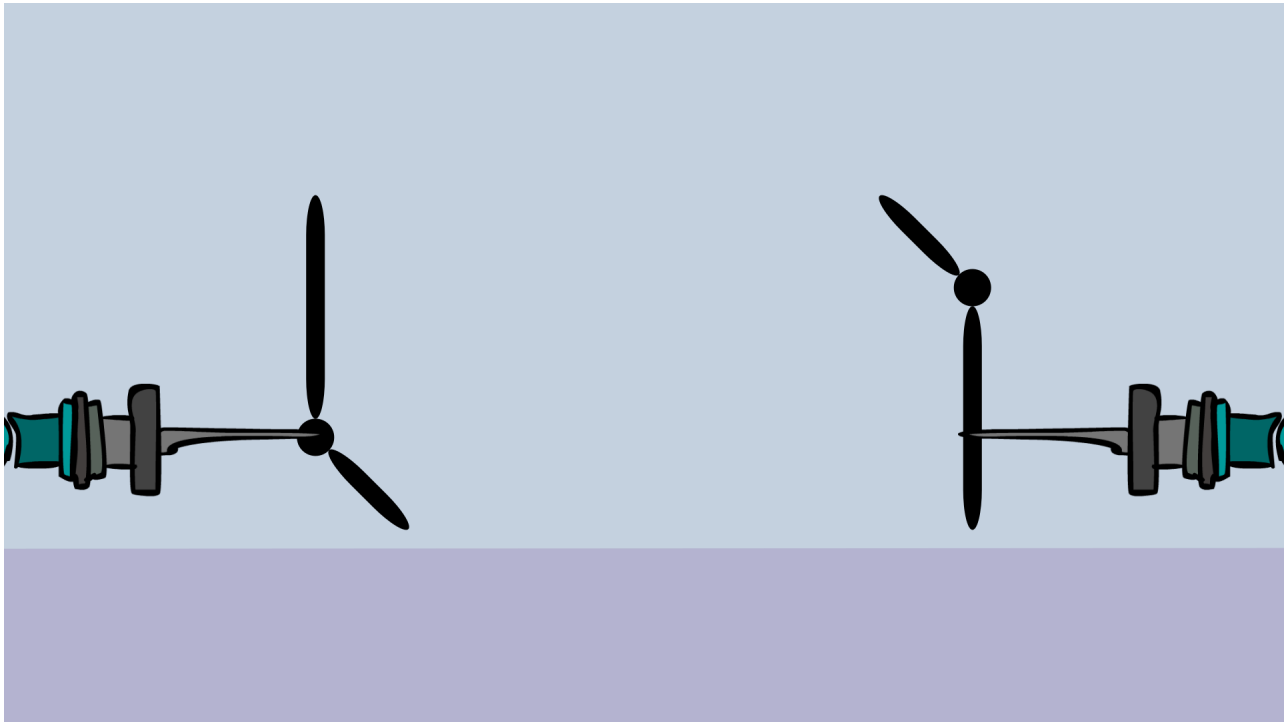

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### 5.7.1.1 Left_Symmetry_vs_Angle

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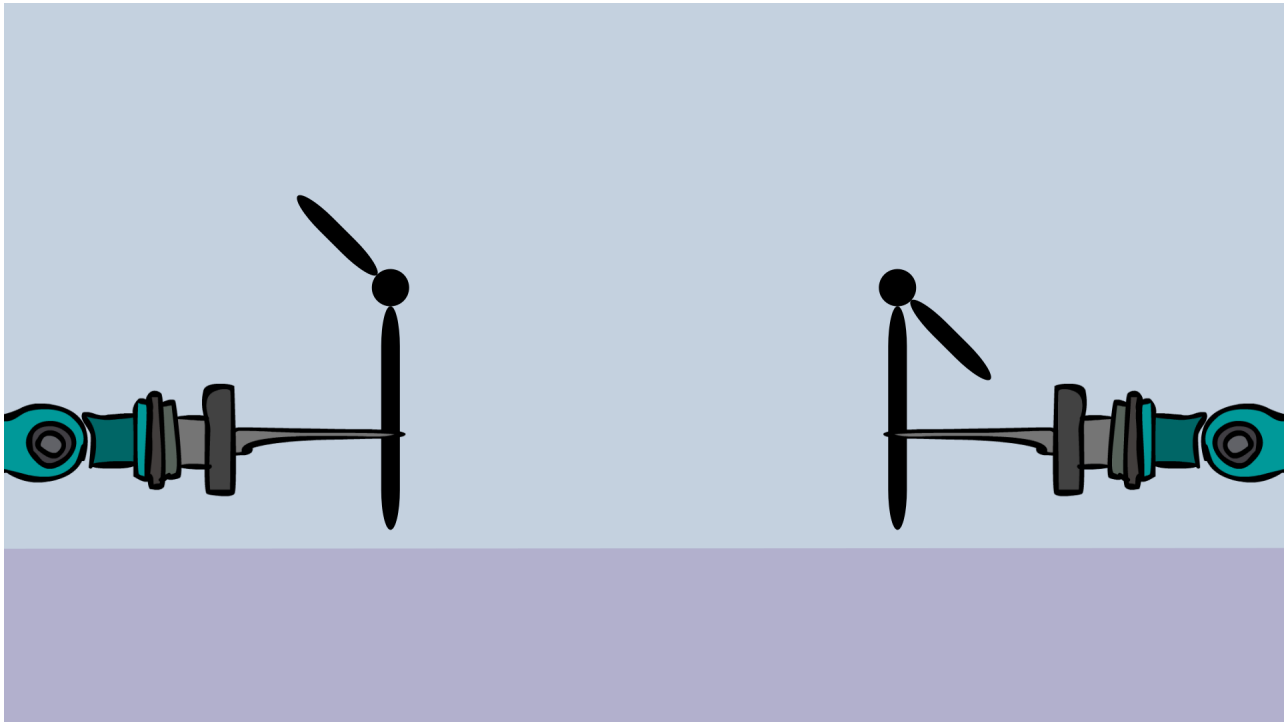

**Which object do you think is emitting the different intensity of alpha rays?**

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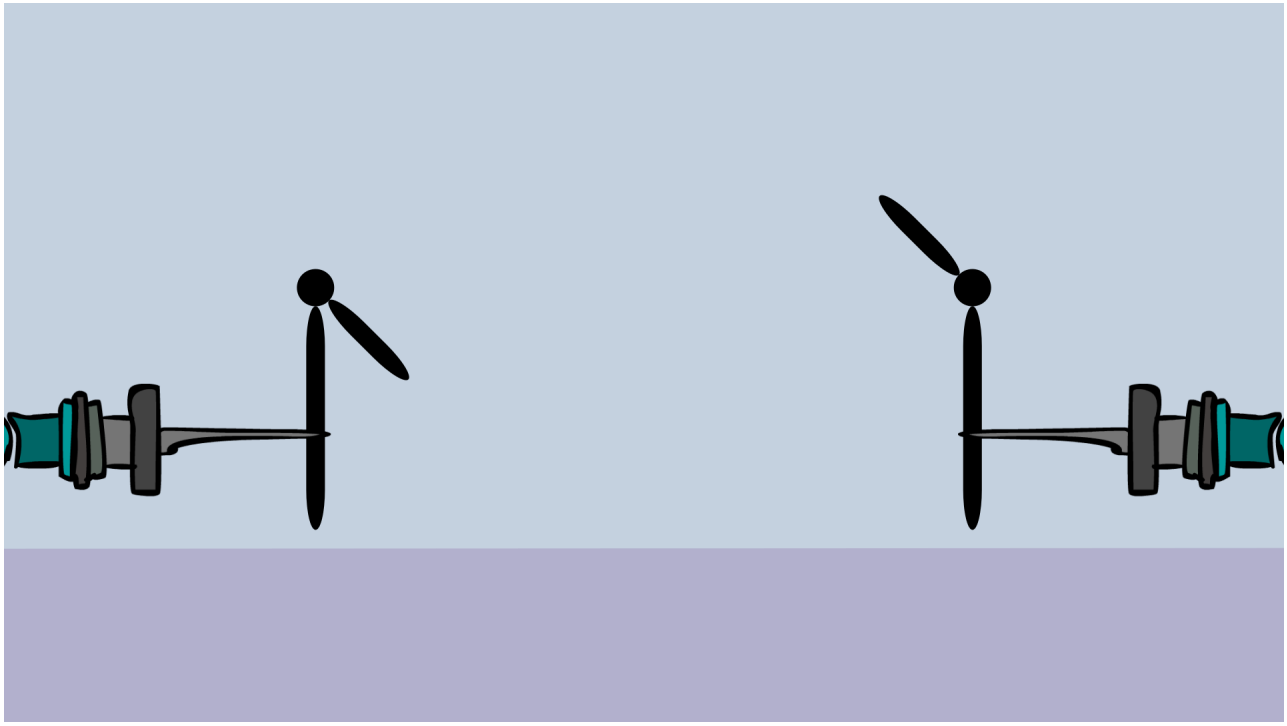

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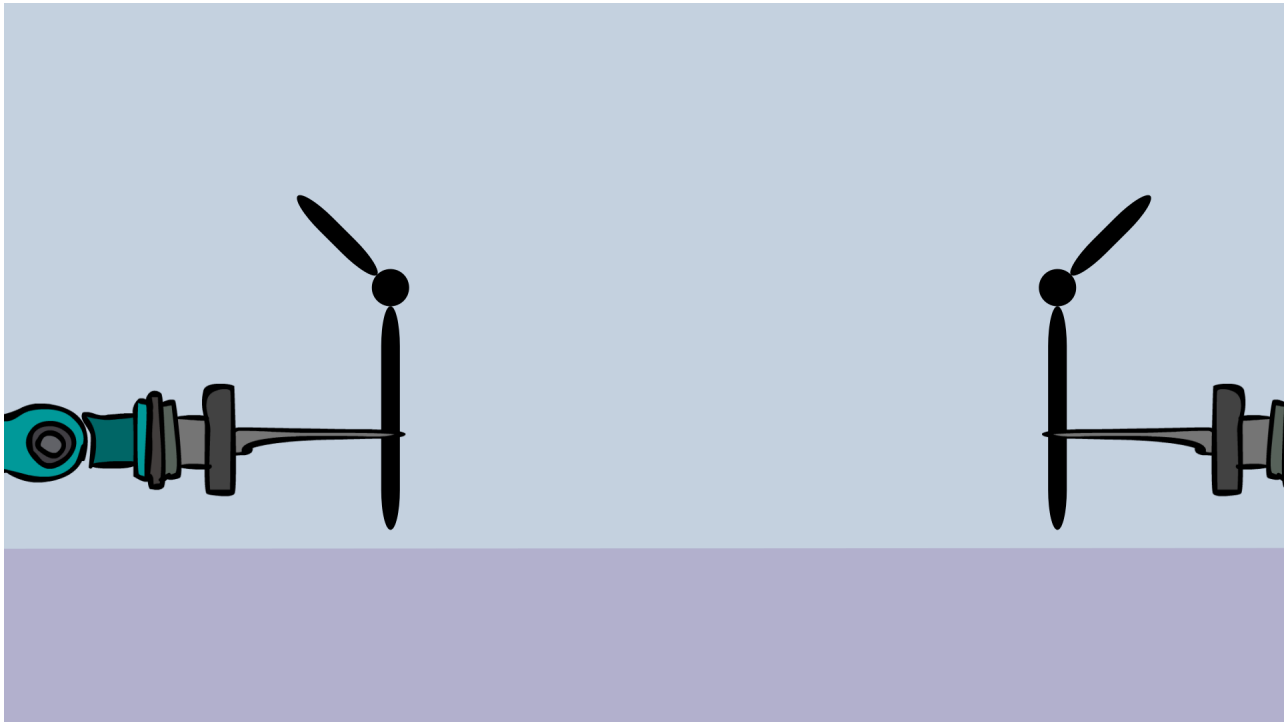

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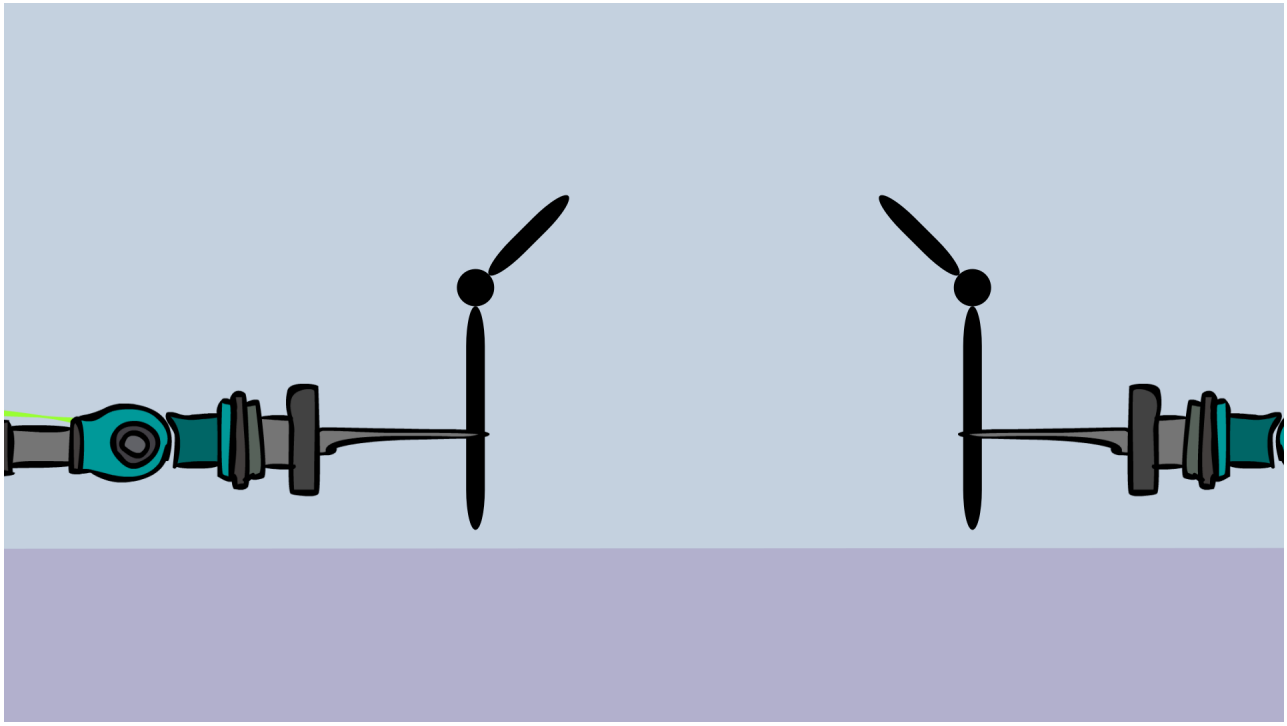
### 5.8.2.1 Right_Symmetry_vs_X_Translation

Later on, the scientists spot two new objects lying on the ground and command two robots to pick them up (below you can see the photograph they took). One of these objects emits the same intensity of alpha rays as the object you have seen on the previous screen. The other object emits a different intensity of alpha rays.



**Which object do you think is emitting the different intensity of alpha rays?**

- ○ The left object
- ○ The right object

## 6 Personal information

The experiment is now finished.

Before you leave, please answer the following questions:

**How old are you?**

**Please indicate with which gender you identify.**

- ○ male
- ○ female
- ○ other
- ○ prefer not to say

**In the text field below you can report any errors that you came across during the study (e.g., technical issues, layout problems, spelling errors, errors in program logic and flow, etc.).**

## 7 Endseite

Thank you for taking part in this study!

The aim of this experiment is to find out more about how people make causal judgments. If you are interested in further details or if you have any questions or comments concerning the experiment, feel free to contact me (Sarah Placì) under sarah.placi@unitn.it

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