# The Opposable Thumb

In this activity, you will learn how an opposable thumb helps you perform everyday tasks.



## Objectives

* Describe the role of the opposable thumb in performing everyday tasks.
* Describe the importance of the opposable thumb as a physical characteristic.

## Materials

| * bag, zip-top * book | * paper * pencil | * scissors * stopwatch * tape |
| --- | --- | --- |

## PROCEDURE

1. Work in groups of three students.
2. For each task below, one student will be the timekeeper, one student will be a tester using thumbs, and one student will be a tester without using thumbs. The tester without using thumbs will need to use **tape** to connect his or her thumb to the second finger of each hand.
3. Within your group, decide how you will split up roles and tasks. Your plan must include recording the time it takes to accomplish each task using thumbs and without using thumbs.

Data and Observations (12 points) (Time in Seconds)

| Task | Time with Thumb | Time without Thumb |
| --- | --- | --- |
| Open and close a zip-top bag | 3.45 sec | 28.00 |
| Open a book and turn to page 20 | 7.43 | 3.41 |
| Use a pencil to write *thumb* | 2.53 | 4.44 |
| Tear off a small piece of tape | 1.81 | 6.83 |
| Use **scissors** to cut a circle from a **sheet of paper** | 9.47 | 18.87 |
| **Total Time** | 24.69 | 61.55 |

1. Calculate the total amount of time it took to complete the tasks with and without using thumbs. Add to the last row of the data table.

**Use complete and detailed sentence answers. (5 points each)**

**5 points each:**

**1 point:** rephrase the question as a statement (claim). do not use this, that, these, those, they, it or because in this statement. It is a statement with no evidence.

**2 points:** evidence- two main facts, concepts, examples that support the claim. evidence starts your second sentences

**2 points:** reasoning-within your sentences explain how and why the evidence supports the claim.

1. Did the testers without opposable thumbs have to do tasks differently from testers who used their thumbs? Explain. **The testers did have to do tasks differently.with a thumb the grip is easier and more good at holding things meanwhile with the rest of your hands they are struggling to flip a book. The thumb gives a better position to accomplish tasks with the testers not having thumbs. It can work but not as efficiently and fast as with a thumb. The thumb is a grasping tool that guides the hand; without it the hand does not have the guidance and direction to do things.**
2. Were all of the tasks equally difficult without an opposable thumb? Why might some tasks be more difficult than others? **All of the tasks were not all equally difficult as others. When we were doing tasks like opening a bag it took 5 times longer than with a thumb and the other ones. But when opening a book it was shorter than with a thumb. Some tasks might be more difficult, because with a thumb it gives a strong grip and more flexibility and sure you can flip open a book easily but with cutting scissors that will take a while without a guiding finger to direct it. The thumb holds the items in place.**
3. Other than the tasks in this activity, what are some actions that would be difficult or impossible without opposable thumbs? Explain. **Some actions that would be difficult or impossible without opposable thumbs would be without an opposable thumb. It would be very hard to lift bags and eating with one hand would be a nightmare thanks to the grip and position.**
4. How do opposable thumbs give primates an advantage over animals without opposable thumbs? Explain. **The opposable thumbs give primates an advantage over animals without opposable thumbs. The thumb is part of the grasping hand that allows you to hold onto things and increase the dexterity of it which would allow for better grabbing.**