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**Exploring the world of optical devices: Telescope**

1. **Keplerian telescope**

Measure the focal length of lens 1 (objective) and lens 2 (eyepiece).

Fill in the table. Using the schematic construct the Keplerian version of the telescope and observe far away objects.

|  |  |
| --- | --- |
| Focal length (f1), cm |  |
| Focal length (f2), cm |  |
| Distance between lenses (calculated), cm |  |
| Distance between lenses (measured), cm |  |
| Predicted magnification, M = f1/f2 |  |
| Image: straight/inverted |  |
| Field of view: narrow/wide |  |



Figure 1. Schematic of Keplerian telescope.

1. **Galileo’s telescope**

Fill in the table. Using the schematic construct the Galileo’s version of the telescope and observe far away objects.

|  |  |
| --- | --- |
| Focal length (f1), cm |  |
| Focal length (f3), cm | -5 |
| Distance between lenses (calculated), cm |  |
| Distance between lenses (measured), cm |  |
| Predicted magnification, M = f1/|f3| |  |
| Image: straight/inverted |  |
| Field of view: narrow/wide |  |

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Figure 2. Schematic of Galileo’s telescope.

1. **Conclusion (compare two types of the telescopes).**

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