

## In-class activity 14

### Assemble Your Group

1. Find your assigned group members, and sign in below.

Team member: \_\_\_\_\_

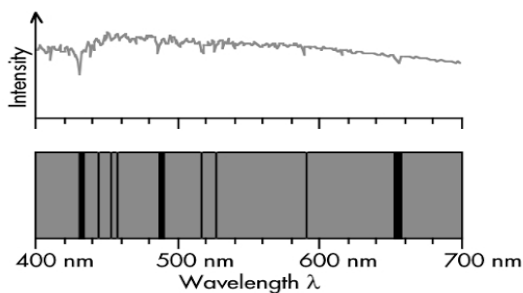
Team member: \_\_\_\_\_

Team member: \_\_\_\_\_

Team member: \_\_\_\_\_

### Absorption Spectra

2. (Cf. Seeds and Backman, *ASTRO2*, Brooks/Cole Cengage Learning, 2014, pp. 86-87.) The intensity versus wavelength graph<sup>1</sup> and the (simplified) absorption lines of the sun, as detected by an observatory on a high mountain are shown at right.



- (a) (Clearly circle your answer.) According to Kirchhoff's laws, this spectrum is produced by 

a hot, dense object
hot, diffuse gas atoms
blackbody radiation passing through cool, diffuse gas atoms

.

- (b) Briefly explain your answer to (a).

Explanation:

<sup>1</sup> Spectrum adapted from *SpectrumExplorer 2.1*, <http://lite.bu.edu/spex/>.