Name: Date:

Class: Earth Science

Astronomy – Learning Target 1.02 – I can describe stars

Do Now:

1. Which evidence best supports the big bang?
2. Rotation of the sun
3. Existence of cosmic background radiation
4. The uniform radioactive decay of uranium 238
5. Separation of Earth’s interior into different layers
6. Describe how the red shift Doppler effect is evidence of the big bang?

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1. How old is the universe (how long ago did the big bang occur)?

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Guided Notes:

1. Space is filled with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which blocks/scatters light
2. Why are sunsets red?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Stars are in a balance between \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, with the first force contracting, pulling on matter, and the second force pushing out
4. Phases 1 of star formation: All stars come from a big cloud of gas called a

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Phase 2 of star formation: Gravity causes the molecules to come together

(contract), into a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. T Tauri Phase (phase 3), in which the proto-star continues to heat up, shrink

in size, increase in mass, and ejects \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (which

will eventually come together to make planets).

1. The Proto-star becomes a star when it heats up enough for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

to start (around 10,000,000k). Energy is then created, countering the force

of gravity, and the contraction stops (which causes a star to stay that size).

1. Fusion also creates heavier elements, by fusing, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hydrogen and Helium elements together.

1. Look at Page \_\_\_\_\_\_\_\_ in your Earth Science Reference Table, to compare

the characteristics of stars (how they start in the Main sequence,

become cooler but bigger and more luminous as super-giants, and then

become dwarf stars, very hot, yet small and less luminous).

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Period: Earth Science

Unit 1: Astronomy, Learning Target 1.02 – I can describe stars

Exit Slip

1. What force is mostly responsible for the contraction of an interstellar gas cloud?

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1. Which process combines lighter elements into heavier elements and produces energy within the Sun and other stars

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1. Which star is the hottest on the Characteristics of Stars chart?
2. Which star is the most massive on the Characteristics of Stars chart?

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1. Which stars are less luminous then our stars?

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Answers to guided notes.

1) Dust

2) Because dust absorbs the shorter ends of the spectrum (blue light), leaving red.

3) Gravity and pressure

4) Nebula

5) Proto star

6) dust and gas

7) Fusion

8) Combining

9) 15