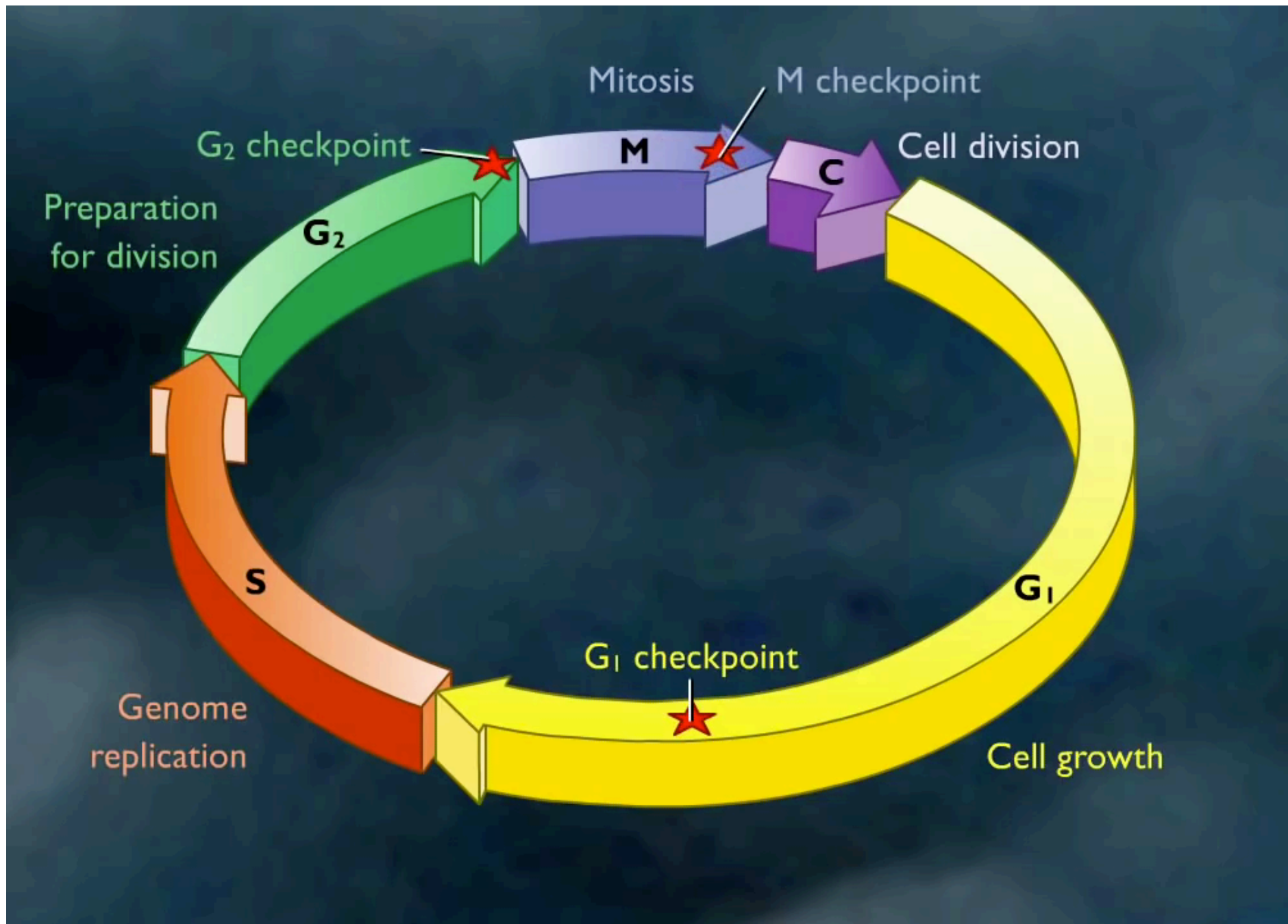
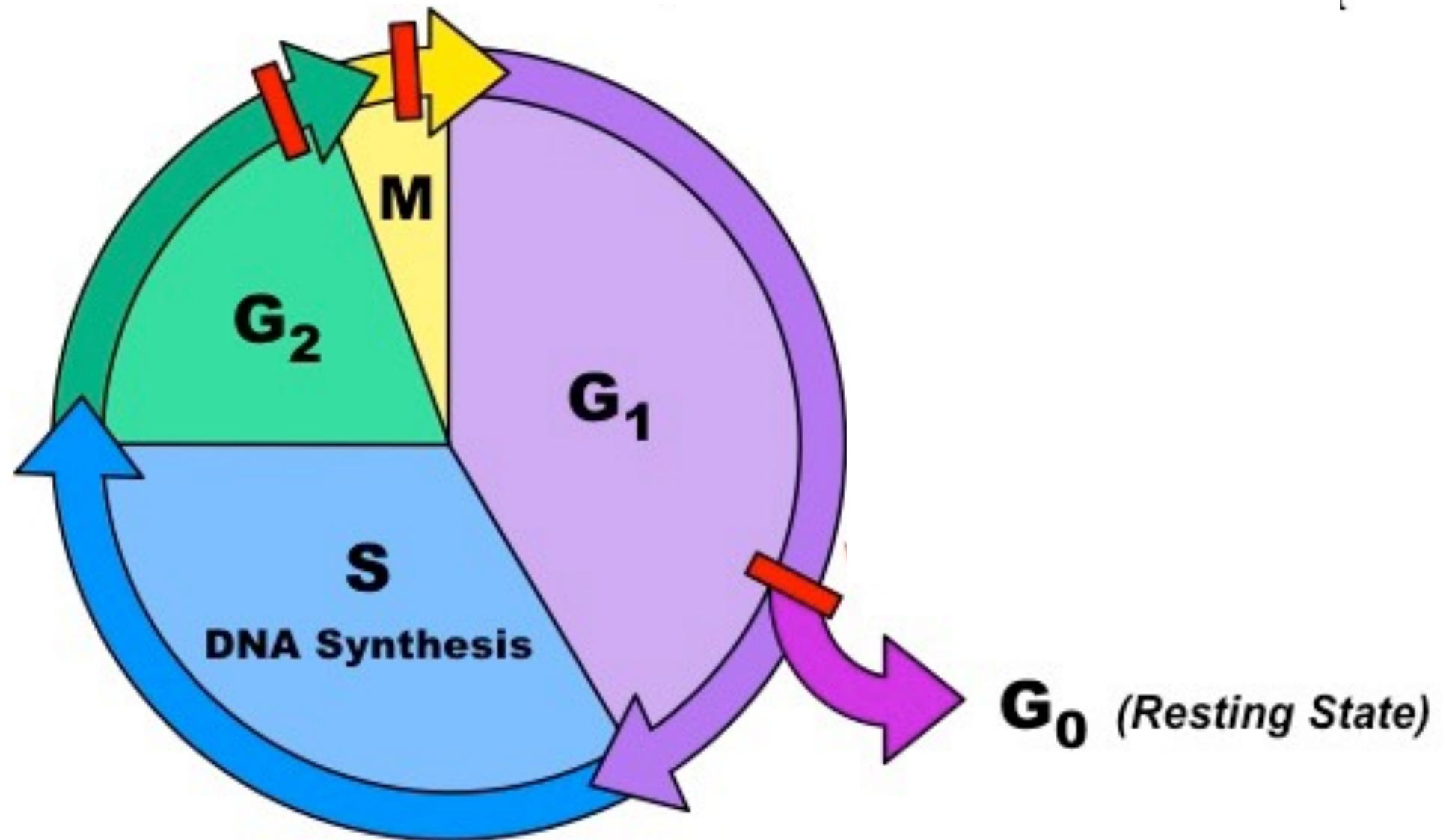


Mitosis Day 2

Regulation of the Cell Cycle

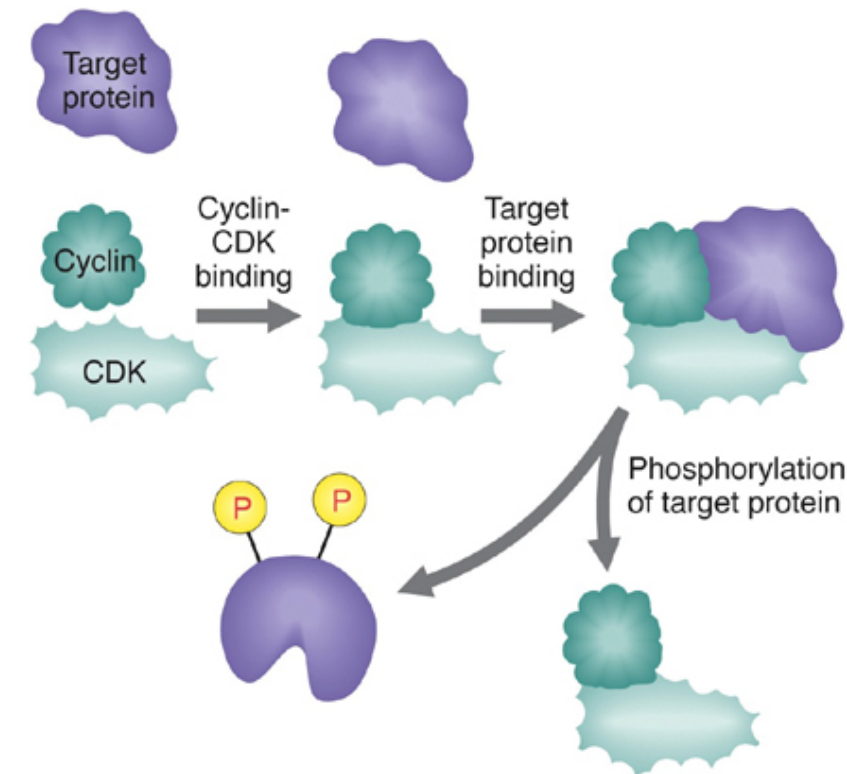


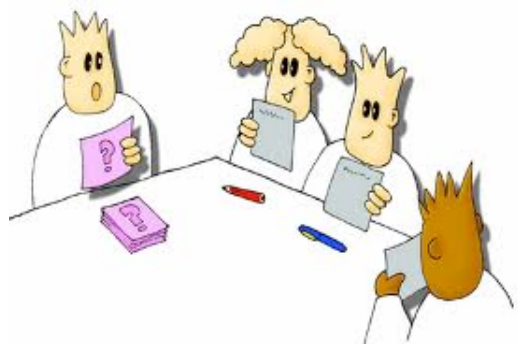
Recall from last Day



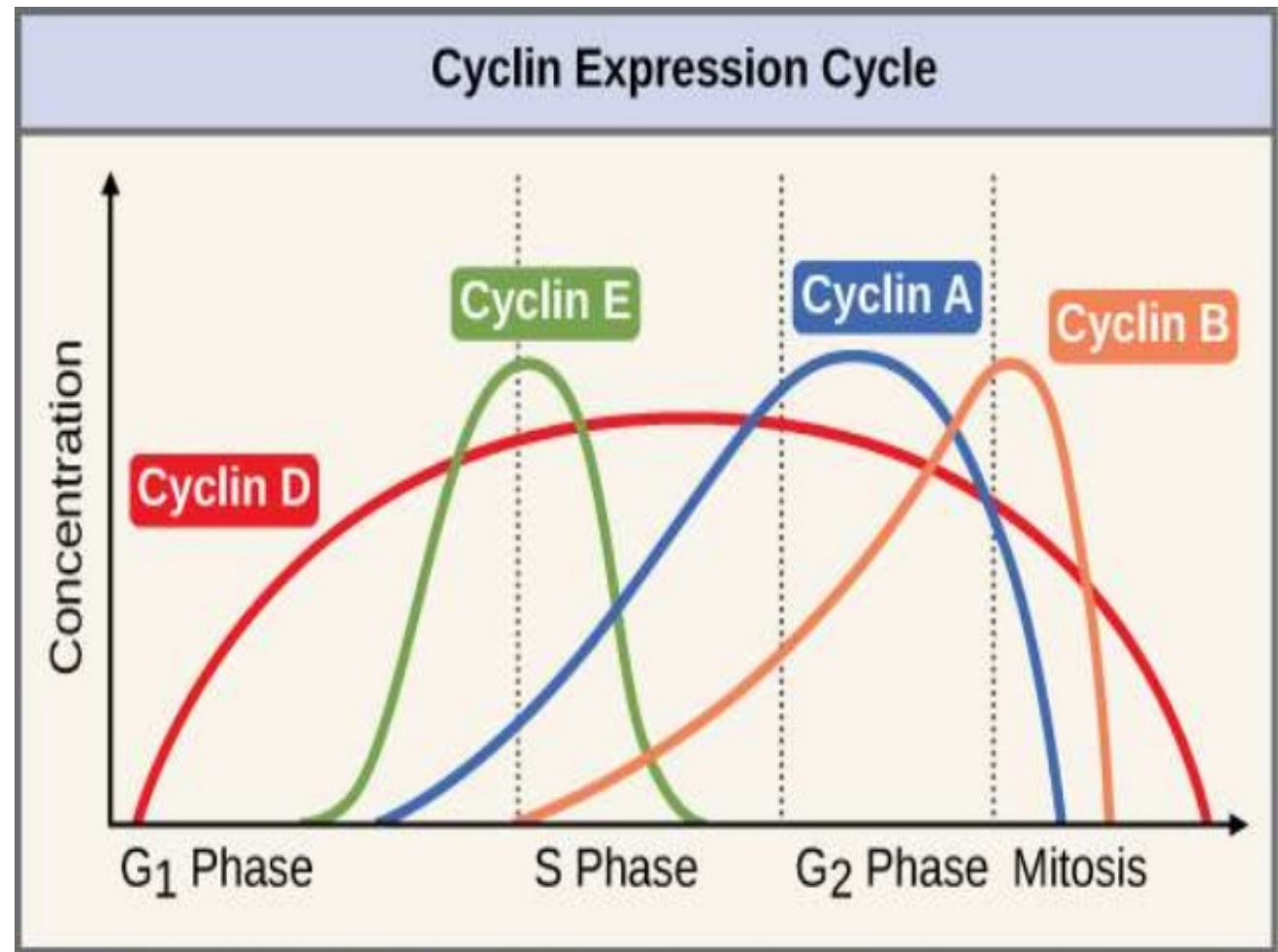
Cell Checkpoints

- Mitosis is a coordinated cellular event that requires checkpoint
- A checkpoints once successfully met will result in the cell moving onto the next phase of the cell cycle.
- These checkpoint are regulated by compounds called **Cyclins** and **Cyclin dependant kinase proteins (CDK)**
- A cyclin and CDK bind together and in turn attaching phosphates (phosphorylation) to other proteins involved in carrying out task in the cell cycle.





Match the cyclin to its function



Cyclin A

activates DNA Replication during S phase

Cyclin B

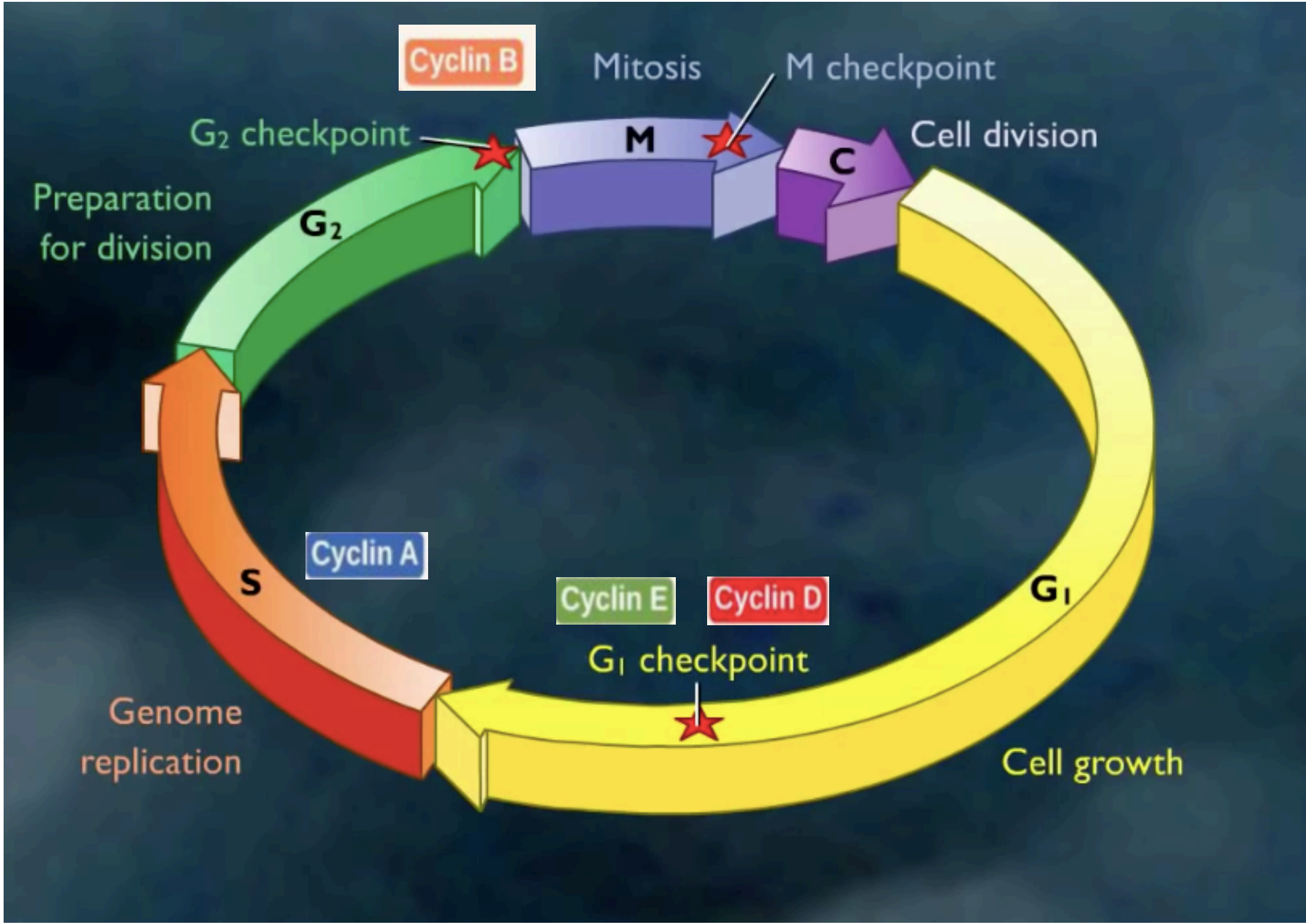
Promotes the Assembly of Spindle fibre

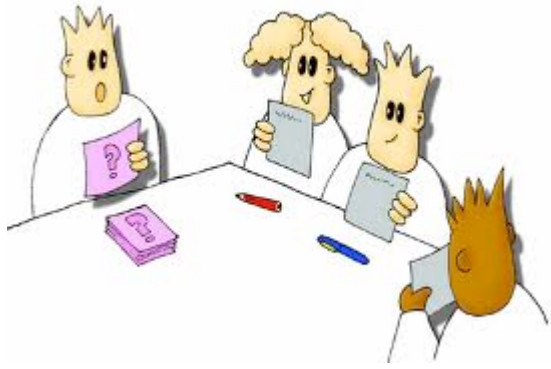
Cyclin D

Signals cell to move from G₀ to G₁ and from G₁ to S

Cyclin E

prepares cell for DNA Replication





Match the term you learned in Grade 10 to the correct description

a. Malignant

_____ Movement of a tumour by blood stream from one part of the body to another

b. Benign

_____ Chemical substances known to cause cancer

c. Mutagen

_____ a tumour that is not growing and contained

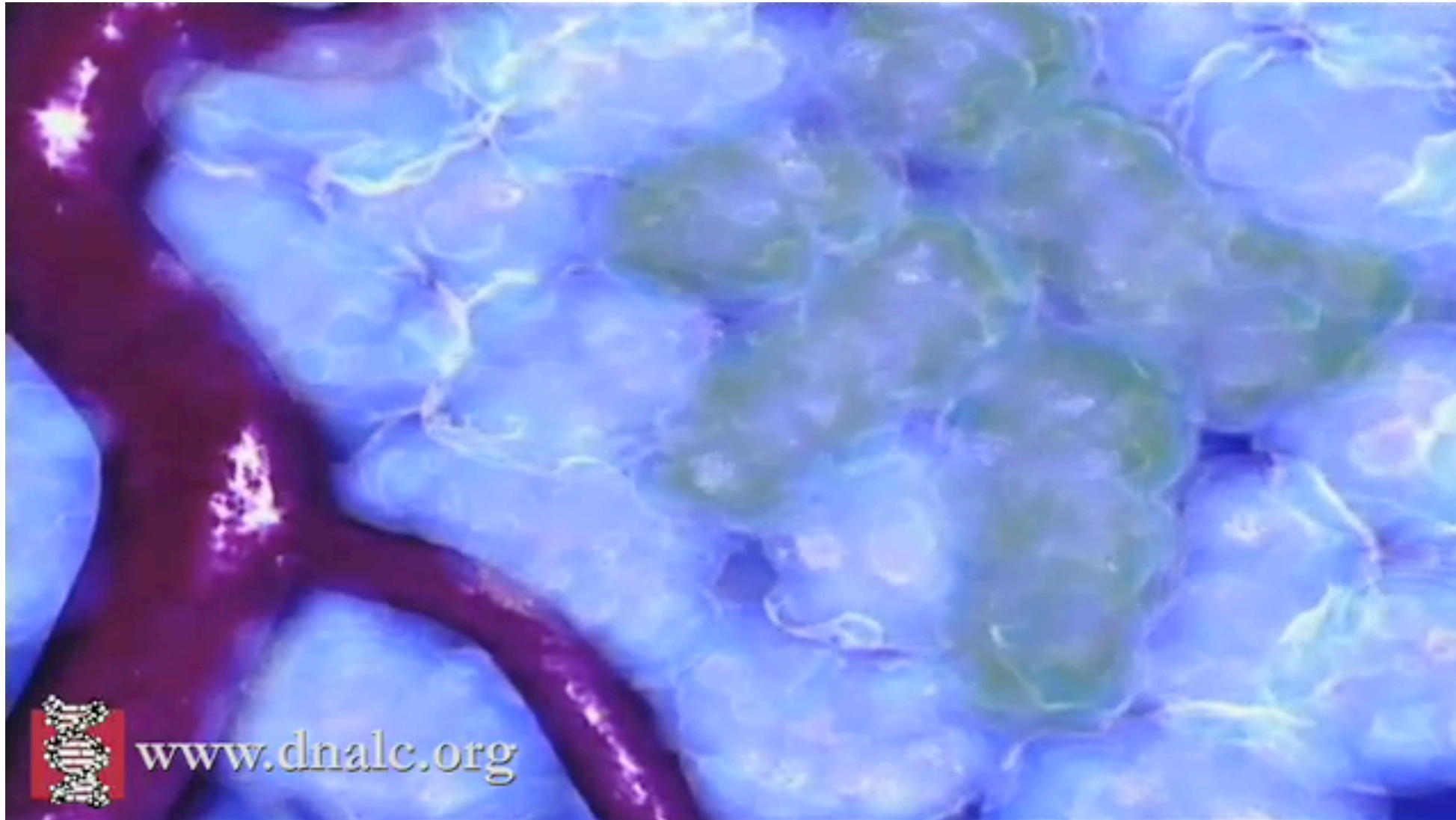
d. Carcinogen

_____ a tumour that is actively growing

e. Metastasis

_____ Chemical substances known to cause changes in DNA or genes

- Tumour Formation and Cancer



Cell Division and Cancers

- Remember ...
- Cancers benign or malignant start as a result of a breakdown in cell division
- Genes that become mutated and stop the normal regulation of cell division are called ***oncogenes***
- It's not one mutation, but usually several mutations in the same cell that causes cancer.
- Consistent exposure to mutagens and carcinogens increase the likelihood that tumours form.

Assignment

- Watch on smoking/vaping videos online under the drop down menu on Weebly
- Read about Smoking and Cancer correlation.

Questions:

1. Explain the cancer effect caused by smoking.
2. How long does it take to fully recover from cancer risks of a smoking addiction?
3. Based on the information provide in the video, does vaping pose and risks of cancer based on the ingredients it contains?
4. Discuss what a correlation is and the misconceptions they bring.
5. Complete the **Data based questions** on pg 59 for submission on Monday.