



**ACTIVITY  
GUIDE**

*for DNA, God, and You!*

**KEY  
DNA  
Base Pairs**

**Adenine**

**Thymine**

**Guanine**

**Cytosin**



## Color Coding - Base Pairs of DNA

Using the four bases  
A, T, G, and C,  
color the DNA  
sequence using  
the color key below.

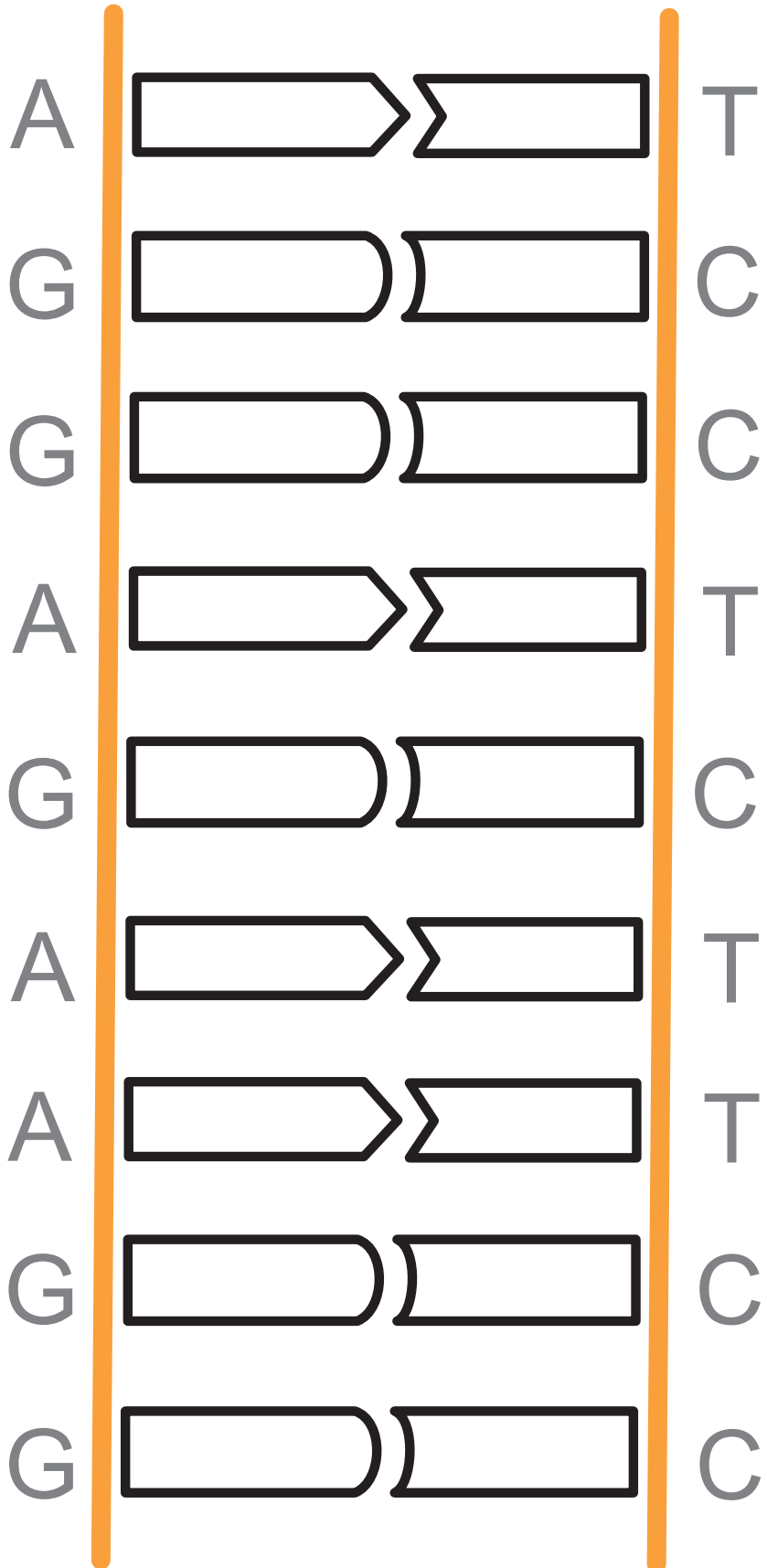
### Supply List & Key:

Adenine (A) - Pink Crayon

Thymine (T) - Yellow Crayon

Guanine (G) - Blue Crayon

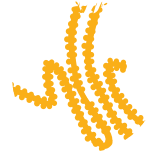
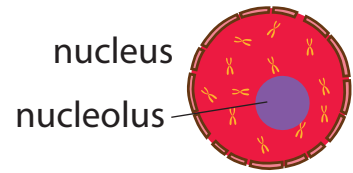
Cytosine (C) - Purple Crayon





# Color a animal cell

Using the color images, find the similar part of the animal cell and color it the same color as shown.



rough endoplasmatic  
reticulum



peroxisome



lysosome



microtubule



mitochondrion



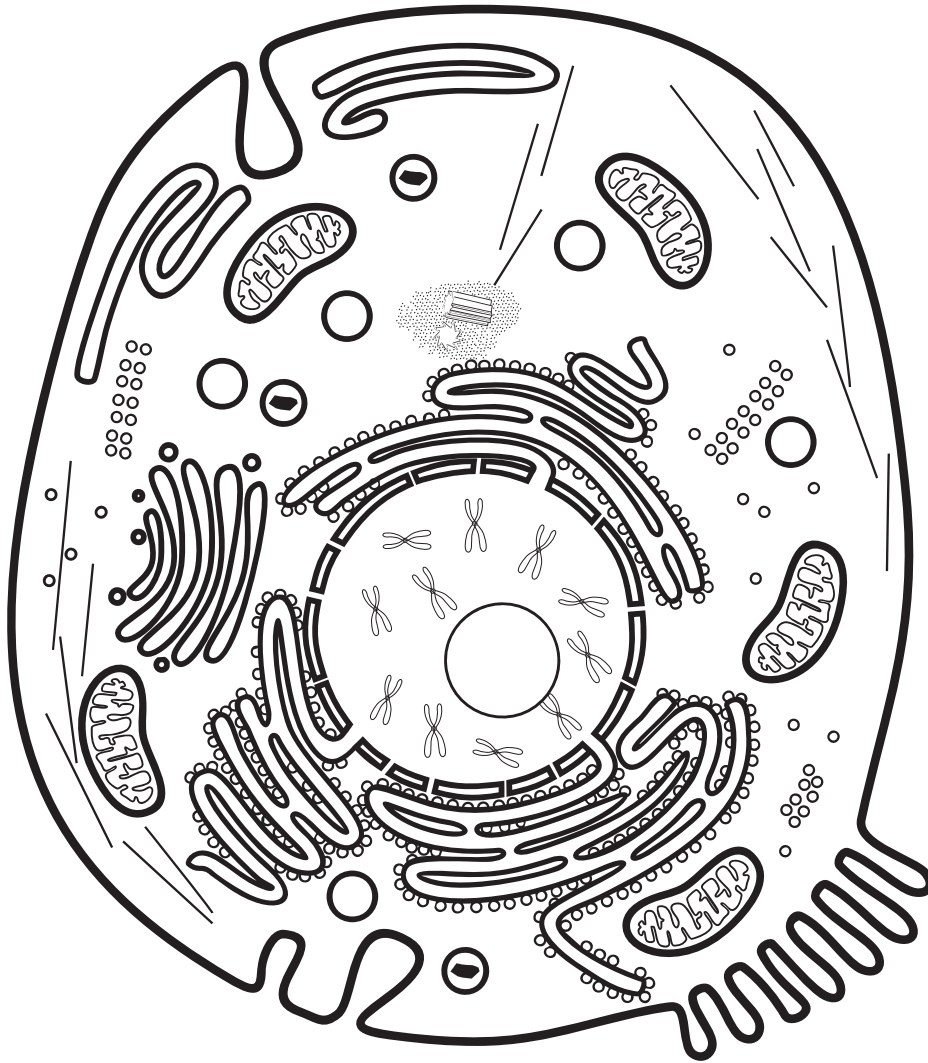
ribosomes



smooth endoplasmatic  
reticulum

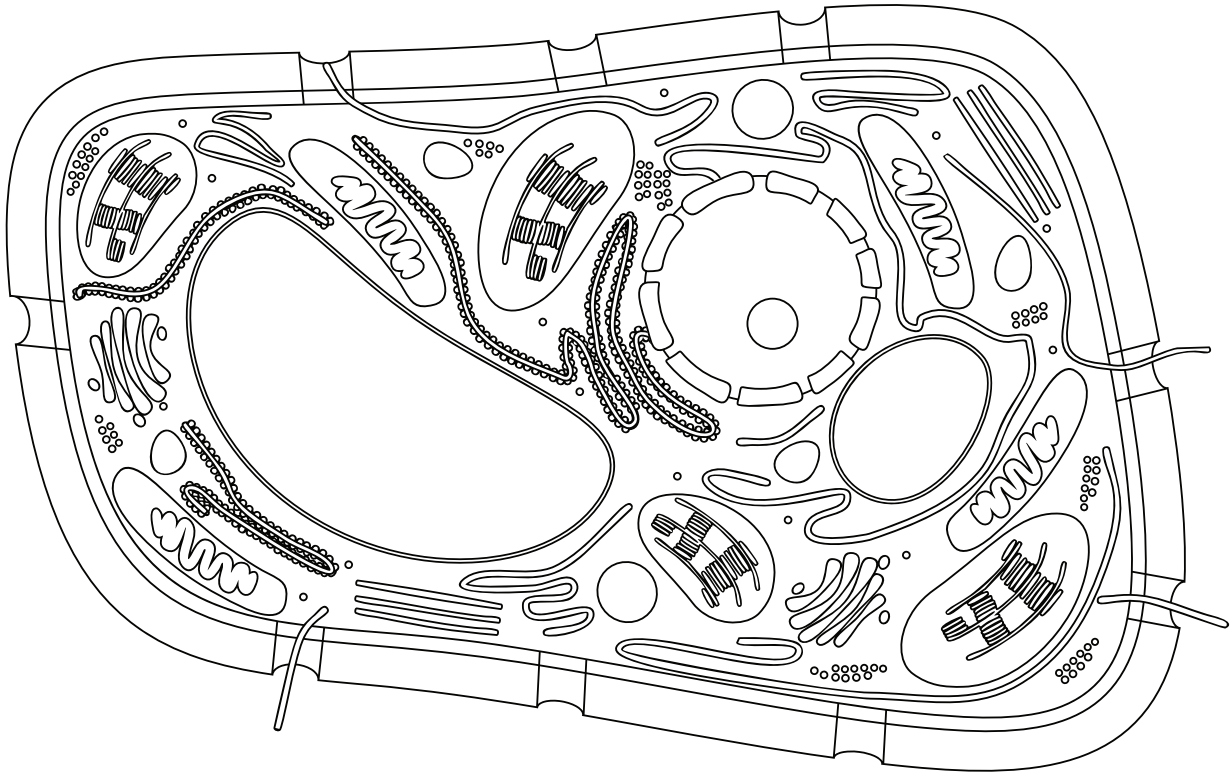


Golgi apparatus



# Color a plant cell

Using the color images, find the similar part of the plant cell and color it the same color as shown.



- |               |  |                             |  |
|---------------|--|-----------------------------|--|
| nucleus       |  | vacuole                     |  |
| nucleolus     |  | Golgi apparatus             |  |
| chloroplast   |  | microtubule                 |  |
| mitochondrion |  | rough endolasmic reticulum  |  |
| chromoplast   |  | smooth endolasmic reticulum |  |
| lysosome      |  |                             |  |
| ribosome      |  |                             |  |

# Dot-to-Dot DNA

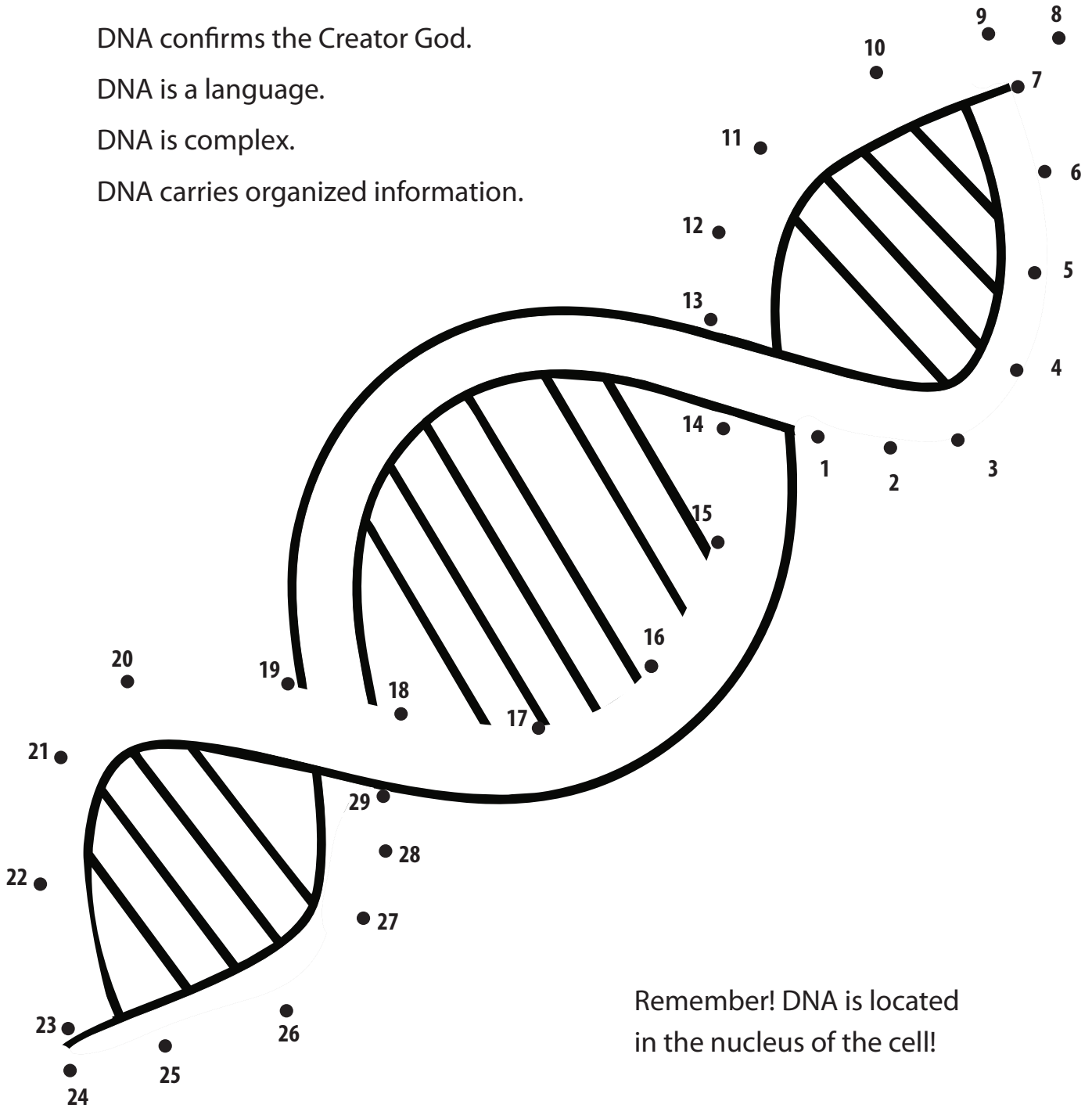
Follow the dots to complete the helix.

DNA confirms the Creator God.

DNA is a language.

DNA is complex.

DNA carries organized information.



Remember! DNA is located in the nucleus of the cell!

# Coloring DNA

Color the parts of the picture that have DNA.



## Six Days of Creation

Circle the number of the day of the creation week that God created the things in the pictures. Draw a star above each picture that contains something with DNA.



1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6



## Edible DNA Activity

Have fun building a DNA strand and then eating your creation. All you need is four colors of marshmallows, two Twizzlers®, and toothpicks. The marshmallows are your four nitrogen bases, the Twizzlers® are your phosphate backbone, and the toothpicks are your hydrogen bonds (Recommended for older students).

### Instructions

1. Assemble one side of your DNA backbone. One piece of licorice will become the backbone, and the marshmallows represent the four nitrogen bases (A, T, C, G). Attach a marshmallow to the end of a toothpick and fasten the end with the marshmallow to the licorice backbone. Refer to the key to select the correct marshmallow color for the corresponding base. Follow this sequence:

**ACCTGAGTTCAT**

2. On the opposite end of the toothpick, attach the matching nitrogen base. Remember, A pairs with T, and G pairs with C.
3. Fasten the matching marshmallow bases to the second licorice backbone.
4. Using masking tape and a marker, label your DNA strand. Make sure to include one of each nitrogen base, the phosphate backbone, and the hydrogen bonds.
5. Have your model checked by your teacher.
6. Twist your DNA model to form a double helix. You may now eat your DNA model!



#### Supply List:

- 4 colors of marshmallows, 10 of each
- 2 licorice ropes
- 12 toothpicks
- Masking tape
- Marker

**Adenine**

**Thymine**



Green = adenine (A) Pink = thymine (T)

**Guanine**

**Cytosin**

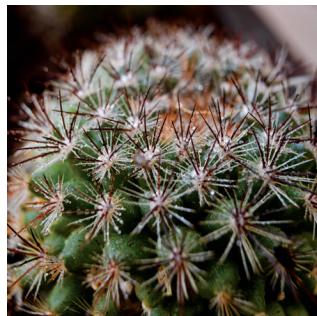


Orange = guanine (G) Yellow = cytosine (C)

# Tricky Twists on DNA: Put a check mark on all the photos that have something in it with DNA.



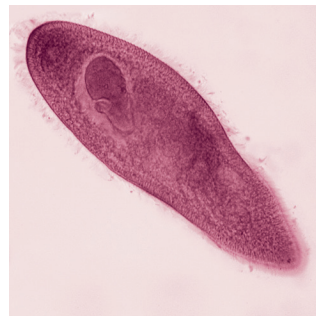
ocean wave  
 No  Yes



cactus  
 No  Yes



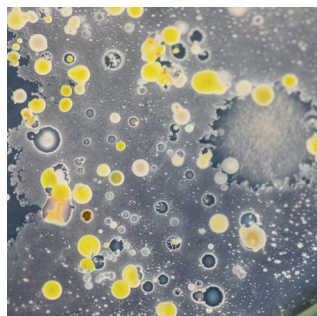
firefly  
 No  Yes



single-celled organisms  
 No  Yes



rocks  
 No  Yes



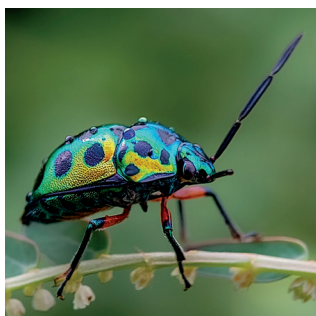
germs  
 No  Yes



spider  
 No  Yes



cloud  
 No  Yes



jewel beetle  
 No  Yes



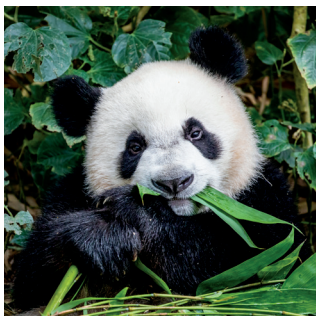
turtle  
 No  Yes



lichen  
 No  Yes



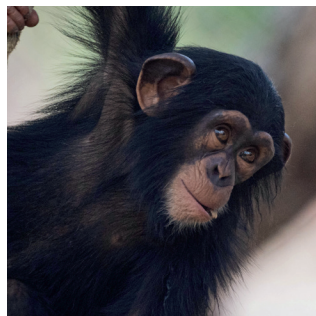
octopus  
 No  Yes



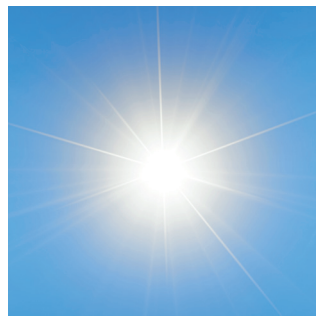
panda bear  
 No  Yes



flamingo  
 No  Yes



baby chimpanzee  
 No  Yes



sun  
 No  Yes

# DNA Origami

## Instructions

1. Fold in half lengthwise. Make all creases as firm as possible (use your fingernail!)
2. Hold the paper so that the thick lines are diagonal and the thin lines are horizontal. Fold the top segment down and then unfold.
3. Fold the top two segments down along the next horizontal line. Unfold.
4. Repeat for all segments.
5. Turn the paper over.
6. Fold along the first diagonal line. Unfold and fold along the second diagonal line. Repeat for all diagonal lines.
7. Fold the white edge without letters up.
8. Fold the other edge away from you. Partly unfold both edges.
9. You can now see how the model is starting to twist.
10. Twist and turn the paper while pushing the ends towards each other.
11. Admire your completed DNA double helix! Only another 2,999,999,989 (or so) more to complete your whole genome!

			C				G
			C				A
			T				G
			C				C
			G				A
			T				G
			C				T
			A				G
			C				T
			A				G
			C				T