print & digital

10 UNITS 23 WEEKS

COMPLETE BIOLOGY BUNDLE

SPECIAL EDUCATION

Special Needs for Special Kids

This bundle includes resources created for students with significant challenges (like autism and ID) who were several years behind their peers. This is a great way to expose all students to the same curriculum their peers are following.

This bundle includes 8 units that are typically taught in high school. It includes:

- Levels of Organization (3 weeks)
- Cells and Cell Processes (3 weeks)
- Cell Transport (2 weeks)
- The Nucleus (2 weeks)
- Mitochondria (2 weeks)
- Ribosomes (2 weeks)
- Chloroplasts (2 weeks)
- Mitosis and Meiosis (3 weeks)
- Genes and Heredity (2 weeks)
- Punnett Squares (2 weeks)

All units have printable AND digital versions

All units built using the extended learning standards from Ohio.

All the units contain various activities. Most units include:

- Detailed lesson plans
- A book
- Vocabulary cards
- Circle maps
- Sorting activities
- Labeling and sequencing activities
- Hands on activities
- Vocabulary puzzles
- Close worksheets (fill in the blank)
- Assessments (3 versions)

The activities are differentiated to allow more students to participate in the same activity.

- Saves you time
- Fosters inclusion

KEEP SCROLLING FOR ALL THE DETAILS

Table of Contents

Also included in this resource as separate files:

- Lesson plans
- Links and directions to digital activities
- PowerPoint (this is the book in the lesson plan)
- Voice recorded PowerPoint
- Activities in black and white

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Every unit has lots of different activities and ways for students to practice that skill.

Genes and Heredity Lesson Plan

Preparation

- Print out a vocabulary board for each student to use throughout unit
  - Laminate or place in page protector
- Book
  - Print out, laminate, and bind
  - OR your students can listen to the pre-recorded version
- Vocabulary cards
  - Print out a set of cards onto cardstock and laminate
  - Make one set for each student and also one for the teacher to use in I Spy games

Preassessment (do day 1 before starting lesson)

- Choose the form of the assessment that best fit
- Give the assessment to assess what your studen
- I cannot emphasize enough how important thi growth, this preassessment is so important!!

Teaching Tips

- *Color Coding*: this is a really easy way to add activity. Outline or color in an empty box or the corresponding picture symbols the same co task.
  a. For more info, read more here: https://specialneedsforspecialkids.org/2(differentiation/
  b. I also have a blog post on differentiatin https://specialneedsforspecialkids.org/2(3-ways-easily-and-effectively/
- *Make you own copies of the activities*. Every yesterday. For that reason:
  a. I often complete the activity myself and that I could use year after year.
  b. My copies were also helpful as either a more support or as a way for more adv work.

Quick Look

Day	Activity	Day	Activity
1	• Book • Vocab cards introduction • Circle map	7	• Book • Vocab cards cut and paste • Word search
2	• Book • Vocab cards activity • Circle map	8	• Book • Vocab cards cut and paste Sudoku puzzle
3	• Book • Vocab cards activity	9	• Book • Vocab cards activity • Close worksheet
		10	• Book • Vocab cards activity • Close worksheet
		11	• Assessment • Make editable DNA

Day 2

Activity	Notes	Materials
Read or listen to a recording of the book (10 minutes)	• Read through the story, asking lots of questions • Continue to make connections between book and vocabulary board	• Book • Vocabulary board

Vocabulary cards I Spy Game (10 minutes)	• I play this game, or variations of it the first few days
	  ○ Determine how many cards your students can handle in front of them.
	• Since this is the first time playing this game, I make it easy. Hold up a card, and have students find the matching one and hold it up
	• Discuss relevant points on the card
	  ○ You can also play this game in this manner having them find the symbol on their vocabulary board
		• Vocabulary cards (student set and teacher set)
		• Vocabulary board

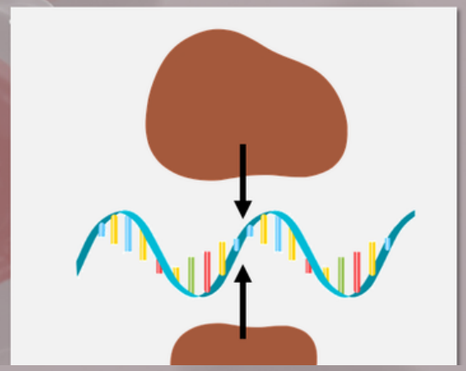
Circle map review (5 minutes)	• Review the circle map completed yesterday	• Circle map completed yesterday
Circle Map (10 minutes)	• Do the circle map about heredity • Choose the best version (errorless or not) depending on the learning level of your students • Students cut out symbols and place in circle map • Make connections to the book as necessary	• Circle map • Scissors • Glue
Sharing (10 minutes)	• Each student shares their finished worksheet with the group using the communication method of their choice	• Completed worksheet • Communication devices

Lesson plan

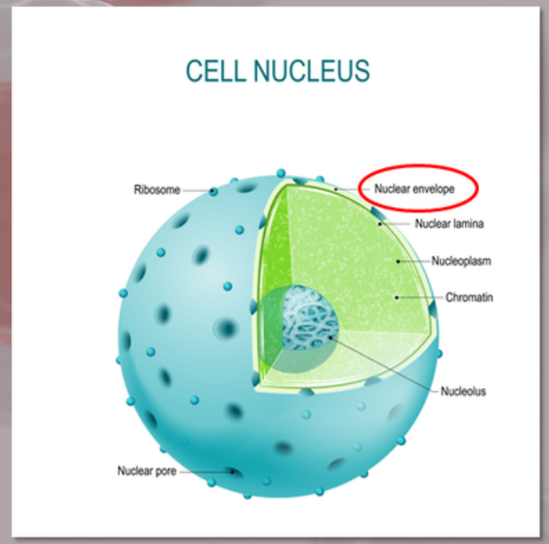
Every unit has a detailed lesson plan with suggestions, a quick look, and a daily step-by-step guide.

Book

Initiation is the first step and it starts when the 2 subunits of the ribosome join together with the mRNA from the nucleus. They form a sandwich with the mRNA in the middle.



The nucleus is surrounded by a nuclear envelope. This envelope is made up of 2 layers and protects the nucleus from other things floating in the cytoplasm. It also keeps important structures inside the nucleus.



Every unit has a book with simple text and engaging photos. This book walks through the process and what students need to know to complete the problems in the unit. It comes in a pdf, recorded PowerPoint show, and an mp4 file.

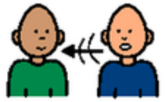
Vocabulary

transcription

The messages the RNA is given in the nucleus and will carry to the ribosomes.

translation

Transferring the message from the RNA to the ribosomes so proteins can be made.

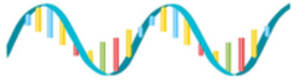


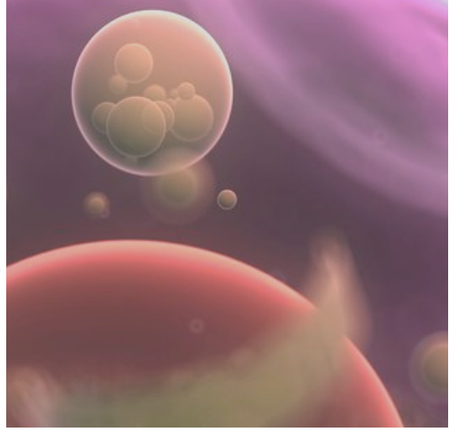
DNA

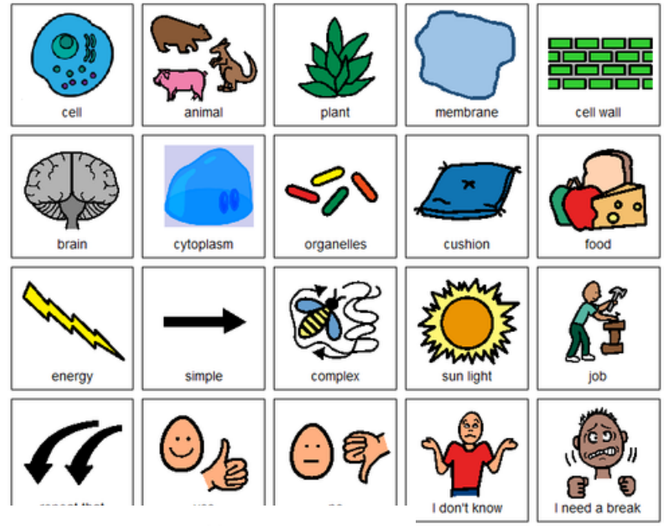
The genetic code that tells the cell what type of cell it should be.

RNA

Copy of the code from the DNA that it takes to the ribosomes as a building block to make proteins.







chloroplasts

Organelle that turns food into energy the cell can use. Powerhouse of the cell.

organelle

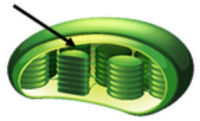
Things inside the cell that have their own membrane and special job to do.

outer membrane

Smooth outer surface of chloroplast that protects it.

inner membrane

Membrane inside the chloroplast that has holes and allows things in and out of the chloroplast.



circle maps

Errorless version

Cut apart pictures and place in circle map about genes.

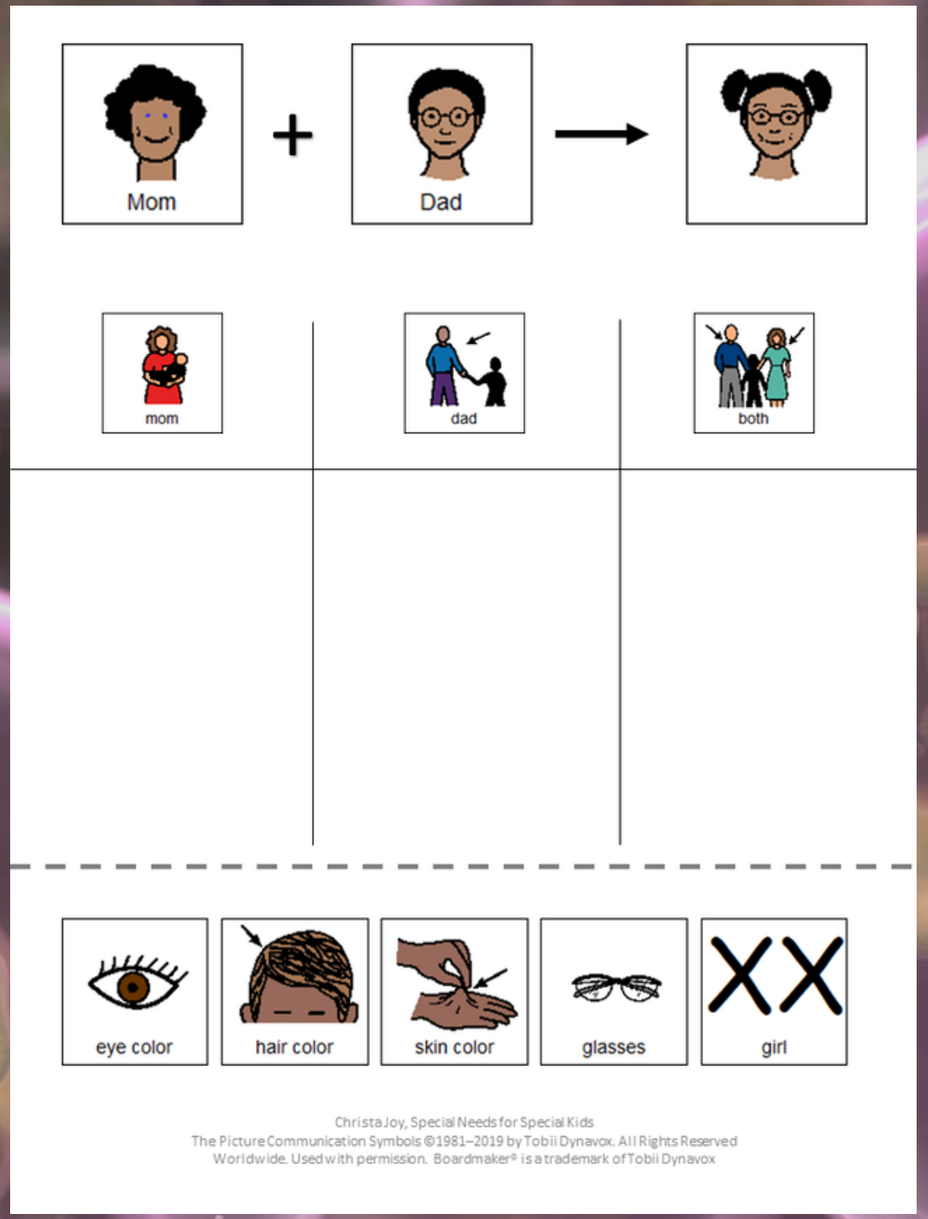
double helix	genome	DNA	Mendel	Watson & Crick
gene	nucleotides	chromosome	nucleus	alleles

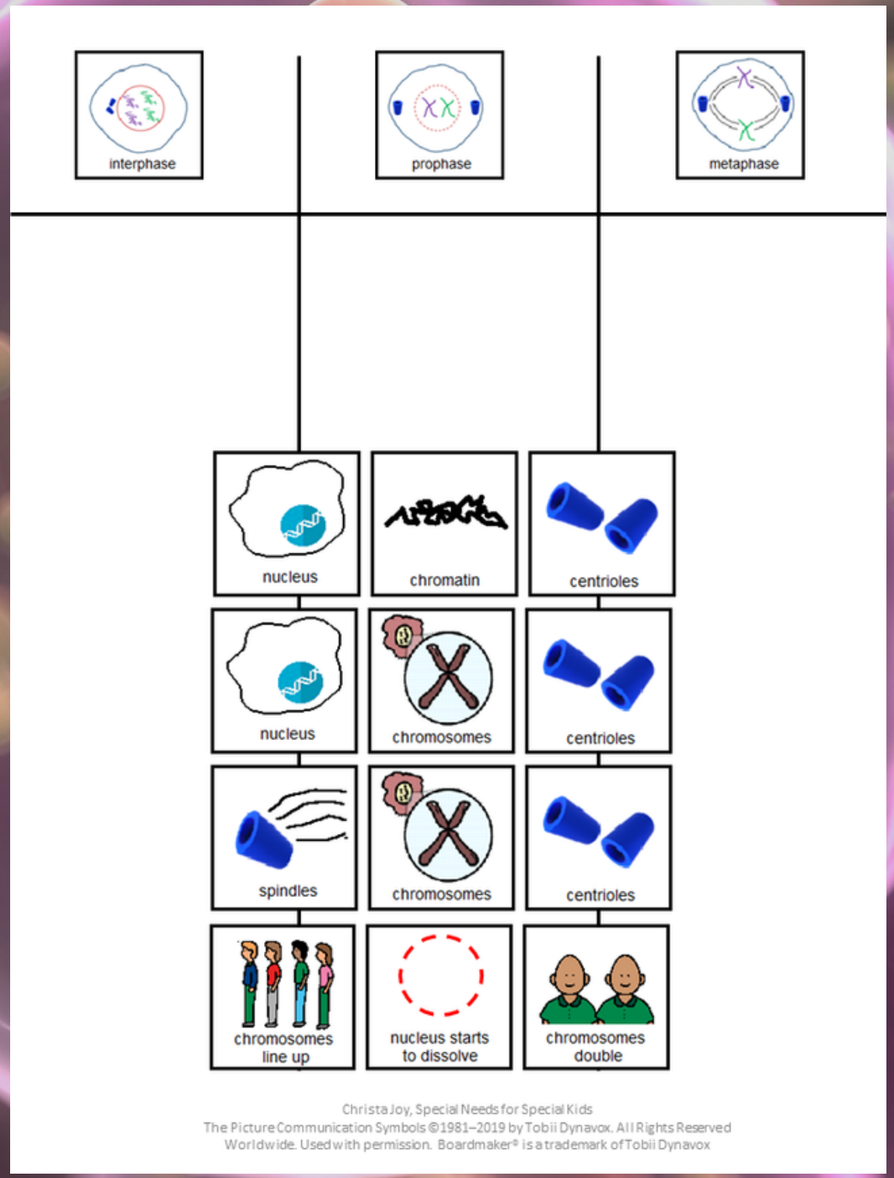
Cut apart pictures and place in circle map ONLY IF they relate directly to genes.

double helix	genome	DNA	rocket	Watson & Crick
bacon	nucleotides	paper	nucleus	alleles
gene	needle	chromosome	Mendel	roll dice

Each unit comes with 1-2 circle maps to visually review the main facts from the book. These come with an errorless option and an option with wrong answers mixed in.

sorting

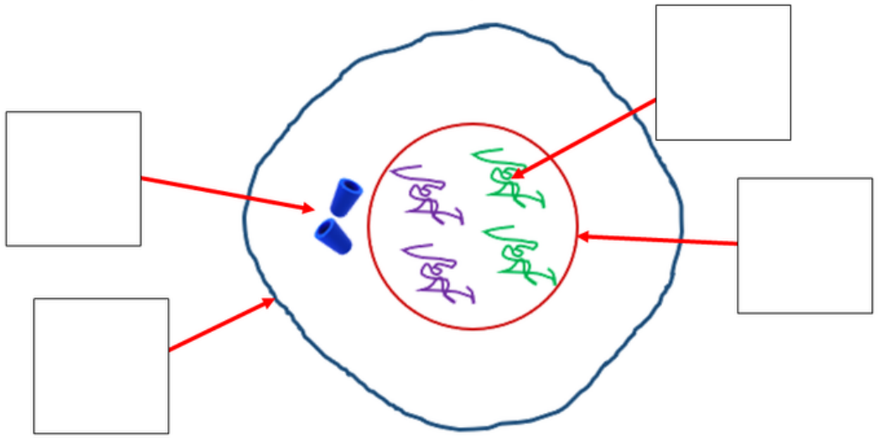




Most units have sorting activities. There are suggestions for how to differentiate these quickly included.

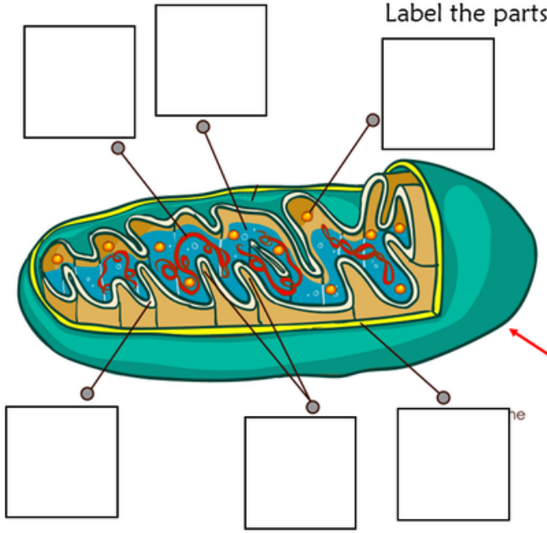
Lots of practice activities; differentiated

Interphase



cell memebrane

Label the parts of the mitochondria.



matrix | cristae | outer membrane | ribosomes

Decode the message. Look at the long list of amino acids and using the key to read each codon, decode the secret message. (This is just for practice, and does use real amino acids but does not match what the actual codons mean to the ribosome.)

- Make sure to look for AUG (start codon) in each line. Start here and ignore all codons before it.
- Make sure to look for UGA (stop codon) in each line. This is where the message for that line stops.

1.	AUG	CUG	UUC	CUA	CGA	CAA	CUU	ACU	UCA	UGA
2.	AUG	GCG	AGA	AAG	GAG	CCG	UUA	CUU	GGG	UGA
3.	AGA	AUG	GGU	AGA	ACA	GUU	AGC	UUC	AGG	UGA

Decoder Key: AUG is where the message starts in each line. It does not correspond to a word. Students will ignore any codons that come after it.

CODON	WORD
AUG	Start message
UUU	birthday
CUG	watch
AUC	you
UCA	object
CAU	day
GAG	teachers
ACA	danger
AAA	this
UGU	will
GCG	one

CODON	WORD
UGG	scientist
CGA	tonight
CUU	an
CAA	for
AGA	of
UUC	the
AGG	cafeteria
AAG	your
GUA	wish
GGG	imposter
GUG	come

CODON	WORD
ACU	unusual
GAA	amazing
GGU	beware
CUA	sky
AGC	in
CCG	could
CGC	year
UUA	be
UCC	true
GUU	lurking
UGA	Stop message

Genes

1. The instructions for the cell are found in the [ ] .
2. Genes carry the [ ] for the cell.
3. Genes are made of DNA which consist of [ ] .
4. Every person has [ ] chromosomes.
5. Gregor Mendel, the father of genetics, worked with [ ] .


pea plants


instructions

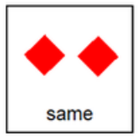

nucleus

46

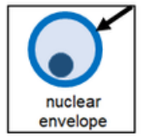

chromosomes

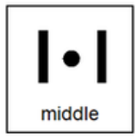
Nucleus

1. The nucleus is located in the [ ] of the cell.
2. There is normally only [ ] nucleus per cell.
3. The nucleus acts like the [ ] of the cell.
4. The nucleus is the [ ] in plant and animals cells.
5. The [ ] surrounds and protects the nucleus.


same


brain


nuclear envelope


middle


one

Review sheets

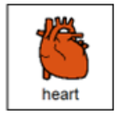
All units include fill-in-the-blank worksheets to review concepts covered in the book and unit. Answer keys included.

Assessment

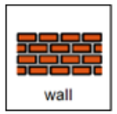
Version 1

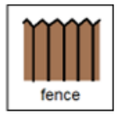
1. All eukaryotic cells have one:

2. The nucleus is the _____ of the cell.

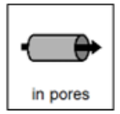


3. What surround the nucleus to keep things out?





4. Where are RNA and ribosomes made?



5. What is the resting form of DNA called that is stored in the nucleus?

Version 3

1. All eukaryotic cells have one:
   A. Ribosome
   B. Organelle
   C. Nucleus
2. The nucleus is the _____ of the cell.
   A. Muscle
   B. Brain
   C. Heart
3. What surround the nucleus to keep things out?
   A. Wall
   B. Nuclear envelope
   C. Fence
4. Where are RNA and ribosomes made?
   A. Chromatin
   B. In pores
   C. Nucleolus
5. What is the resting form of DNA called that is stored in the nucleus?
   A. Ribosomes
   B. Nucleoplasm
   C. chromatin
6. What allows the ribosomes to travel out of the nucleus?
   A. Pores
   B. Chromatin
   C. RNA

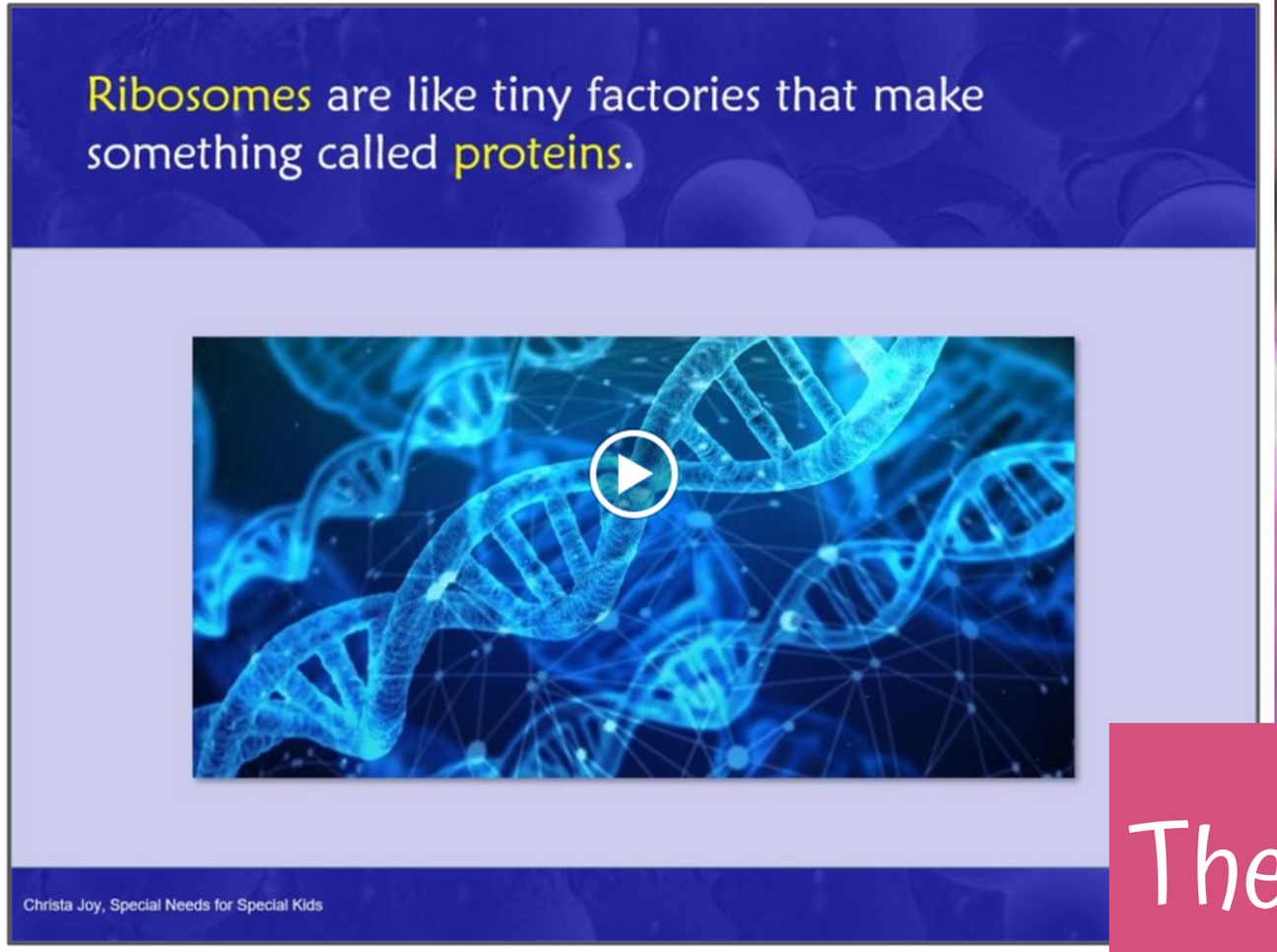
Finally, each unit has an assessment that is available in 3 versions. These are given 1:1 and read aloud to the student. It also includes a traditional multiple-choice version included.

- All of these units include digital versions of the activities. These simply require the student to click and drag the answers. There is no drawing or typing involved.

- There are 2 complete sets of slides. One set is differentiated using color.

Make great independent learning centers.

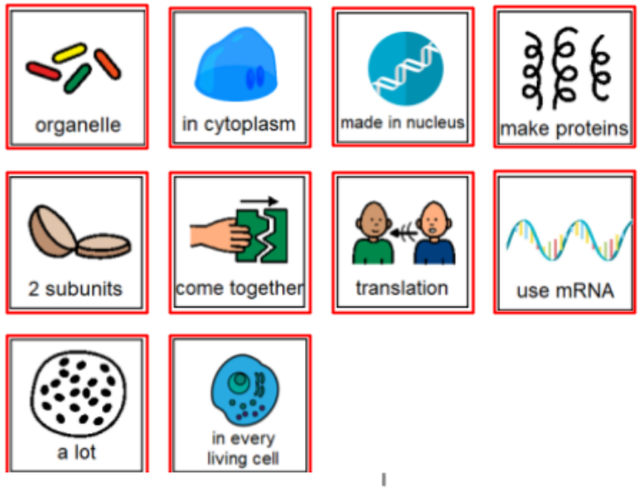
Watch the movie on Cells and Cell Processes



The movie version of the book from the unit.

Use for more review.

Place the picture in the circle map about ribosomes.



Trait: long ears (dominant), short ears (recessive)

Mom has the genotype Ee

Dad has the genotype Ee.

	E	e
E	EE	Ee
e	Ee	ee

1. Color in the offspring that have long ears green.
2. Color in the offspring that have short ears red.

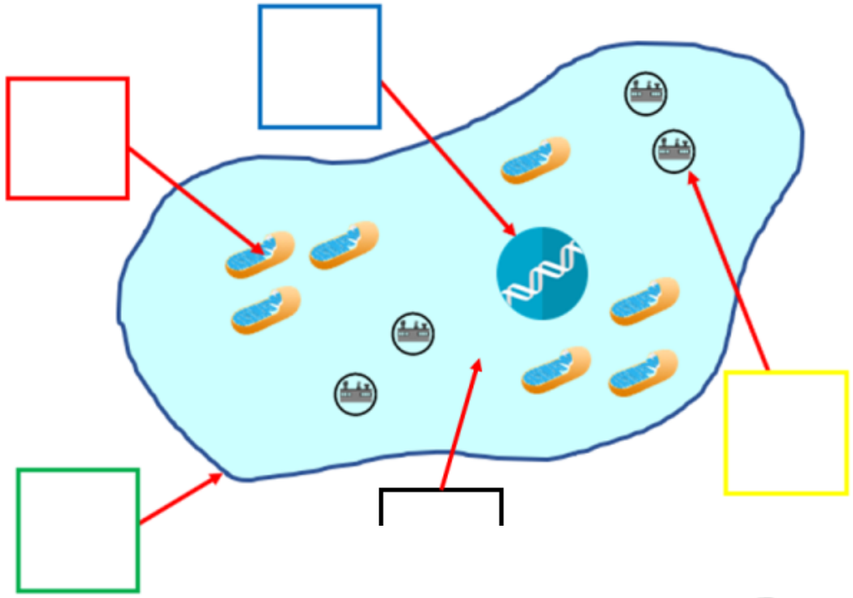
3. How many offspring have long ears? ☐

4. How many offspring have short ears? ☐

Look at the Punnett Square and answer the questions at the bottom.

Type the answers in the blue boxes.

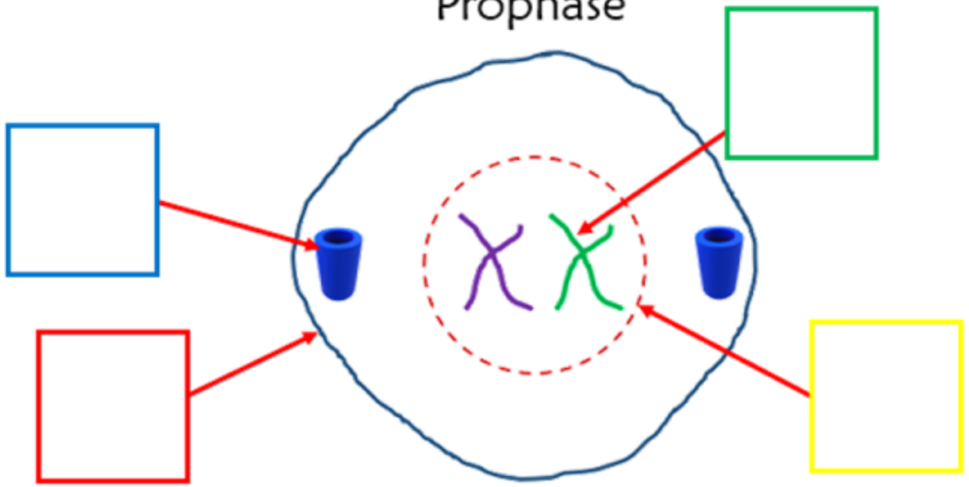
The digital activities are click and drag.



Day 2
differ

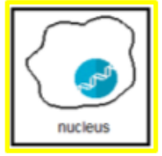
Label the parts of the animal cell.

Perfect for any learning level.



Day 4
differentiated

Label the structures involved in prophase during mitosis.



Each unit comes with a set of slides that are differentiated with color.