Do Now

• Ovulation is the possible release of an __________________ from the ovaries for possible fertilization by _____________________.

Conversation — 0 (1 if you have to ask a Q)
Help — Ask 3 people then raise your hand
Activity — Answer the questions. If you finish early, then wait or work on one of the suggested activities until time.
Movement — only with permission
Participation — working on do now right away without reminders.
Teacher Led (Whole Group)

**C-**onversation—**0**

**H-elp**—Raise your hand for the teacher to call on you. **DO NOT Blurt or shout** over someone else. **Wait** until you are called.

**A-ctivity**—listen for information, take notes, ask questions, be respectful, be your best.

**M-ovement**—only with permission from the teacher

**P-**articipation—working on writing notes, listening, learning

**not** playing with tech decks, passing notes, drawing, talking, applying lotion, or anything else!
Ovulation is the release of an egg cell from the ovaries for possible fertilization by a sperm cell.

If a female has sexual activity where sperm becomes ejaculated into the vagina around the time of ovulation, she can become pregnant. If the egg cell does not become fertilized, the female gets rid of the old egg cell through a process called menstruation. This usually lasts around seven days. After this, the female will release a new egg from the ovaries and the cycle will start again.
Expectations

Today we are starting a unit on reproduction

*The immaturity has to stop.*

*This is your warning.*

**Second time** = Friday detention for 30 minutes with a *personal parent phone call* home.

- I will also make you write a letter to your parents about how you laughed during the sexual reproduction unit, and it must be SIGNED.
Importance

This unit can affect your LIFE!

This is why we need to be mature about this content.

I am very specific about how I want you to act and behave because of this.
Language

You will NOT use inappropriate language in this class.

You WILL use **SCIENTIFIC LANGUAGE ONLY**.
Language

We will be using and saying these words:

- Penis
- Vagina
- Sperm
- Sex
- Testicle
- Vas deferens
- Epididymis
- Prostate gland
- Semen
- Seminal vesicle
- Rectum
- Ovary
- Uterus
How to ask Questions

1. You will NOT ask questions when I am lecturing, or when you are watching a video.

2. The only way to ask questions is by writing them down on a post-it and putting them into the envelope.

3. I will collect questions near the end of the period and answer them for the last 10 minutes.
Today’s Standard and Objective

Standard:
5d Students know how the reproductive organs of the human female and male generate eggs and sperm and how sexual activity may lead to fertilization and pregnancy.
5e Students know the function of the umbilicus and placenta during pregnancy.

Learning Objective:
You will learn about the development of a fetus though notes, review questions, video, video questions, and an exit slip.
Agenda 2/24/14

1. Do Now (5)
2. Notes (30)
3. Video—NOVA—Life’s Greatest Miracle
4. Answering your questions (15)
Teacher Led (Whole Group)

**C-onversation**—**0**

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NOTES on HUMAN REPRODUCTION

Be a Champ! Noise level is 0

Humans reproduce through a process called **sexual reproduction**

In sexual reproduction, the male provides a **sperm cell** and the female provides an **egg cell**.
Sexual Intercourse

A man ejaculates sperm into a woman’s vagina during sexual intercourse.

Some sperm may leave the penis before ejaculation, meaning that sexual activity that does not involve ejaculation can still cause pregnancy.
After ejaculation, the sperm swim up the vagina, uterus, and fallopian tubes towards the egg.

Once they reach the egg, the sperm release enzymes to break through the egg’s outer covering.
Fertilization

Is when a sperm cell from the male meets and combines with an egg cell from the female.

Only one sperm will successfully fertilize the egg. Once one sperm enters the egg, the egg blocks any other sperm from entering.
Fertilization is complete once the **nucleus of each cell fuse**.

The egg and sperm cells each have **23 chromosomes** in their nuclei. Together, they complete the number of chromosomes needed for a human **(46 chromosomes)**.

A fused egg and sperm is called **a zygote**.
The zygote then moves down the fallopian tubes towards **the uterus**.

During this time, the zygote undergoes **mitosis (cell division)**.

After about 7 days, the zygote is a **hollow ball** made of about **100** cells.
Implantation

Once the zygote reaches the uterus, it implants itself in the lining of the uterus called the endometrium to continue growth.

Implantation is successful 30% of the time. If implantation does not occur, pregnancy cannot begin.
Pregnancy
Is the development of a baby within a woman’s uterus.

After successful implantation, the woman’s menstruation stops, and the baby begins to develop.

After about 2 weeks, the ball of cells arrange themselves into 3 layers, which will eventually form different parts of the body.
Pregnancy usually lasts **38-40 weeks (9 months)**, and the events that occur are divided into **trimesters**.

**Trimester 1:**
The embryo develops to 7.5 cm long, **heart beats**, has all the structures for different **organ systems**.

Trimester 2:
Is 25-30 cm long, **kicking** movements, embryo is now called a **fetus**.

Trimester 3:
Fetus **triples in size**, continues to develop all structures.

Placenta

A disk shaped organ that helps exchange oxygen, carbon dioxide, and nutrients between the mother and the fetus.

It develops from the tissues and the blood vessels of both the mother and the fetus, but they are not directly connected.
Umbilical Cord

A thick cord connecting the fetus to the placenta.

The cord contains arteries that help carry oxygen and nutrients from the mother to the baby.

The baby and mother’s blood never mix with one another.
The umbilical cord is **cut after birth**. After a few days it dries and falls off.

The place it was attached to the body is called a navel, or **belly button**.
Amnion

is a thin protective membrane that surrounds the fetus.

Inside the amnion and surrounding the fetus is amniotic fluid that protects the embryo from shocks.
Birth

When the baby is fully developed, the mother is ready to **give birth**.

The amnion **breaks** and the amniotic fluid exits the vagina. This is also known as **“water breaking”**

The mother **begins labor**, or the pushing of the baby out of her uterus.
The **cervix opens**, or dilates, to help the baby’s large head exit the uterus.

The uterus begins **powerful contractions**, or movements that help push the baby out **headfirst** through the vagina.
The baby is still connected to the placenta through the umbilical cord.

When the doctor cuts the umbilical cord, the birth is complete.
Video (Whole Group)

Conversation — 0

Help — Raise your hand after the video

Activity — listen for information, take notes, ask questions, be respectful, be your best.

Movement — only with permission from the teacher

Participation — working on writing notes, listening, learning
PBS NOVA

http://www.pbs.org/wgbh/nova/body/life-greatest-miracle.html
Independent Work

**Conversation** — 0 or 1

**Help** — Ask all your group members 1st, then raise your hand

**Activity** — work on the questions

**Movement** — only with permission from the teacher, or throwing away trash/ sharpening pencil

**Participation** — working on the questions. Not playing with other materials, not working on other HW.
Review Questions!

Take out a sheet of paper. Answer the following questions in COMPLETE sentences using your notes. You do not have to write the questions down.

1. What is sexual intercourse?

2. Can a woman still become pregnant even if a man does not ejaculate? Why or why not?

3. What happens during fertilization, and when is fertilization complete?

4. How many chromosomes does the egg cell and sperm cell each contribute to form a zygote with 46 chromosomes?

5. Where does the egg travel and implant itself to continue development after fertilization?

6. What is the end result of the cell undergoing mitosis after fertilization?
Do Now + Take out HW (HIV article)

**C-onversation** — 0 or 1

**H-elp** — Ask your group members then me

**A-ctivity** — answer the questions, take out HW

**M-ovement** — only with permission from the teacher

**P-articipation** — working on do now right away without reminders.
Teacher Led Lecture

**C-onversation**—0

**H-help**—Raise your hand

**A-ctivity**—listen for information

**M-ovement**—only with permission from the teacher

**P-articipation**—working on checking answers and writing notes,

not playing with tech decks, passing notes, drawing, or talking.
Do Now Answers

1. Fertilization is when a sperm cell from the male meets and combines with an egg cell from the female.

2. The sperm and the egg cells combine during fertilization, and each of the cells carry 23 chromosomes.

3. Implantation is when the zygote reaches the uterus, and implants itself in the lining of the uterus called the endometrium to continue growth.
Info

Today’s Standard: 5d Sexual activity may lead to fertilization and pregnancy.

Today’s Objective: We will be exploring the stages of pregnancy through notes and questions, and analyze STDs and safe sex through a video and STD Fact sheets.

Today’s HW: NO HW! Grades Due next week.
Summary Questions

Answer the questions on the worksheet.
Video

Conversational — 0

Help — Raise your hand AFTER the video

Activity — listen for information, watch video

Movement — only with permission from the teacher

Participation — working on video questions
STD (Sexually Transmitted Diseases)

Video

1. Chlamydia
2. HPV (Human Papillomavirus)
3. Gonorrhea
4. Herpes
5. PID (Pelvic Inflammatory Disease)
6. Syphilis
7. Trichomoniasis
Group Work

**C-onversation** — 1 or 2

**H- elp** — Ask all your group members 1\textsuperscript{st}, then raise your hand

**A-ctivity** — work on the readings

**M-ovement** — only with permission from the teacher, or throwing away trash/ sharpening pencil

**P-articipation** — working on the readings. Not playing with other materials, not working on other HW.
STD--Exit Slip

Let’s Learn about STDs in groups.

1. Each person will pick 1 disease from the envelope to read and research.

2. After everyone in your group is done, share your findings with everyone. Each person will fill out their table.